Charleston Conference Proceedings

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Introduction

The Charleston Conference continues to be a major event for information and idea exchange among librarians, vendors, and publishers. Now in its fortieth year, the Conference continues to be one of the most popular library-related conferences in the United States and globally.

2020 was a year for the history books in every way, with a global pandemic shutting down the world for most of the year. Events pivoted from in-person to virtual in record-breaking times and the Charleston Conference was no exception. The Conference saw a surge in attendance with an almost 150% increase from 2019, and Conference attendees continued to remark on the informative and thought-provoking sessions in a virtual environment. The Conference provides a casual, collegial atmosphere where librarians, publishers, and vendors talk freely and directly about issues facing their libraries and information providers.

This is the sixteenth year that Beth R. Bernhardt, Consortia Account Manager at Oxford University Press, has put together the proceedings from the Conference. It's the twelfth year for Leah Hinds, Executive Director, and the fourth year that we are joined by Lars Meyer, Director, Access & Resource Services, Library & Information Technology Services at Emory University. We are pleased to share some of the learning experiences that we, and other attendees, had at the conference.

The theme of the 2020 Charleston Conference was "Quo Vadis – Where Are We Going?" While not all presenters prepared written ver-

sions of their remarks, enough did so that we are able to include an overview of such subjects as collection development, management, end users, scholarly communication, and technology issues. The unique nature of the Charleston Conference gives librarians, publishers, and library vendors the opportunity to holistically examine these and other points of interest.

We hope you, the reader, find the papers as informative as we do and that they encourage the continuation of the ongoing dialogue among librarians, vendors, and publishers that can only enhance the learning and research experience for the ultimate user.

Signed,
Co-Editors of the 40th Charleston Conference Proceedings
Beth R. Bernhardt, Consortia Account Manager, Oxford University Press
Leah Hinds, Executive Director, Charleston Conference
Lars Meyer, Associate Dean, Access & Resource Services, Library & Information Technology Services, Emory University
Katina Strauch, Founder and Convener, Charleston Conference; Editor, Against the Grain

Leading in an Age of Chaos and Change

Building a Community of Grace

Earl Lewis, Thomas C. Holt Distinguished University Professor of History, Afroamerican and African Studies and Public Policy and Director of the Center for Social Solutions, University of Michigan

Note: This address came November 4, 2020, the day after the 2020 Elections.

Good morning. I hope and trust that you are all doing well—at least well enough. I am honored to be speaking to you this morning and only wish the circumstances were different. When we all retired to our home in the late winter, I had no way to know how desirable routine human engagement would become. As a women passed me the other day and enthusiastically said hello, paused, and explained her yearning for unmediated human contact, I understood anew what has changed for us all. That is why I elected to call today's talk: "Leading in an Age of Chaos and Change: Building a Community of Grace."

Without question, 2020 has earned its own chapter in the annals of American history. These last few days, with competing and confounding television and radio ads, have reminded us of that from the outside looking in, American-style democracy can look *demo crazy*. This perspective was driven home for me during a zoom meeting, recently. On that call one person likened 2020 to the blending of the 1918 pandemic, with 1968's season of social and political tumult and assassinations,

wrapped in 2008's economic collapse. In effect we are talking about the conjoining of three pandemics—health, racial, and economic. As a colleague observed, "One crisis would be enough, all three at once offers a kind of sensory overload."

As I reflected on those comments, I found myself turning to all places, YouTube, and moments of divine grace. While there are multiple candidates, two stood out for me. The first is from 1995, when the late, great mezzo-soprano Jessye Norman saluted Sidney Poitier with a rendition of *Amazing Grace*. The scene is the Kennedy Center, Washington, DC. The occasion is the Kennedy Center Honors for lifetime contributions to American culture. That night Norman's musical selection and tribute brought tears to the eyes of then-President Bill Clinton, as well as Sidney Poitier. In many ways, Norman's rendition seemed to conjure up the inner man who had made his way from the Bahamas to screen and stage, defying probability and enthralling all with grace, craft, and skill.

Fast forward from the celebratory scene of the night at the Kennedy Center to Charleston in the aftermath of horrific racial violence. Two decades separate the two moments. In those two decades, Democrats and Republicans took turns occupying the White House. The Clinton presidency was followed by the Bush presidency, which gave way to the Obama presidency. Some had even begun to theorize we had entered a postracial period following the election and re-election of Barack Obama as president. Yet the stain of bigotry and racism seems to have a permanent hold on the minds and souls of far more of our brothers and sisters than we often care to acknowledge. But the gruesomely calculated actions of Dylan Roof could not be explained away as an anomaly, out of step with a postracial world. From Emmett Till through George Floyd and Breonna Taylor, America's deadly dance with the demons of race, bigotry and racism continue to erupt in churches, synagogues, temples, and mosques as well as on street corners, in front yards, and bedrooms.

Claiming he had been thinking about grace for more than a week after the massacre, President Obama, while eulogizing the slain, offered his rendition of *Amazing Grace*. While perhaps not as on key as Norman's, its effects were nonetheless palpable. Within seconds of his start,

the congregants sprang to their feet and joined him in a collective moment of redemption and healing.

Today the death toll from the coronavirus tallies at more than 230,000 Americans, while at the same time millions worry about their next meal, a roof over their heads, how to educate their children, mounting debts, few reserves, and a federal government seized by political gridlock. In the days and weeks ahead, no matter where you sit, what role you play, you will undoubtedly find yourself tapping into your reservoir of grace. Because the work ahead won't require only superior analytical skills or superb organizational abilities or keen communication tools, the work ahead will invariably demand of you building or shoring up a community of responsibility. It will require that you share ownership for forging change; that you evince a new commitment to patience; and that you show you care, really care—about the people around you, the world at large, and doing well as well as doing good. Let me expound on those elements in light of the worlds in which you sit.

The economic fallout from COVID-19 has been brutal and the costs continue to mount. By the end of the second quarter of 2020, colleges and universities were announcing deficits in the hundreds of millions of dollars, and schools and colleges in the tens of millions. State and municipal coffers are no better stocked. At the same time demand for your services, according to published reports, skyrocketed. I hope that I am wrong, but there is every reason to believe this economic downturn will be with us for four to five years.

How do you maintain grace, if you have to combine furloughs and layoffs? Who do you select? What is essential work? The early weeks of the health pandemic revealed a secret we long taught ourselves to ignore: some of the country's most fragile workers, meaning lower waged and often replaced, were also our most essential. They allowed grocery stores to remain open, buildings to be cleaned, packages to be delivered, and items to be serviced. As you contemplate right sizing your organizations for the future, who stays? What's the demographic profile of your workforce? In setting your priorities for who stays and who leaves, can you avoid contributing to the lingering effects of racialized opportunity structures in the United States?

Let me share an experience: When I served as provost at Emory University, leadership in the undergraduate admissions office repeatedly petitioned for funds to buy a new, automated, admissions system. For almost five years I sent it back because there was no evidence they were committed to redesigning the underlying processes and systems. I worried that new equipment minus a complete systems overhaul would introduce new inefficiencies and drive up costs, ultimately. Eventually, I got the assurances I sought and underwrote the purchase.

At the end of the day, an analysis showed a need to eliminate about ten positions. For years we had a group of women tasked with ferrying hard copies of documents to individual units all across campus. Scanning and central record keeping negated that need. When I looked at who would be affected, I discovered they were all Black women. These were women who worked because they needed to and I had just authorized their termination. As a leader, I accepted the responsibility, although I was livid that the admission team couldn't foresee we had groomed them for obsolescence. In effect, we had failed them.

In a grace-filled community we begin with responsibility. A grace-filled community is not consumed with rank or status. It practices the principle of open communication and structured action. This means that hierarchies are flattened. All are invited to speak, but if action is to follow the conversations, they do so through the structures of the institution—committees, departments, faculty and staff senate or its equivalent, administrative officers, the board. No one dares say, "It is not my job so I don't have to worry about it." Members of a grace-filled community own the process to the end.

In the case of the former workers at Emory, that meant offers of retraining, where appropriate; decent severance packages in all instances; and even the words we are counseled to avoid: "I am sorry." Experience has taught me that sometimes you have to ignore the lawyers, who are well meaning, and do what is humane. That's required in a grace-filled community.

As you have read, the burdens of our trifold pandemic have not been evenly distributed. The sociology of why is the subject of another talk. Today, I am drawn to demands on your services. Close to five years ago,

in a conversation with Tony Marx, head of New York Public Library, I was reminded of the unevenness of basic resources in this land of plenty. Tony commented on asking a couple of young people sprayed out on the steps of a community library in the city what they were up to. To his surprise, the collection told him they needed Internet connection, and the weak Wi-Fi signal emanating from the public library was their best hope of getting the service needed to complete homework assignments so they could compete in a world that measured generations in 18 months rather than the 25 years their grandparents had been taught.

And it is not just public libraries that are called on to provide such services. My assistant, who lives in Detroit, lives in an area with limited in-home Wi-Fi coverage. While we took steps to underwrite the purchase of expanded data coverage so he can create needed hotspots, in the past, he tapped a nearby community college's library for Wi-Fi and other services. Denied access to the building, he was told he needed to fill out a newly required attestation form that assured others he was healthy and exhibited no signs of the virus before he could be admitted. His first reaction was why; his second, was okay; his third, was it's too much of a hassle and he left.

With COVID, for all the proper reasons, access to the facilities and the services have been limited. With a looming national uptick in infections, even recent easing of access may be reversed. Yet your services may be in even greater demand, as students study from home, adults work from home, and workplaces across all sectors ask whether work from anywhere is a crisis-induced necessity or a permanent way of organizing work and labor. **A grace-filled community is planning now for that eventuality. It asks, if McKinsey and others are correct about the changing nature of work, which may entail the loss of as many as 39–54 million jobs in the United States by 2030, what's our role in reminding folks of the dignity of labor in an automated world.**

If you are a publisher your answer to that question may differ from that of a librarian. Regardless, all of you will need new approaches, new partners, and a new tolerance for experimentation. Understanding this point is why one of my all-time favorite grants made doing my time as president of The Andrew W. Mellon Foundation went to Bard College.

Leon Botstein, Bard's President, and colleagues had the beautiful audacity to imagine they could bring a two-year Bard degree to community members in Brooklyn, teaming Bard with the Brooklyn Public Library to make it possible for folks to advance themselves, educationally. Why is this important? Research has repeatedly shown that some college and particularly a degree, in the aggregate, makes you more robot ready and robot proof than a high school degree alone. Thus, as leaders, your job must include future forecasting. You should be asking: how do I contribute to the common good, and not just in the near term? How do I help shape the world, I can imagine, must be on the table.

Takeaway: A grace-filled community demands multiple architects. No one gets a pass. Each member of a grace-filled community enters fully cognizant of what they have achieved and what they are still to learn; they enter with confidence but not arrogance; they enter expecting as much of themselves as they expect of others. For them, there is no sense of entitlement, for they know what they did yesterday in no way guarantees what they will accomplish in the future. A grace-filled community, after all, seeks institution builders.

These institution builders understand that a grace-filled community does not begin or end at the campus's edge. They seek out those neighborhoods rich with aspirations but not material possessions. Where others see the dispossessed they see young and old who dream—who dream of a world never seen but one that's sensed; who dream of a world where hard work and perseverance inoculate you from life's miserable underbelly of poverty, crime, incarceration, drugs, and death. These builders understand that becoming a prisoner need not mean the end of one's humanity.

A grace-filled community requires a staff that understands the difference between a job, a career, and a calling. If getting out of bed five days a week, 48–50 weeks per year only translates into a job, you are failing yourself and those around you. Nor is it simply a career that offers unbounded opportunities for advancement that should be your sole motivator. Members of a grace-filled community understand that they, too, are institution builders, and that the smallest gesture, when no one is looking even, is what's expected of them. So if they see a piece of paper

on the ground, they don't walk by it just because that is not their job. They pick up the paper, toss it in the receptacle, hoping all along that others will take heed and do the same.

Members of this grace-filled community are also willing to experiment. Early on in my time as president of Mellon, the head of one of the nation's leading public university academic presses took me aside and shared a worry about the future of academic publishing. He lamented that more than half of the academic presses could disappear, without thoughtful intervention. While a dean at the University of Michigan in late 1990s and early 2000s, the press reported to me. When I became provost at Emory, I discovered we had no press. This set me on the realization that about 120 entities support the academic publishing enterprise and more than 5,000 institutions get by without contributing financially.

I recall going back to my New York City offices and ruminating over the implications of a 50% attrition rate. I called Don Waters, at the time head of scholarly communications at the Mellon Foundation, and asked him if he shared the assessment I had heard. He shared his fears. I then went to the Mellon board to express worries that the disappearance of 25–50% of the presses portended horrendous consequences for the academy, especially the humanities and social sciences. My board colleagues, to my surprise, didn't share my worries. They figured smart people, if presented with a crisis, will rally and come up with workable solutions. JSTOR, a Mellon-funded and sparked initiative, stood as a ready example. While both examples may be influenced by what the late Bill Bowen labeled the free-rider effect, I wasn't as sanguine as my colleagues about the prospects for a tidy and timely solution. I feared, and still do, that our failure to address this real problem may consume a generation of young scholars, whose only fault was being born in time for calamitous change. And even an attempted partnership with the AAU and ARL failed to produce a workable solution or two.

So what kinds of experiments should be tried now, before a full crisis requires crisis management rather than thoughtful experiments? Is this the moment to question the fetishization of the book as the end all and be all for tenure in certain fields? If it is, who can and should champion

the change? Is this the moment to create a kind of academic commons, which requires colleges and universities to contribute, if they lack a press, to help defray some of the costs of publishing? Can we devise a distribution system that aids the less well-heeled presses, without further subsidizing the more financially secure imprints? Is this a time when presses should retain more of their positive margins, rather than having them absorbed by the larger institutions? Who is cataloging and analyzing successful approaches or suggesting new would-be models? Basically, who is willing to outline the roster of experiments needed to sustain a grace-filled community?

Members of a grace-filled community exhibit the patience to embrace each encounter as another teaching moment. As you reflect on my words, I ask that you return for a moment to Charleston in 2015 or Pittsburgh in 2018, or . . . , and you name the place. In the world of libraries, book publishing, and knowledge production, what's your role in helping to build and sustain a more just, equitable world? The *New York Times* featured an article last week entitled, "'There are Tons of Brown Faces Missing': Publishers Step Up Diversity Efforts." Maybe I am getting old, I turn 65 next week, and perhaps a little cranky, but I have seen folks of color go in and out of favor over the last 50 years, like last season's sitcoms. Diversity without a carefully crafted plan for equity and inclusion, may appease the accountants in all of us who want to measure progress. But in the end, the death of George Floyd and Breonna Taylor will compete with the deaths of Emmett Till and Tamir Rice, becoming yet one more example of what my friend Carol Anderson labeled white rage.

We have the opportunity and responsibility to do more. Why not begin with an internal examination of the organizations you head or lead, the institutions you are a part of? What if every publishing house, every library, every major institution in the United States committed to a three-year, internal reparations examination, what could be the result? Deep, painful, but perhaps exhilarating learning? Cathartic change? Something beyond a DEI framework? Who knows. . . . The work won't be easy, but if you believe in a grace-filled community, the work is neces-

sary. **After all, a grace-filled community is peopled by those who care about others as much as they care about themselves**.

That caring asks that we acknowledge our vulnerabilities and insecurities. The loftier things I have hinted at will prove impossible to attain without careful attention to the small matters. In the days and weeks ahead, the word fatigue will increase in saliency and frequency. More and more of us have grown tired of staying at home, separated from the world we knew and often favored. One person I know, when quizzed about the isolation and struggles of working from home, admitted to increasing irritability. Generally, an upbeat person, the separation from routine had taken a toll. Others describe the psychological wear and tear about worry for staff, colleagues, family, and friends. How, as one friend and senior university leader put it, do you continue to fight an invisible enemy, when the death toll continues to mount? Seemingly contradictory, the question hinged on the realization that your best actions can be negated by your neighbor's worse actions.

Case in point: my wife and I decided to place a Black Lives Matter sign on the edge of our property. Positioned alongside a major cross-town artery, the sign was visible to passers-by in both directions. For two and half weeks the sign set comfortably on its roadside perch, until it disappeared. Without notice or comment, someone removed our sign. They left the one saying Climate Voter, but not Black Lives Matter. The theft of our sign made me wonder about words, punctuation, and meaning. Although the sign bore no punctuation, clearly some read it as possessing a period, while others saw a question mark, and many an exclamation point. A week went by and we decided to put up another version, which we guarded with other political signs of confession. A few days after that someone placed a Trump/Pence sign next to the BLM sign, which we removed. We couldn't tell if this was a feeble attempt at dialogue, a form of transgressive behavior, organized action, or something to worry about. Removing the sign we thought the more graceful thing to do.

It is in these moments that we must all strive for some modicum of grace. The circumstances may spring from a celebratory occasion, when

like a Jessye Norman, you get to honor someone for their fine achievements. It may come when called on to eulogize a friend, family member, or colleague, whose days ahead have ended. Whether celebratory or eulogy, alone or in a crowd, you all have a role in building and sustaining a grace-filled community.

It is why in good times and bad, many of us find ourselves turning to that old stand-by, "Amazing Grace." Written, we are told in 1772, by the poet and clergyman, John Newton. Newton made several career shifts in life. Before joining the church, Newton spent time at sea. Eventually, he made a living ferrying human cargo from the shores of Africa to the ports of the Americas. He eventually abandoned that world to join the Anglican Church. And in 1779 he published the words that have gained meaning and weight with each successive generation. So I leave you today with those words, born of a different era, challenged by a different code of ethics, framed by a world of cruel encounter and confrontation.

Amazing Grace! How sweet the sound
That saved a wretch like me.
I once was lost, but now am found.
Was blind but now I see.

See your way to building communities that are responsible, forward-looking, experimental, inclusive, where all learn and teach. In this world of conflict and contestation, in the aftermath of this contentious election season, become architects of grace-filled communities.

Thank you.

Analysis and Assessment

Close EnCOUNTERs of the 5th Kind

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Abstract

Academic libraries rely on the COUNTER Code of Practice in order to gather and report usage of electronic resources in a consistent, standardized manner. The release of COUNTER 5 presented steep challenges and unexpected opportunities. At the Charleston Conference in November 2020, a team of e-resources specialists from the University of Florida Libraries explored the challenges presented by the new COUNTER 5 code of practice. In the presentation, they shared how they approached it from a practical and collaborative project management perspective.

Participants in the session gained an understanding of the following:

Strategies, methods, and tools the presenters deployed in order to approach and manage this transition.

Skills needed to collaborate effectively to find resolutions and arrive at decisions in a team-based environment, all within the disruption of migrating to remote work environments.

Communication practices need to engage both internal and external stakeholders.

Future directions, aspirations, and the necessity for ongoing education and outreach.

Keywords

acquisitions, electronic resources, usage statistics, cost per use, assessment, COUNTER 4, COUNTER 5, academic libraries, code of practice, Charleston, library

Introduction

The University of Florida (UF) is a large, public, Research 1 university located in Gainesville, Florida. The George A. Smathers Libraries, the main library system at UF, serves around 50,000 users including undergraduate, graduate, and doctoral students, faculty, staff, researchers, and the surrounding community. The Smathers Libraries are comprised of six physical library branches that support diverse programs ranging from Health Sciences to Architecture and Fine Arts. The Acquisitions & Collections Services Department is housed in the Smathers Library, the oldest library building on campus and a cornerstone of the physical footprint of UF. Faculty and staff in the Department are responsible for the operations and management of all print and electronic collections activities. The Electronic (E-Resources) Unit is one of three sub-Units in the larger Department. Faculty and staff in the E-resources Unit manage the lifecycle of all e-resources, from trials to access to assessment.

Staff in the E-Resources Unit are also responsible for collecting usage statistics for subscription resources such as databases, packages (e-journals, e-books, streaming media), and individual electronic titles. The goal behind continual and systematic usage statistics collection is to provide an ongoing mechanism for quantitative assessment of subscription e-resources in order for budget selectors to be equipped with the

data needed to make collections decisions. While members of the E-Resources Unit consult usage statistics regularly for reporting and assessment purposes, our primary audiences are library colleagues with responsibilities for selecting materials in various subject areas (budget selectors). All budget selectors have access to usage statistics and consult them frequently in line with assessment efforts.

Background and Context

In the E-Resources Unit, we maintain eight "trackers," distinguished by subject, of all current electronic subscriptions. These trackers, which are Excel spreadsheets stored in Microsoft's SharePoint, contain comprehensive usage data and cost-per-use (CPU) calculations for each year starting in 2018. We maintain over one thousand subscriptions via these trackers, and they contain a variety of information related to invoicing, statistics, publishers, order exceptions, and more. Our budget selectors use the trackers to make renewal decisions regarding e-resources each budget year.

Knowing that many of our content providers transitioned to the use of the COUNTER 5 (R5) standard for usage reporting, we in the E-Resources Unit had a need to understand the new standard and how it would be used to generate metrics for similar resource types across our subscriptions. We were very familiar with COUNTER 4 (R4) and needed to develop that same level of familiarity with COUNTER 5.

Our team, comprised of Erin Gallagher (then-E-Resources Librarian), Pauline Bickford-Duane, Doug Kiker, and Beth Zavoyski (E-Resources Specialists), undertook a group project to review and implement the use of COUNTER 5 for usage statistics reporting. Our goals were as follows:

- Through the use of training materials and hands-on experience, gain knowledge of COUNTER 5 standard usage reports in order to determine the individual reports we will most commonly make use of in line with e-resource assessment.

- Gain a working knowledge that allows us to articulate what usage metric is being reported for commonly used reports.
- Learn new concepts and skills as a team and have fun doing it.

We began holding weekly project meetings in February 2020 while still working in-person in our offices; we continued meeting as we transitioned to remote work during the COVID-19 pandemic. Usage statistics are a critical part of the e-resources lifecycle, as each year, beginning in February, we collect the prior year's usage statistics in order to generate a CPU calculation for each subscription.

To accomplish our goal of a greater understanding of COUNTER 5, we used a number of helpful tools. For communication, we used Outlook, SharePoint, and Teams, which were especially valuable as we began working remotely. We heavily relied on channels in Teams for quick questions that we would ordinarily have stopped into someone's office to ask. We pulled usage statistics from our vendor and publisher platforms, often generating multiple types of reports for comparison. We maintain approximately 285 administrative logins at various publishers' websites, and part of this project was ensuring that all administrative credentials functioned and that we had access to the administrative portal. In many cases, this involved communicating with our vendors to update our credentials or to request usage reports if the publisher did not have an administrative portal. In some cases, our publishers had not yet transitioned to COUNTER 5. If we were only able to generate a COUNTER 4 report or a report that was not COUNTER-compliant at all, we noted this in the appropriate tracker in order to contextualize the cost-per-use calculation. We stored the usage reports in a folder in a shared network drive which contains over 250 subfolders and developed a common naming convention so the reports were easier to locate. We also consulted a variety of resources in order to familiarize ourselves with COUNTER 5, including the COUNTER 5 Codes of Practice and the Counter Foundation Class videos on YouTube. We watched some of these videos together in person before we began working remotely and continued to consult them as the project continued remotely.

Outcomes

The primary intended outcome of this project was to provide CPU calculations that were reasonably comparable, both between different resources and between the years 2018 and 2019, even though some of our resources were transitioning to COUNTER 5 statistics during those years. To accomplish this, we needed to standardize the metrics we reported as much as possible. First, we determined the reports we most frequently generated in COUNTER 4: Journal Report (JR1), Database Report (DB1), Book Reports (BR1 and BR2) and Platform Report (PR1). Collaborating closely, we agreed on standardized metrics to collect for journals, databases, and books. Previously, this was simple to standardize—we used "record views" or "reporting period total" for the closest equivalent to a full-text view. With COUNTER 5, however, the metrics differed for each resource type.

For R4's JR1 (Journal Report), we had previously relied on Reporting Period Total; in the R5 TR J1 we used the metric Total Item Requests. The biggest difference we encountered was a lower usage count with R5 statistics because open access usage was no longer included in the total. Additionally, HTML and PDF views were no longer reported as separate numbers. For the R4 DB1 (Database Report), we previously relied on Record Views, and in the R5 DR D1 we determined to use the metrics Total Item Requests or Total Item Investigations. While in R4 we used the metric Record Views for all types of databases, in R5 it was necessary to use different metrics depending on the type of database. Abstract and index databases only report search and investigation metrics, not requests. For the R4 BR1 or BR2 (Book Report), we had previously used Reporting Period Total which counted either e-book title requests or e-book section (chapter) requests, depending on the report. For the R5 TR B1, we chose to use the metric Unique Title Requests. The reason for using Unique Title Requests instead of Unique Item Requests was because the number of Unique Item Requests can vary depending on whether the publisher records usage at the title or chapter level, but Unique Title Requests is consistent across publishers. Lastly, we evalu-

Table 1. COUNTER 4 and COUNTER 5 comparison.

Type of Report	COUNTER 4	COUNTER 5	Differences
Journal Report	JR1 Reporting Period Total	TR_J1 Total Item Requests	Lower usage counts in R5—OA no longer included
Database Report	DB1 Record Views	DR or DR_D1 Total Item Requests or Total Item Investigations	Abstracts/indexes do not report Total Item Requests
Book Report	BR1, BR2 Reporting Period Total	TR_B1 Unique Title Requests	Number of Unique Item Requests not consistent
Platform Report	PR1 Record Views	PR_P1 Unique Item Requests	

ated the R4 PR1 Report (Platform Report), which we only use if no other report is available. For the R5 PR P1, we determined to use Unique Item Requests. The changes in metrics for each type of report from R4 to R5 are detailed in Table 1.

Successes and Challenges

Despite the large scale of this project, the problems we encountered were a small percentage of the total; however, even small problems required significant scrutiny. To solve these problems, we relied heavily on communication with our vendors and publishers as well as a close examination of the COUNTER training materials.

One challenge we encountered was the difference between full-text and non-full-text database usage. We found that some databases were either not appearing on R5 reports when we generated a filtered report that only showed Item Requests, or, if we generated a full report, the only metric they showed was Investigations. However, an R4 from the same year showed Record Views. There was a disconnect in our understanding of the transition from R4 to R5, as we had previously understood that we should use the metric Total Item Requests for all data-

bases. One example of this issue was the database *Race Relations Abstracts*, which had 262 Record Views in a 2019 R4 report, but the only metrics it showed in a 2019 R5 report were Searches and Item Investigations. We solved this problem by communicating with our vendors, revisiting the COUNTER training materials, and discussing at length the exact nature of an item request. We determined that for abstract/index databases—databases that do not contain full-text content—we will not see Total Item Requests on DR D1 reports, as they only count full-text item usage. For abstract/index databases, we needed to use the metric Total Item Investigations (searches) instead. One sub-issue we encountered was that it is not always obvious which databases are full text and which are abstract/index only. Going forward, we identify and mark these on our trackers in the Usage Notes field. At the time of the project, we determined this by re-generating the report without any filters/limits if we did not see the database in the report.

Another challenge we experienced was the significant numerical discrepancies between R4 and R5 reports for the same resource for the same year. For example, UF subscribes to four ProQuest Historical Newspaper collections, which we have bundled in one order: Christian Science Monitor, New York Times, Wall Street Journal, and Washington Post. We combine our usage statistics for these four subscriptions because they are paid from the same order. In an R4 DB1 for 2019, we saw that these newspapers combined had 425 record views. However, in an R5 DR D1 for the same year, we saw 14,769 Total Item Requests. We were not able to determine the reason for this large discrepancy, so we reached out to ProQuest as well as NISO/COUNTER. Further investigation revealed that the difference in these numbers is due to the fact that the definitions for R4 "Record Views" and R5 "Item Requests" are not equivalent. "Record Views" in COUNTER 4 encompass a much more limited scope because at the time COUNTER 4 was released, full-text databases were not as commonplace, and the standard was not as capable of capturing full-text activities as COUNTER 5. In this case, we determined that while these usage numbers will not be comparable from 2018 to 2019, "Total Item Requests" is still the most accurate met-

ric to use going forward. We notated the discrepancy on our trackers and communicated with our budget selectors to help them understand the difference in numbers.

Throughout these challenges, communication was critical. During our weekly project meetings, we shared new and complex problems with the team. If we encountered problems we could not solve, we reached out to vendors for clarification, then discussed vendor responses as a team. Having multiple perspectives helped to untangle issues and inconsistencies. It was critical to get replies from vendors because there were sometimes unique reasons behind differing numbers or resources not appearing in reports. For example, a few Gale resources, including Times Digital Archive, were not appearing on R5 reports. Our Gale representative explained that it was because they had not yet been migrated to a new platform. The abstract/index database solution did not apply in this case, but we would not have known that if we had not reached out to the vendor.

Working through all of these challenges was helpful in developing a fairly comprehensive understanding of Counter 5 statistics, but that was not the end, as UF also subscribes to a number of resources that do not offer COUNTER-compliant statistics at all. This is most common with resources in Special & Area Studies Collections (SASC) and Business, which frequently did not provide COUNTER-compliant reports. Many SASC resources are from non-U.S. platforms where the COUNTER standard is not used, and usage data is often represented by page views or website visits. One example is Digitalia, which offers a very simple non-COUNTER usage report based on the metric "queries." In the case of the Business e-resources, they were often not directly developed for the academic market, so the statistics could be in many forms, including website hits, page views, data downloads, or ads watched. Business platforms also have frequent redesigns, which can cause issues when attempting to standardize metrics from year to year. For these e-resources, it was important to annotate on the tracker the non-COUNTER nature of the statistics in the notes field so that the budget selectors have more context than a single number. It is also crucial to be

consistent from year to year, using the same type of data or metric that was used in the previous year so that trends are reliable. In most cases, the companies had reports at the ready and we would request them from the account manager via email. Only a handful were unable to provide reports at all, which was noted in the trackers.

Future Directions

The work of usage statistics collection and assessment will be ongoing. Communication, both with content providers and with our budget selectors, will be crucial to the continued success of this project. In that vein, the E-Resources Unit staff recently presented an "Introduction to E-Resources" session for all library staff in which we touched on the process behind collecting usage statistics. Our intent is to create space that allows us to demystify the work of e-resources, and if given the opportunity, we will plan another session that focuses specifically on usage statistics. This work is in line with our departmental and unit goals to illuminate the value of e-resources work to our user group (library employees).

A current top priority is the impending Florida statewide migration to Ex Libris's Alma integrated library system (go-live date is July 13, 2021). The new system promises opportunities for enriching usage statistics collection and analysis, and we plan to explore the potential to automate the harvesting of usage statistics.

Usage statistics will also have an increased significance over the next few years due to uncertain and shifting budgetary outlooks both for the university and for the state. As did many higher education institutions, UF experienced double hits to their institutional and state budgets. We are cautiously optimistic that our content providers will continue to work with us to mitigate these budgetary challenges, but we also realize that the worst may be yet to come.

Works Cited

https://www.projectcounter.org/code-of-practice-sections/general-information/
https://www.projectcounter.org/code-of-practice-five-sections/abstract/
https://www.youtube.com/watch?v=l9LS5KizhYI&list=PL9OAw4zLhfa0bzMLXAfJXGhlbGjG8y_fg

E-Books at the Crossroads and Thoughts on the Plague

Forrest Link, The College of New Jersey

Abstract

In an expanded reprise of an earlier study, the author outlines a poster session that examines how e-book equivalents of academic print titles have continued to gain library and publisher acceptance during the four calendar years 2016 through 2019. The author argues that this period, just before the arrival of the Covid-19 pandemic, may well be viewed as a turning point in the promotion and acceptance of e-books as libraries deal with changes and restrictions wrought by the plague.

Keywords

e-books, COVID-19, academic publishing

Introduction

Eight years ago, as e-books were full of promise and beginning to make significant inroads into the library market, I undertook a study to exam-

ine the extent of their market penetration by what proportion of heavily circulated books at my library were also offered in an e-book format.[1] Since then, we have seen developments in the proliferation and acceptance of e-books including sophisticated on-demand purchasing models as well as some consolidation and standardization of e-book platforms.

I originally set out to recreate the methodology of my 2012 study, interested in seeing how and to what extent e-books had supplemented or even supplanted print, but instead of using local circulation data as a baseline, I was able to obtain sales data from GOBI Library Solutions on their bestselling print titles for the years 2016 through 2019, correlating print and e-edition data. This offered a larger sample and a generalized perspective on the highest level purchasing needs of academic libraries worldwide.

While my original goal was to document the progress of e-book equivalents and their penetration of the academic publishing market, the arrival of COVID-19 has offered a new reason for this study. The widespread closure of libraries and the simultaneous move to distance learning have highlighted one of the key benefits of e-books—their broad accessibility. As a result academic library book purchasing (where there is purchasing) is shifting dramatically toward e-books.

Study Questions

As I began the study, these questions were foremost:

1) Has the proportion of e-book equivalents increased since 2012? Are more print books also being offered in e-editions?
2) Are equivalents more popular in particular LC class ranges?
3) What publishers are leading the way in offering e-book equivalents?

The Data

GOBI Library Solutions kindly supplied me with annotated lists of their 1,000 bestselling print titles for individual calendar years 2016 through 2019. These lists included LC class information and whether or not current e-book equivalents existed for each title. Because some titles on each list tied in the quantity sold, there are not exactly 1,000 books on each list.

Methods

For each year of data, the titles were sorted and counted, taking note of the number of e-books and the publishers responsible for producing e-book equivalents. The total number of e-book equivalents for the four-year study period was broken down by publisher in order to discover who was leading in academic e-book production, while the percentages of total e-book equivalents per year were noted to reveal any general trends.

Results

A list of 4,359 bestselling academic books was supplied by GOBI Library Solutions as a data set. Of these, 1,677, or 38% were available in an e-book equivalent. Broken down by calendar year, the results are as follows:

	Total number of titles	e-book equivalents	% e-Book equivalents
2016	1149	382	33
2017	1055	378	36
2018	1087	444	41
2019	1068	473	44

Thus we observe a steady, if modest, increase in e-book production in bestselling academic titles.

E-book equivalents are not evenly distributed among LC classes. Titles in the humanities and social sciences are more heavily represented, with a notably larger number of titles consistently appearing in the H class, nearing or surpassing 25% of the sample. This finding is consistent with my earlier study.

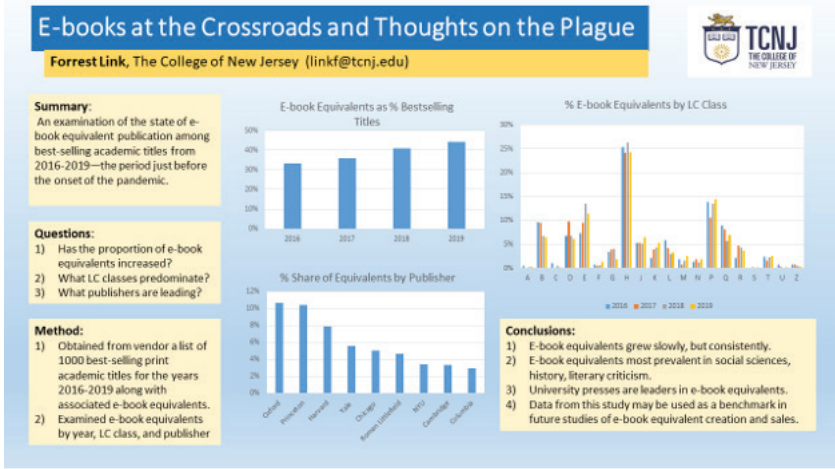
Nine publishers are responsible for just over 50% of e-book equivalents in the data set. With one exception, all of these publishers are university presses.

Discussion

The original purpose of this study was to examine the progress of e-book publishing in the academic marketplace. The results indicated steady, if not dramatic, growth in publisher production of e-book equivalents of high-demand academic titles. The LC classes that contained the largest number of equivalents did not change since the earlier study. This may be attributed to factors ranging from a continuation of the missions of the leading e-book publishers (almost all university presses) to publisher inertia (continuing to produce that which sells).

While this study is based on data gathered before the advent of COVID-19, anecdotal evidence strongly indicates that e-book purchasing has dramatically increased in academic libraries as physical facilities either are closed or have significantly reduced patron access. Clearly, future studies are in order to discover patron and publisher reactions to these dramatic developments. Pre-COVID studies have revealed mixed responses to e-books, some based on generational preferences, others on their utility. What will be the future response if and as they become the preferred purchase option?

Finally, it will be interesting to see how acquisitions budgets might be affected by publisher pricing decisions if and as e-book equivalents proliferate.



Conclusion

The results show how bestselling academic e-books were being promulgated from both a publisher and subject perspective in the years immediately prior to the COVID-19 pandemic. These results are valuable as a gauge of the maturation of e-book market penetration and can serve as a benchmark for future studies as libraries alter their collection policies in response to the plague. In both cases, it seems clear that e-books will have an increasing role in academic purchasing decisions.

Note

1. Link, Forrest E., Are we there yet? An analysis of e-book equivalent coverage in highly-circulated titles at the College of New Jersey Library. *Collection Building*, *3*(*4*), 2012.

Using the Unbundling Power of Unsub Responsibly

Unveiling Its Assumptions and Unpacking Its Defaults

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Abstract

Faced with unexpected double-digit budget cuts and ever-increasing costs for journal packages, many academic libraries are finding it necessary and/or expedient to unbundle their big deals. Determining the relative value of these packages is not easy, since it requires an understanding of how reduced access will impact users now and into the future. Enter Unsub, a tool designed by researchers to model future library costs based on current patterns of availability and use within each package. Unsub allows librarians to make informed decisions about which titles to keep and which to cancel by identifying alternative access via backfile ownership, open access, and cost-effective use of interlibrary loan (ILL). However, without a sufficient understanding of its inner workings, librarians

run the risk of making poor cancellation decisions. In this presentation, we examine the most important Unsub definitions, assumptions, and parameter defaults, highlighting scenarios designed to test their effects on cancellation recommendations. More specifically, we'll delve into Unsub's (1) definitions of journal usage/value and OA coverage; (2) assumptions around OA availability and delayed access; and (3) default parameters for backfile coverage and current usage to ILL conversion. The results we share provide critical insight into the foundations of Unsub, enabling attendees to harness this powerful tool to make better decisions for the researchers they serve.

Keywords

open access, journal package, big deal, journal value, journal usage, journal assessment, cost per use, net cost per paid use, COUNTER, perpetual access, post-cancellation access

Author's note in proof: In May 2021, "Our Research" released a new version of Unsub,[1] which includes support for COUNTER 5 and addresses many of the concerns and criticisms we raised in our November 2020 presentation. Improvements include:

- Definitions and Terminology
  - Use of COUNTER 5 Unique Request metrics
  - The "ILL/Delayed" is now divided into two segments: ILL and Unknown
  - "Instant Fulfillment" has been renamed "Access" and includes ILL
  - Cost per use estimates have been improved with more accurate forecasts based on *local* journal usage
- Configurable Parameters
  - Default to zero "Backfile" access (now called Post Termination Access)
  - Big Deal Price/Cost and increase are required entries (Default to blank)

- "Backfile" Usage
  - Takes into account usage and Post Termination Access *prior to 2011*
  - Based on local year of publication usage from COUNTER data

This proceedings transcript has *not* been updated to reflect these changes: readers should take this into account when reviewing its content.

Introduction—Michael Levine-Clark

Unsub is a tool that has been making quite a bit of a splash in academic libraries because it can help us understand the implications of breaking apart a big deal and going to title-by-title selection. It's a powerful tool and one that we think everyone should be paying attention to. But it's a tool that you need to understand how to use.

When you first start using Unsub and load a COUNTER JR1 report with your usage data, and then start looking at the results, your first thought is, "OMG, we can save a lot of money." For this particular library (Figure 1), based on the usage reported from their JR1, they can get 70% instant fulfillment for $173,000, which seems pretty amazing. Figure 2 shows that they can get 80% instant fulfillment for $462,000 by subscribing to 96 titles—paying just 19.9% of their big deal costs.

Oh my god, we can save a lot of money, but actually it is too good to be true. You can't save that much money because some of the assumptions need to be changed and challenged (Figure 3). One of these in particular is that the backfile defaults to full perpetual access, but that's not true for Elsevier. Elsevier big deals generally provide post-cancellation rights to only a small portion of the backfile. That's just one example of things that need to be adjusted. We're going to talk through some of the assumptions behind Unsub and some other things that librarians can change in the parameters to adjust those assumptions.[2]

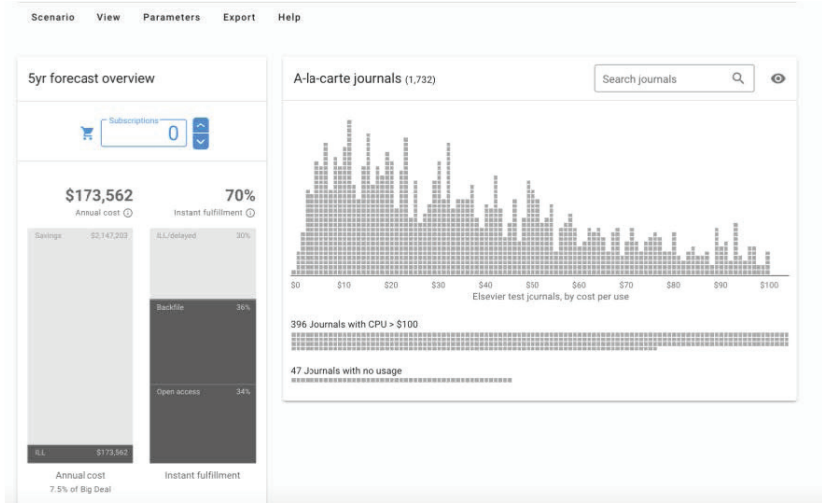


Figure 1. Default view for Institution X

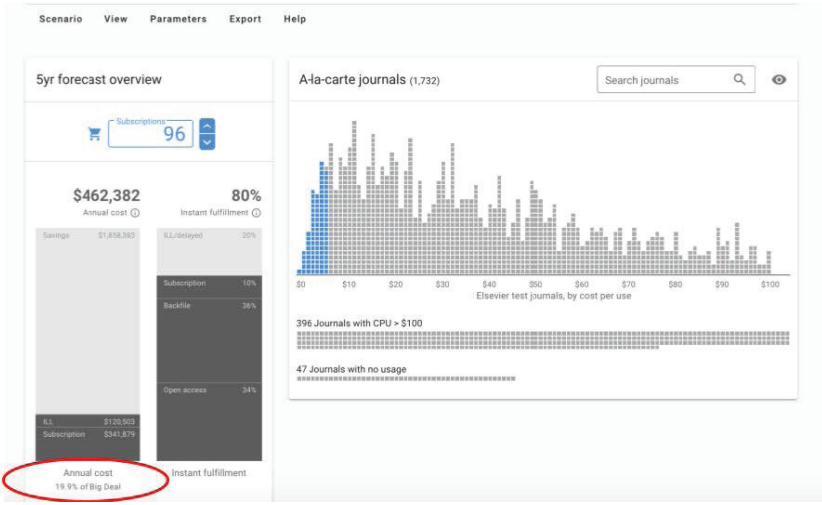


Figure 2. 80% instant fulfillment for Institution X

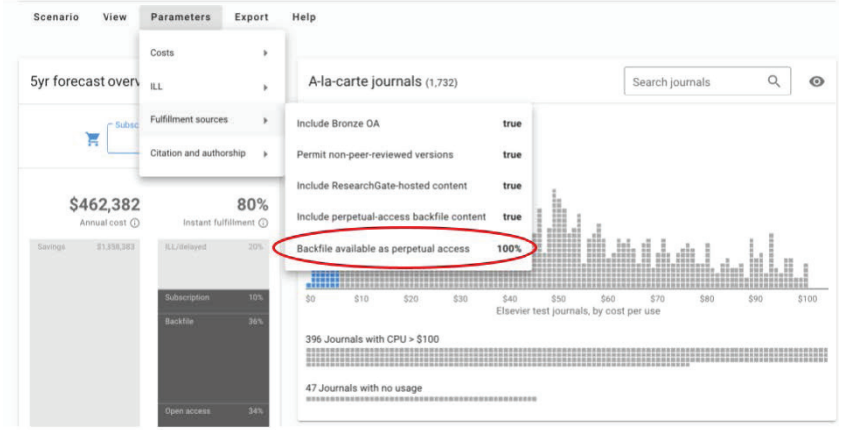


Figure 3. Backfile available as perpetual access assumption is 100%

Definitions and Terminology—Jason Price

So, what is Unsub? It's a data dashboard that predicts the impact of "unbundling" by comparing the cost and access profiles of library-designed title-by-title scenarios to the package status quo. And how does it work? It models demand based on citation, authorship and local and global usage patterns and compares that demand to availability determined from open access, post-cancellation, and subscription rights. And most importantly for the focus of our study, it allows libraries and librarians to configure these factors in ways that reflect their situation, values, and desired outcome.

It is priced affordably at $1,000 per library per year and currently covers Elsevier, Wiley, and Springer Nature collections.[3] Libraries upload their most recent COUNTER Release 4 JR1 report (support for COUNTER Release 5 in Unsub is due out in spring 2021). If the publisher doesn't include comprehensive post-cancellation access, the library must upload a "subscribed title"/post-cancellation access list. The system then returns a ranked list of recommended titles to retain based on their value according to the underlying parameters. All of the

title data is exportable, some via a standard report and others require cut and paste of 100 titles at a time.[4] It's worth thinking about what more libraries can learn from all that data.

Our approach was one of exploration and comparison. We'll share results based on examination of five institutions (two R2s, or Doctoral Institutions with High Research Activity; two R1s, or Doctoral Institutions with Very High Research Activity; and one medical school). We decided to limit our examples to the Elsevier package. Today we'll walk through three sections to address Unsub's (1) definitions and terminology, (2) configurable parameters, and (3) embedded assumptions around the backfile.

As an overview of section one, I'll describe Unsub's use of demand as a lens for percent availability. Then we'll turn to the impact of Unsub's definition of journal usage, which has been expanded to include citations and authorships. I'll then describe the impact of its definition of value, which excludes usage of content that is freely available or has already been paid for. Then I'll finish with a critical examination of Unsub's fulfillment terminology, wherein we found the terms "delayed" and "instant" to be quite misleading.

Thinking of the journal article at the most basic level, the creators of Unsub found about 25% of articles with DOIs are available through some form of open access. But when they took a sample based on those DOIs that users actually requested over the same period of time, the percentage of those that were open was nearly 50% (Figure 4); thus, they point out that actually looking at open access availability based on demand is the more important measure when evaluating the level of access users actually experience.

The mathemagic of Unsub requires taking this to the next level: looking at it over time (Figure 5). Using figures from papers published by Unsub's creators,[5] we can see on the left a figure that represents availability by year of publication, which will differ markedly for each journal, depending on the proportion of its articles that are available to your users via open access or subscription/post-cancellation rights. The grey (paywalled) proportion flips to subscribed or post-cancellation access for subscribed journals, and then reappears year by year when a sub-

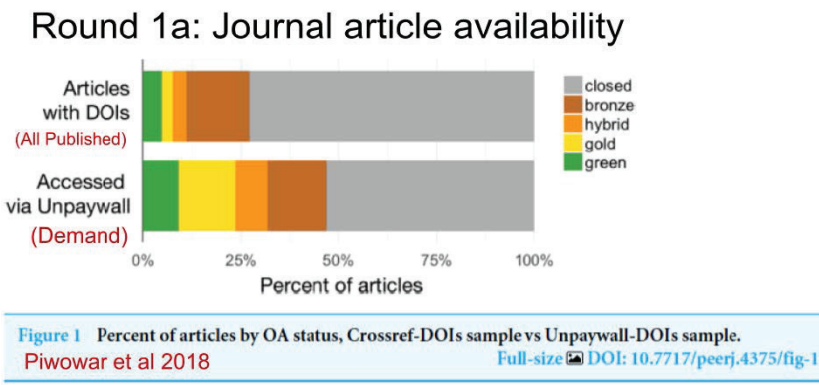


Figure 4. Journal Article Availability (Percent OA of all published vs. demand)

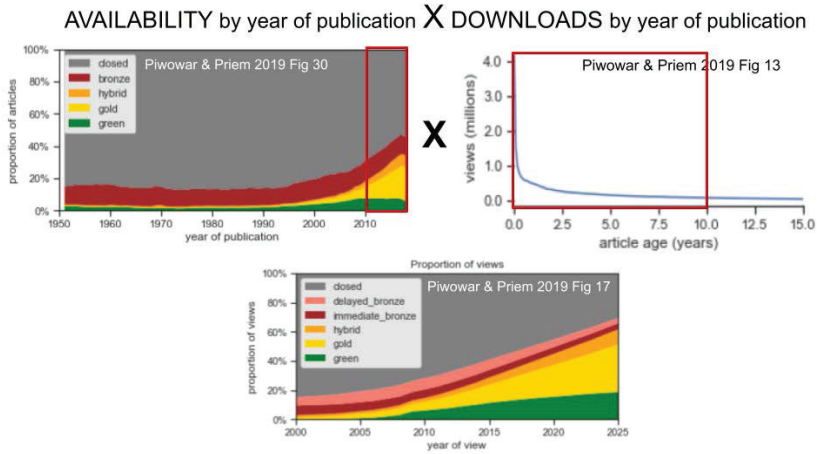


Figure 5. Proportion of views addressed: the combined impact of OA availability and use by year of publication

scription is cancelled. And this picture is altered, journal by journal, based on the parameters as they are adjusted in Unsub.

The brilliance of Unsub is that it then combines the institution's specific article availability by journal (on the left) with each journal's specific pattern of demand (on the right). This curve varies markedly by journal, being less steep in disciplines like math or social sciences where

older articles are more likely to be relevant to the reader. But it doesn't stop there. Unsub then uses data representing the past 10 years to predict fulfillment based on future availability in light of that demand, measured in proportion of views addressed (on the y-axis) by year of view on the x-axis which you can see is projected five years into the future, for each individual journal. That's a total mind bender, so if you find it hard to comprehend, you're not alone! In fact, in conversations with the creators, in the past, they've said it was a mind bender for them and often still is. The take-home point to keep in mind when using Unsub is that the availability percentages you're looking at are based on demand, rather than based just on the percentage of published articles available.

Turning to Unsub's definition of journal usage, we all know that the standard definition of journal usage is the number of full-text article views, or more colloquially, the number of downloads. Unsub expands this definition by including data on local citations and articles authored, with adjustable multipliers that determine the strength of their influence (Figure 6). We wanted to know how different this measure of usage would be from the traditional one, so we created scatterplots to look at the strength of the relationship between traditional usage (on the x-axis) and Unsub's default definition on the y-axis. In this case, more than 98%

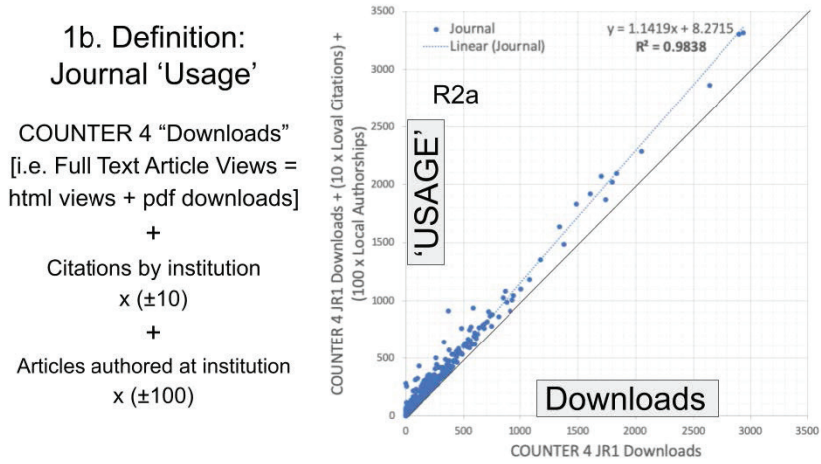


Figure 6. Unsub's definition of journal usage: downloads + citations + authorships

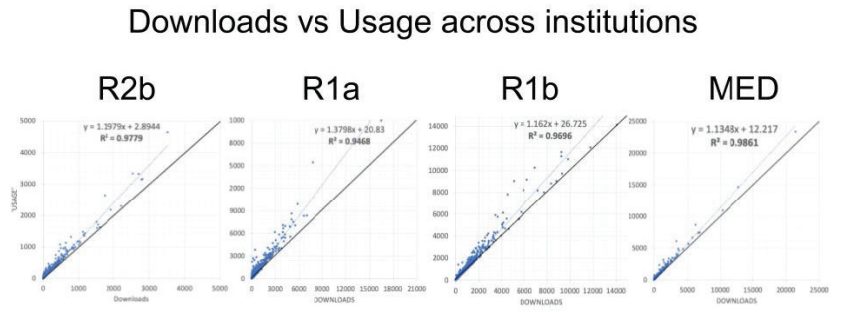


Figure 7. A strong correlation between downloads and usage for each institution

of the variation in the expanded definition of usage is explained by variation in standard usage. So, they are quite similar.

This strong relationship held up for all five institutions with traditional usage explaining 95–99% of the variation in the expanded definition of usage. Since the expanded definition of usage might have occasional important effects on the rank of subscribed titles and thus which ones are recommended, we have used the default expanded definition throughout these analyses and suggest that there is no harm or undue influence that should keep libraries doing the same (Figure 7).

Next we turn to Unsub's definition of journal value, which expands on traditional cost per use by removing usage that is available by open access or post-cancellation rights from the cost-per-use denominator (Figure 8). The resulting cost-per-paid-use metric will always be greater than or equal to traditional cost per use, as you can see here, given the shift to the left. And the strength of this relationship is not quite as strong.—for R2a it explained around 90% of the variation and ranged from about 60% to 90% acrossthe five institutions. To get a better sense of the variation, the rest of these traditional CPU versus cost-per-paid-use comparisons are plotted on a log scale, and we'll focus on the lowest cost per use or highest-value titles, since they're the ones that are most likely to be retained.

The fundamental question that Unsub addresses is, "Which titles should we keep?" As an important aside, it does not directly address *how many* titles a library should keep, although that is the more difficult

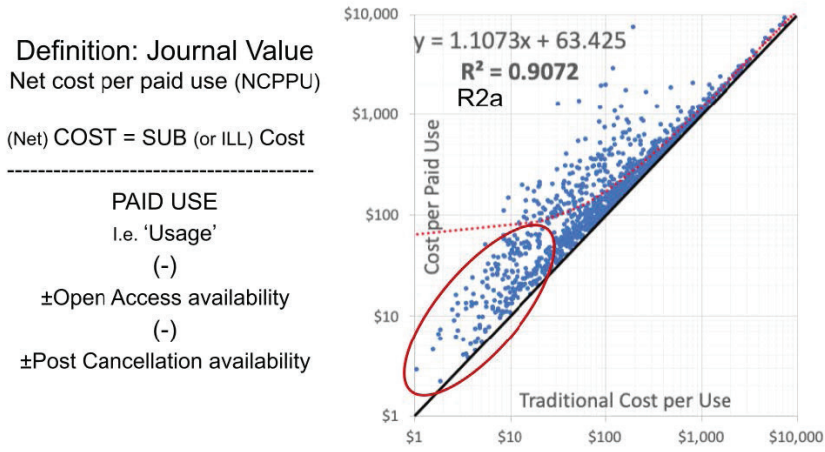


Figure 8. Cost per paid use versus traditional cost per use for Institution 2a

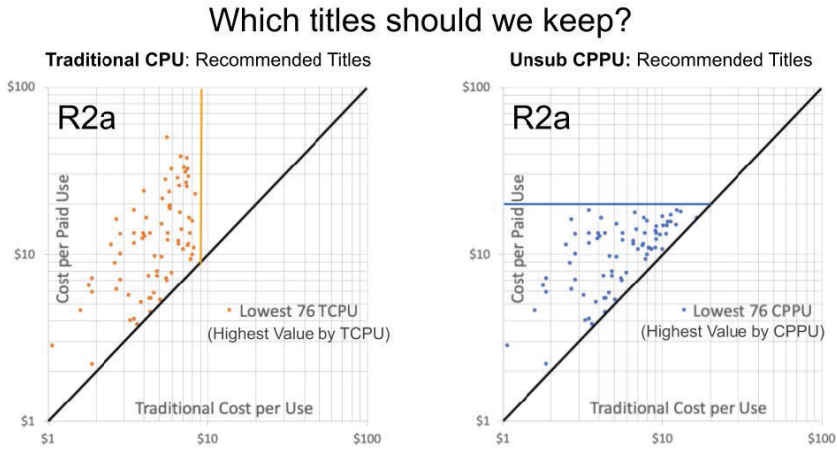


Figure 9. Highest value titles by cost per use and cost per paid use for Institution 2a

question (Figure 9)! On the left, the orange dots represent a set of 76 titles that a library might keep based solely on ranking by traditional cost per use (here it's those journals with a CPU under $9). We can compare that to the set of 76 journals that have the highest value in Unsub here shown in blue, that is, those with a cost per paid use under $11.

When we overlay these two sets (Figure 10), we can see the 56 titles

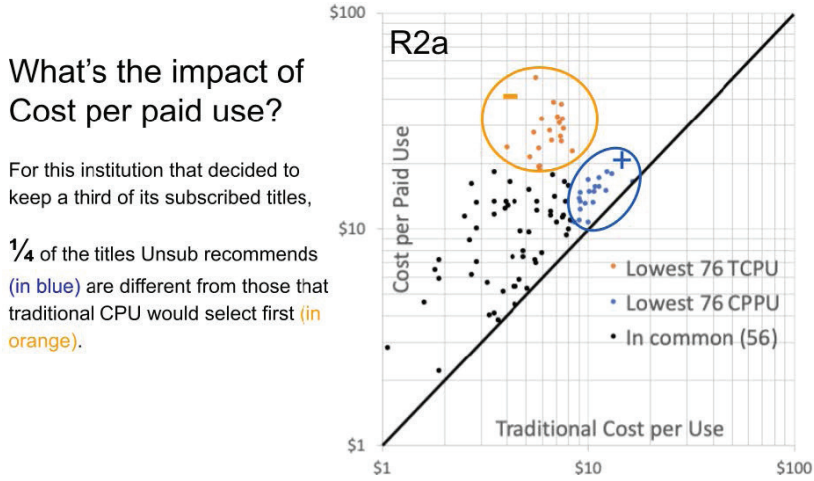


Figure 10. Title recommendations based on traditional cost per use and cost per paid use for Institution 2a

they have in common shown in black. What's more interesting are the sets of 20 titles that differ on the basis of the different definitions of cost per use. So, for this institution that decided to keep a third of its subscribed titles, one-quarter of the titles Unsub recommends (in blue) are different from those that a decision based solely on traditional CPU would select first (showing in orange).

Looking at the impact across the other institutions, comparing them based on retaining the same level of access, we can see that its degree was similar: between one-quarter and one-seventh of the set of recommended titles are different when using cost per paid use versus traditional cost per use (Figure 11).

Moving on to terminology, we had an issue with "delayed fulfillment" (Figure 12). In this scenario the library saves two-thirds of the annual big deal cost, shown in the stacked bar on the left, and the result to the right is that one-third of article requests fall into "ILL/delayed fulfillment," since they're not available via "Open Access," "Backfile," or "Subscription" rights. While this might sound harmless enough, Unsub defines delayed access as cases that require "asking the author for a paper, asking a colleague, or finding another similar paper that is good enough for their purposes, etc."

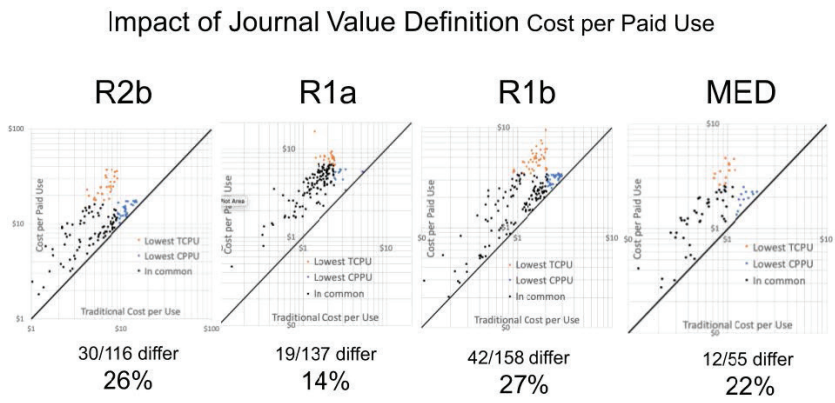


Figure 11. The range of title recommendation differences among the other four institutions

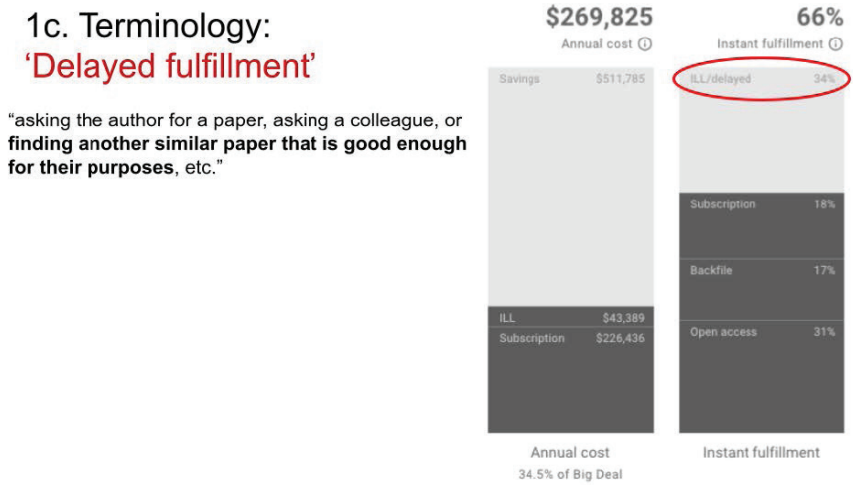


Figure 12. "Delayed fulfillment"

That sounds like lost access to us (Figure 13). Furthermore, since only 5% of "ILL/Delayed Access" results in ILL requests, 95% of the articles are not delivered: that is, they are turnaways. While the turnaway to ILL percentage is configurable in the model, libraries are likely to be hard pressed to change this percentage in reality.

So, for the purposes of illustration, we've relabeled the bar to better

Figure 13. "Delayed fulfillment" is roughly equivalent to lost access

reflect reality, showing 2% of the access as ILL or delayed and 32% of the "fulfillment" as turnaways. In other words, these savings do come at a cost (Figure 14).[6]

Now let's turn to the other end of the fulfillment bar, to the open access portion of instant fulfillment (Figure 15). We argue that it's dubious to refer to all open access as providing instant fulfillment, since that would require instant seamless access to content not hosted on the publisher site. That's because by default, open access in Unsub includes green OA, preprints, and rogue OA—that is, ResearchGate and other non-OA repositories. If every user had the Unpaywall plugin installed, then we might approach this level of access to some version of the articles, but certainly that's far from our current reality.

To get a sense of the impact of alternative versions on instant fulfillment, we can estimate the proportion of the articles on the publisher site versus versions that are hosted elsewhere and might not be linked or acceptable copies (Figure 16). Since the fulfillment settings don't allow us to distinguish between hybrid and green peer-reviewed OA, we have to guesstimate that at least 15 of the 66 percentage points represented as instant fulfillment fall in this category. That's nearly a quarter of "instant fulfillment" that is likely to go unfulfilled.

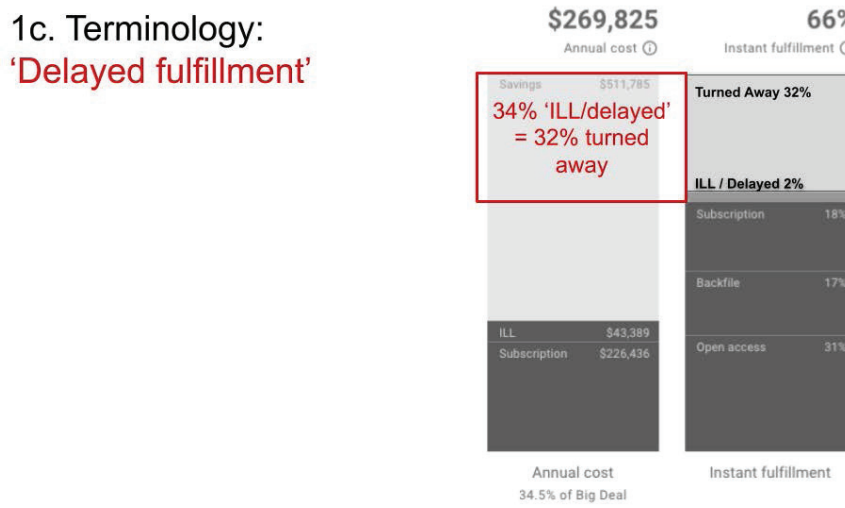


Figure 14. 95% of "delayed fulfillment" as lost access

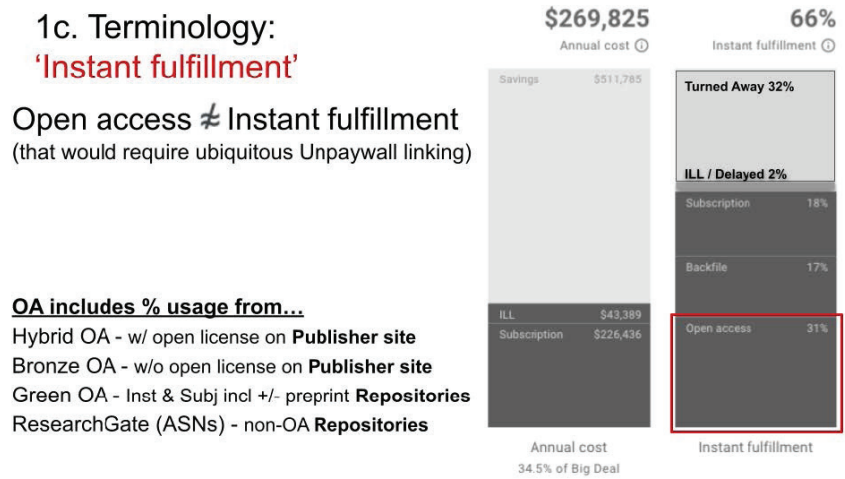


Figure 15. "Instant fulfillment" and its open access components

Making these adjustments to delayed and instant fulfillment together, we argue that a more conservative perspective would see this scenario providing 50% fulfillment at 35% of the cost, rather than the 100% fulfillment suggested by what we found to be misleading terminology (Figure 17).

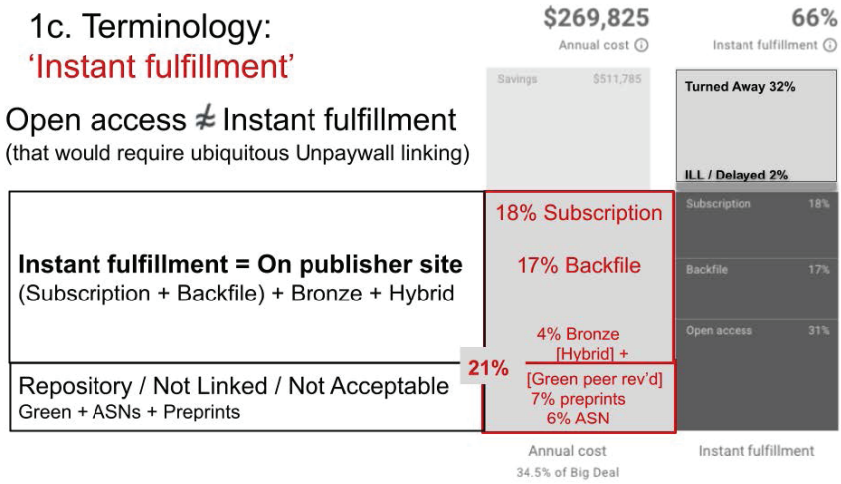


Figure 16. "Instant fulfillment" and its subscription, backfile, and open access components

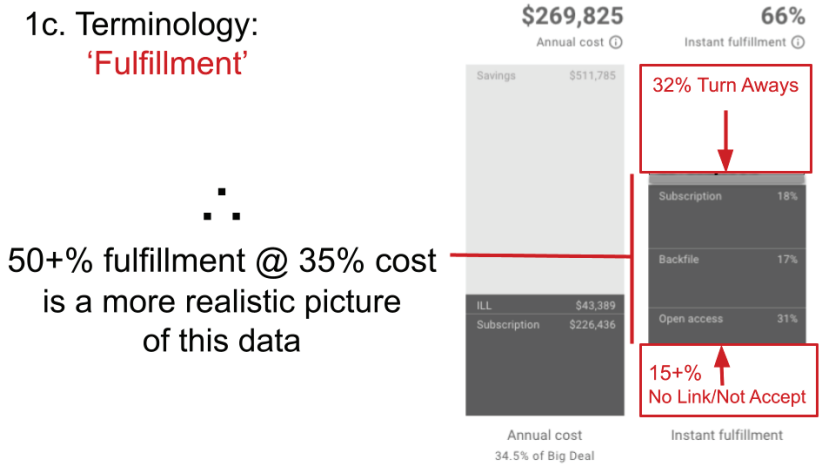


Figure 17. A more conservative definition of fulfillment

Configurable Parameters—Michael Levine-Clark

I'm going to talk about the configurable parameters. One thing that is really great about Unsub is that you can adjust all of the parameters, allowing you to test assumptions and to take into account some of the things that we've talked about. The parameters fall into four broad categories around (1) cost, (2) interlibrary loan, (3) fulfillment sources, which covers both open access and perpetual access (or back file access), and (4) citation and authorship (Figure 18). I'll talk through each of these in more detail.

First I'll discuss cost parameters (Figure 19). The costs are important to adjust. The default big deal cost for all of the packages in Unsub is $2.1 million, but libraries usually pay less than that, or considerably less than that, as in the case of this example where a library pays a little over $700,000 for their Elsevier big deal. So, we've adjusted that one down. Big deal growth (or inflation) is another adjustable parameter. The default is set at 5%, but in many cases the actual growth rate might be lower than that, based on whatever you've negotiated with a publisher. A la carte subscription cost growth is the estimated annual increase in subscription costs if you move from a big deal to title-by-title selection. We've opted to leave this at the default 8%. Finally, the à la carte "content fee"—the platform fee paid on top of the subscription cost when moving

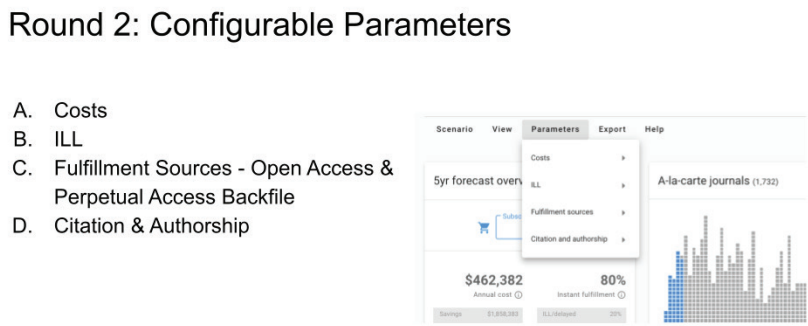


Figure 18. Configurable parameters overview

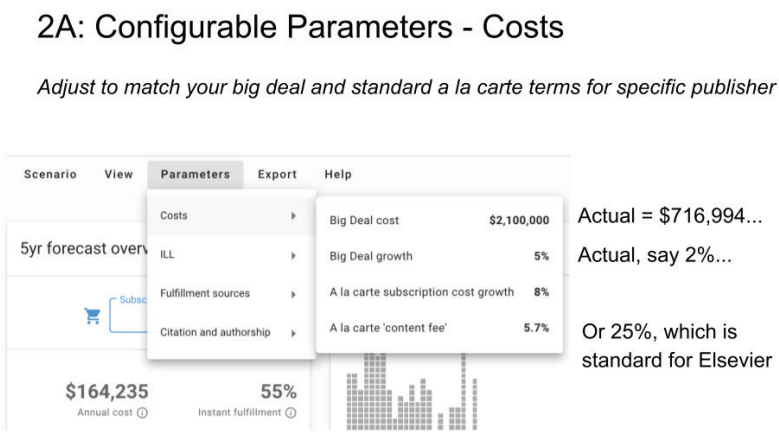


Figure 19. Configurable cost parameters—costs

to title-by-title selection—is set by default to 5.7%, but with Elsevier, the standard content fee is actually 25%.

We wondered what the impact of shifting the à la carte fee from the 5.7% default to 25% (the Elsevier standard) and shifting the big deal growth from the 5% default to the actual negotiated rate might be (Figures 20–23). We modeled this at the true big deal cost (rather than $2.1 million) for each institution with the goal of maintaining instant fulfillment of 66% and found that the cost increased by about 18% just by changing these two parameters. Figures 21 and 22 show how this looks for one of the R2 institutions. With the default parameters of 5% for big deal growth and 5.7% for the à la carte content fee, this institution would need to maintain 116 subscriptions to have 66% instant fulfillment. The annual cost of those subscriptions would be $258,300 (33.8% of the big deal cost). Meanwhile, with the big deal growth adjusted down to 3.18% and the à la carte content fee adjusted up to 25%, this library would need to pay $305,469 (41.6% of the big deal cost) for those same 116 subscriptions. So, these cost parameters matter.

Across these five institutions, while the relative cost difference between the default parameters and the actual parameters varies from $15,000 to $74,000, the percentage cost differences are very similar—ranging from 17.9% to 18.3% (Figure 23).

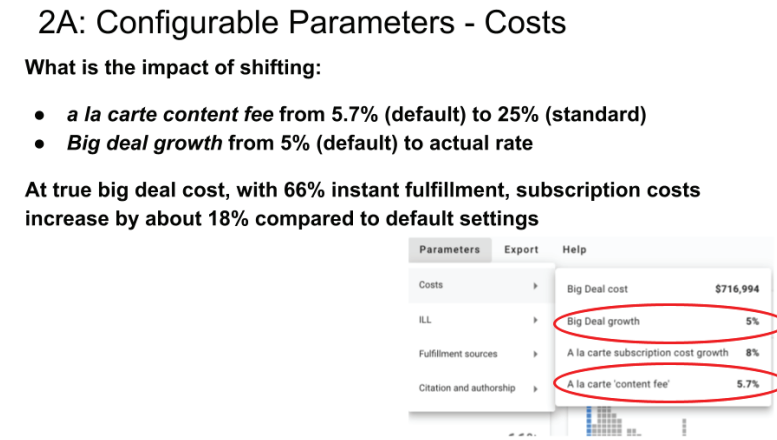


Figure 20. Configurable parameters—costs: "Big Deal growth" and "à la carte 'content fee'"

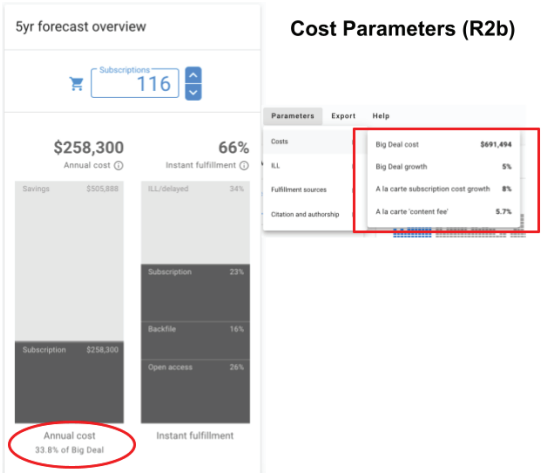


Figure 21. Configurable parameters with default settings for "Big Deal growth" and "à la carte 'content fee'"

The second set of configurable parameters is related to interlibrary loan. We've already talked about the philosophical issues with the ILL decision. You can change the parameters to the true ILL frequency and transaction costs (Figure 24). While you can adjust the ILL frequency, you can't necessarily control user behavior to make that ILL frequency go up or down. Even though this is not something that we can necessarily change, it is something that we need to think about as we make deci-

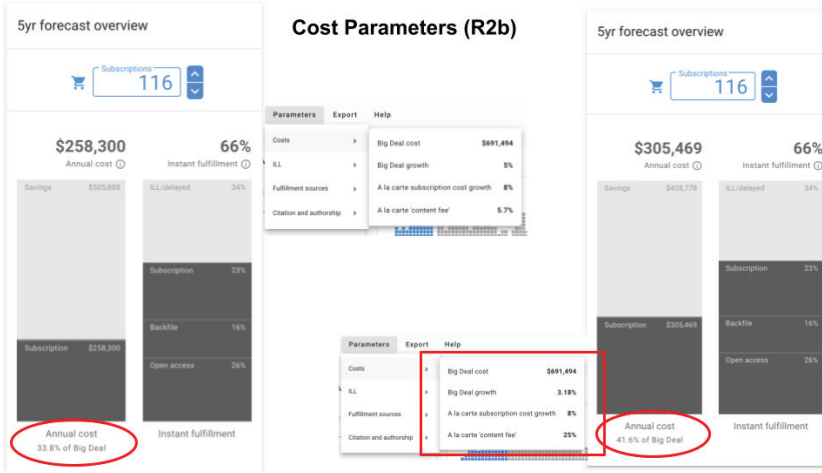


Figure 22. Configurable parameters with "Big Deal growth" and "à la carte 'content fee'" adjusted

Variable Savings from True Big Deal Cost

Using actual big deal cost to determine percentage cost of big deal with 66% instant fulfillment

	R2a	R2b	R1a	R1b	Medical
Default 5% Big Deal Growth, 5.7% Content Fee	22.6%	33.8%	14.6%	18.6%	10.6%
Actual Big Deal Growth, 25% Content Fee	29.0%	41.6%	17.9%	22.0%	13.0%
Relative Cost Difference	$35K	$47K	$74K	$74K	$15K
Percentage Cost Difference	18.3%	18.2%	18.1%	18.3%	17.9%

Figure 23. Variable savings from true big deal cost

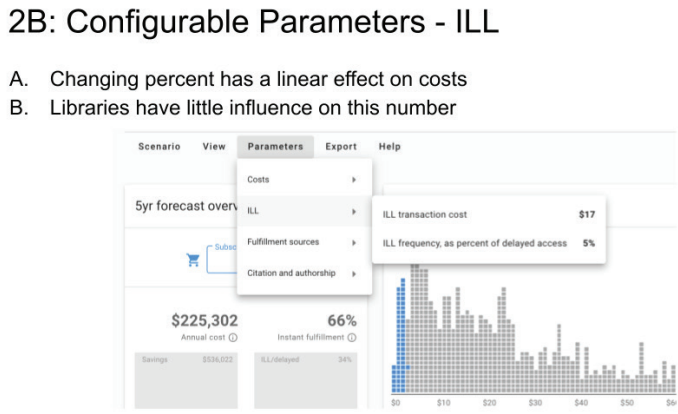


Figure 24. Configurable parameters—ILL

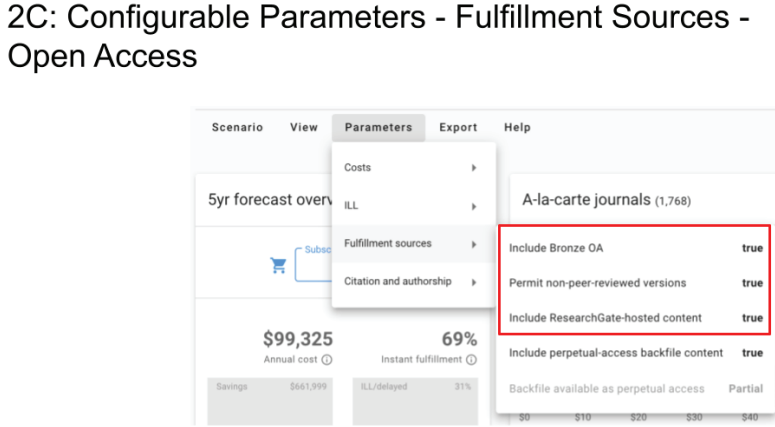


Figure 25. Configurable parameters—fulfillment sources—open access

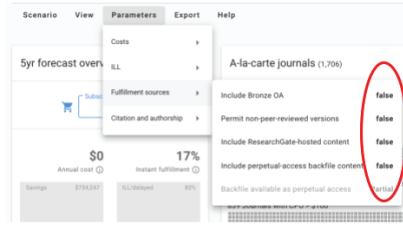
sions about moving away from big deal and providing reduced access to content.

The parameters around fulfillment sources are complex and important so I'm going to talk through these in depth (Figure 25). The first three of these are about open access availability and all three are toggled on by default. You can opt to include Bronze OA or not, whether to permit non-peer-reviewed versions (essentially

Fulfillment Sources - Open Access

Starting with no backfile available, zero subscriptions, and all OA options turned off, this library (R2b) has 17% instant fulfillment.

17% includes hybrid plus peer-reviewed green access



	R2a	R2b	R1a	R1b	Medical
Hybrid + Green	21%	17%	18%	15%	25%

Figure 26. Fulfillment sources—open access

green OA deposited before the final version), and whether to include ResearchGate-hosted content.

In looking at the effect of these choices, we've chosen to toggle all of those off just to see what's available (Figure 26). In this example, we've also toggled off the availability of perpetual access backfile content. With all of those fulfillment sources toggled off, there's still 15% to 25% availability of open access content, which breaks down into hybrid and peer-reviewed green open access. On average, across our five institutions, the combination of these two categories of OA provides 17% instant fulfillment.

Then we started to toggle these fulfillment sources back on (Figure 27). You can see that if we include bronze OA, it adds from 3% to 6% more content. ResearchGate stacked on top of that adds somewhere between 4% and 8% and then the non-peer-reviewed OA content adds somewhere from 5% to 8% (Figure 28).

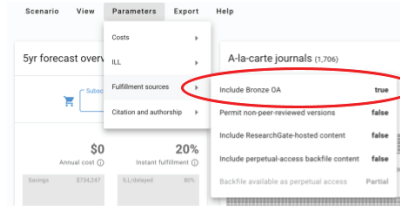
Libraries need to consider whether you want to include all, some, or none of the OA categories. We chose to exclude non-peer-reviewed OA in most of our analysis, because we felt that while someone might be willing to use non-peer-reviewed content, they might prefer the final version of the article. So we would rather not rely on that access. In some contexts a library might choose to exclude ResearchGate or even some

Fulfillment Sources - Open Access

Adding in Bronze OA brings this library (R2b) up to 20% OA

Hybrid + Green = 17%

Bronze = 3%



	R2a	R2b	R1a	R1b	Medical
Hybrid + Green	21%	17%	18%	15%	25%
Bronze	4%	3%	3%	3%	6%

Figure 27. Fulfillment sources—open access, with Bronze OA included

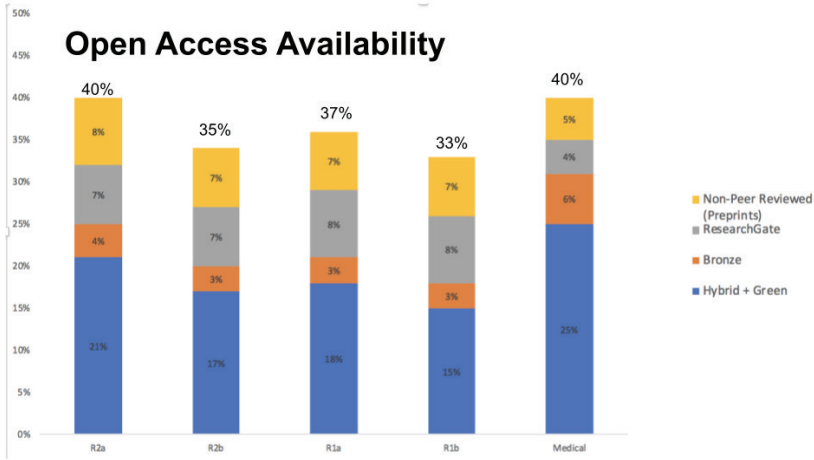


Figure 28. Open access availability

of the other categories from their calculations. With the default hybrid and peer-reviewed green, plus bronze, plus ResearchGate in place, these five institutions have access to anywhere from 26% to 35% of the content (Figure 29).

The next set of configurable parameters within the fulfillment sources category includes options for adjusting the amount of perpetual-

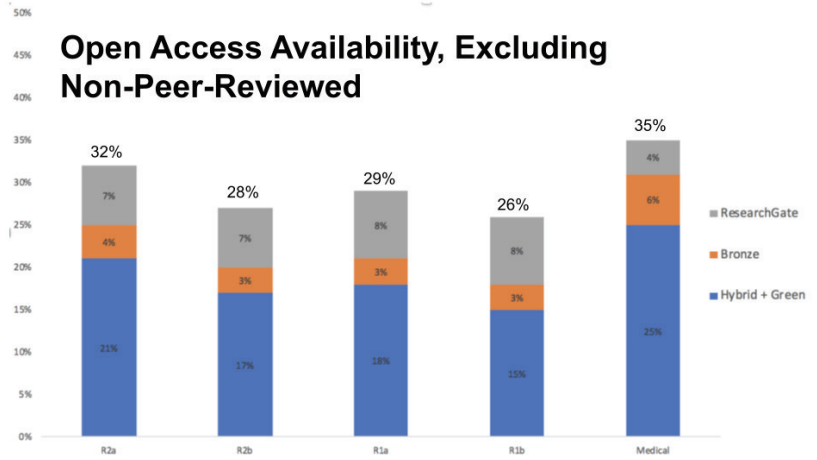


Figure 29. Open access availability, excluding non-peer-reviewed

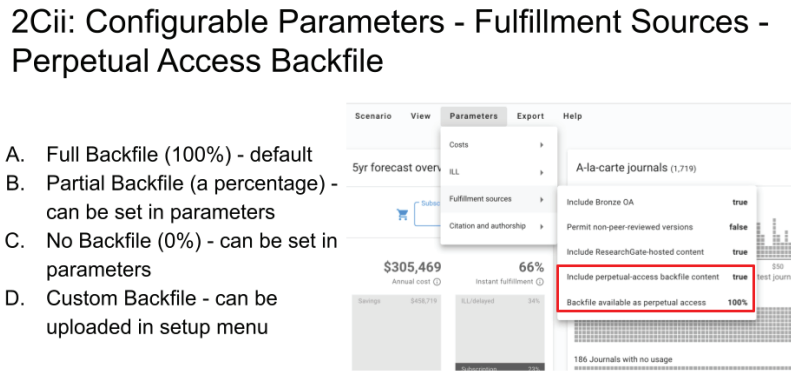


Figure 30. Configurable parameters—fulfillment sources—perpetual access backfile

access backfile content available (Figure 30). The default, as we already mentioned, is 100% backfile available as perpetual access, which is not true for any Elsevier deal, though it is true for some other publishers. You can change that to any percentage you want. So you could adjust the perpetual access to a percentage based on your actual title list. You can also toggle off "include perpetual-access backfile content"—which sets your backfile access to zero. Or you can upload a custom backfile, which

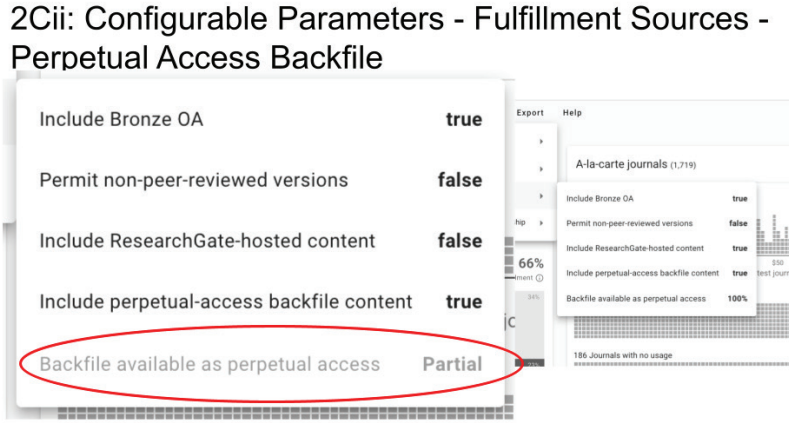


Figure 31. Configurable parameters—fulfillment sources—perpetual access backfile, with partial access set

is what we recommend. Once you upload that custom backfile in your setup options, it changes the 100% in the "Backfile available as perpetual access" category to "partial" (Figure 31).

There are clear differences in the amount of instant fulfillment by backfile depending on how you adjust these backfile parameters (Figure 32). If you leave the perpetual access as 100%, Unsub indicates that you have somewhere between 32% and 42% instant fulfillment from the backfile. Next we tried to assign a percentage of backfile available based on a count of subscribed titles within the big deal. With this setting, the amount of instant fulfillment available by backfile drops dramatically to 4% from 13%. Finally, by uploading the true backfile list, we get the true range of 15% to 21% availability.

What happens when you start to play around with the system and build on this (Figure 33)? With the fulfillment settings we've discussed (Figures 29 and 31–32), we see roughly 44% to 50% instant fulfillment of content through open access and the backfile. Then we asked what would happen if we wanted to get to 66% instant access with the standard 25% à la carte content fee (Figure 33). These five institutions would need to maintain from 55 to 158 subscribed titles to have 66% instant

Impact of Perpetual Access Settings

Instant Fulfillment by Backfile (% of total use)

	R2a	R2b	R1a	R1b	Medical
100% Perpetual Access	38%	41%	39%	42%	32%
Backfile as Percentage (Based on Title Count)	5%	4%	13%	11%	4%
Uploaded Actual Backfile	***17%***	***16%***	***19%***	***21%***	***15%***

Figure 32. Impact of perpetual access settings

Getting to 66% Instant Access

	R2a	R2b	R1a	R1b	Medical
Open Access excluding Non-Peer Reviewed	32%	28%	29%	26%	35%
Uploaded Actual Backfile	17%	16%	19%	21%	15%
OA and Backfile Access	***49%***	***44%***	***48%***	***47%***	***50%***
Subscribing to get to 66% Instant Access - with 25% a la carte content fee					
Number of Titles Needed	76	116	137	158	55
Percentage of Subscribed Titles Needed	37%	61%	25%	35%	27%
Subscription Cost	$226K	$305K	$482K	$479K	$99K
Percentage of Big Deal Cost	29%	44%	19%	24%	14%

Figure 33. Getting to 66% instant access

access, which ranges from 27% to 61% of their current subscribed title list within the big deal. Their subscription costs vary from $99,000 for the medical school up to almost $500,000 for each of R1s, but you can see that all of these are paying only a fraction of their big deal cost, ranging from 14% to 44%. All five institutions would save a significant amount of money by reducing their instant access to 66%.

What if we went to 75% instant access (Figure 34)? The number of subscribed titles needed to get to this scenario ranges from 115 to 276—or 51% to up to 112% of the current subscribed list. Notably, one of the R2s would end up subscribing to more titles than they currently do to

Getting to 75% Instant Access

	R2a	R2b	R1a	R1b	Medical
Open Access excluding Non-Peer Reviewed	32%	28%	29%	26%	35%
Uploaded Actual Backfile	17%	15%	19%	21%	15%
OA and Backfile Access	***49%***	***43%***	***48%***	***47%***	***50%***
Subscribing to get to 75% Instant Access - with 25% a la carte content fee					
Number of Titles Needed	115	212	276	302	167
Percentage of Subscribed Titles Needed	76%	112%*	51%	67%	82%
Subscription Cost	$544K	$636K	$1,072K	$1,012K	$328K
Percentage of Big Deal Cost	71%	92%	42%	52%	46%

*A different mix of titles than current subscribed list

Figure 34. Getting to 75% instant access

maintain this level of fulfillment. The number that probably matters the most—the percentage of the big deal cost needed to get 75% access—ranges from 42% up to 92%. For the two R1s and the medical school, this might be a reasonable decision, but for the two R2s—at 75% and 92%—it is not as clearly the right choice, especially when considering they would still be losing 25% of their instant access.

The final set of parameters is around citation and authorship (Figure 35). Jason talked about the enhanced concept of usage, wherein Unsub takes into account institutional citations and institutional authorship, which are weighted at 10 downloads per citation and 100 downloads per authorship. You can adjust those if you want or not (it doesn't affect the instant fulfillment calculations) but it could very well affect the titles that you choose to add if you were going to go to a title-by-title subscription. In this example (Figure 36), you can see that for this particular title when we remove that parameter, it goes from number one on a particular institution's list of titles in terms of cost for use down to number 65. And you can see the weighted overall use right in the center of each of those tables. In the first one, where it's 2,821 overall uses, it's taking into account citation and authorships and in the second one, it's just counting downloads.

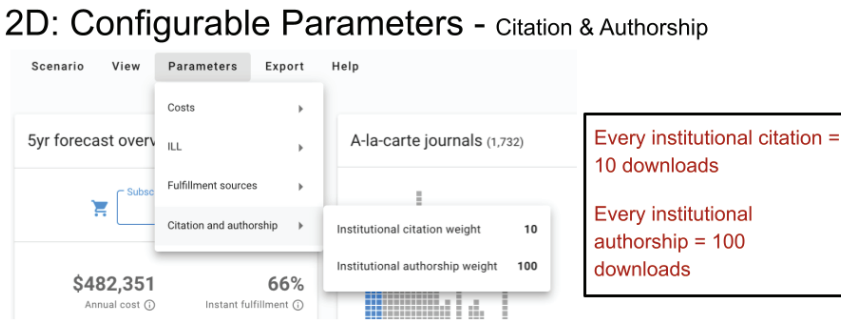


Figure 35. Configurable parameters—citation and authorship

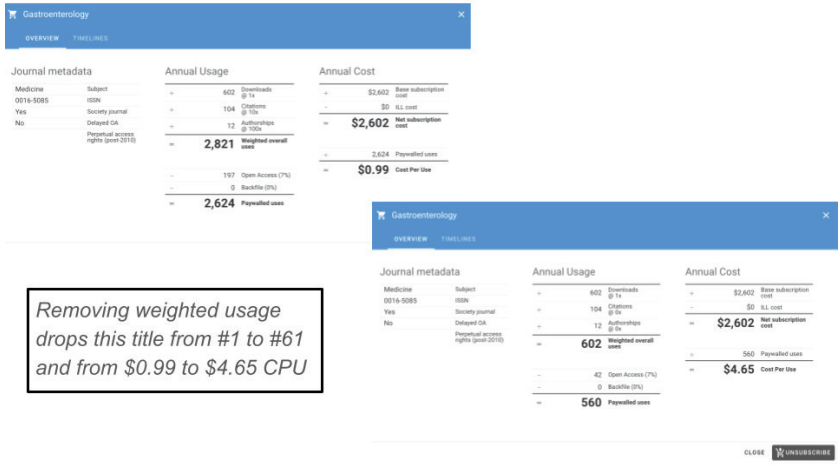


Figure 36. Comparison of true usage and weighted usage

These various parameter settings are all worth playing with and understanding. Having a very clear understanding of what these mean will help you make an informed decision when you're considering moving from a big deal to title-by-title subscription.

Backfile Usage Assumptions—John McDonald

In this part of the presentation, we'll dig into the usage assumptions around the backfile. Unsub considers everything in the past 10 years (2011–2020) for analysis purposes, while everything pre-2011 has been deemed not to have significant enough volume to meaningfully affect Unsub's calculations. We wanted to better understand that, so we dove into a couple of the assumptions (Figure 37). These are all published on Unsub's web page where there are help files about Unsub.[7]

The first assumption is that Unsub determines backfile usage by age of publication on the Unpaywall browser extension. We wondered if that was representative of all users and all institutions. So we looked at our five institutions to see how that affected it by analyzing COUNTER JR5 reports, rather than JR1, and then supplementing it with the Unpaywall backfile usage assumptions. Second, Unsub states that it's true that interest in a journal may vary across universities, but that the relative interest in older versus newer papers within a given journal doesn't. Third, we will address whether their analysis for the backfile works well for low-usage journals and for small schools. Finally, they state that they can correlate year of publication usage with green OA and we wondered

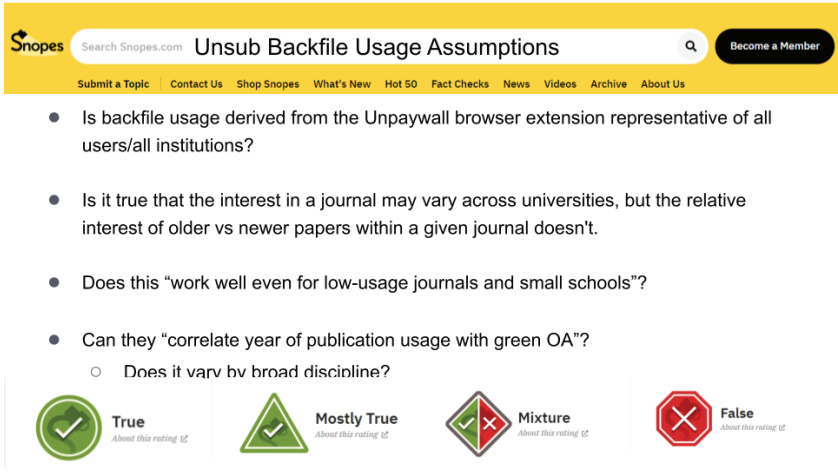


Figure 37. Unsub's backfile usage assumptions

if that varied by institution and by discipline. Just for fun, we're using the Snopes.com "True," "Mostly True," "Mixture," and "False" ratings.

So, on that first one: Does the aggregate Unpaywall browser extension usage really reflect all users and all institutions? We used COUNTER JR5 reports for each of the five institutions (Figure 38). The JR5 divides out usage by year of publication of the article being used. These are all uses in 2019 and then charted by the year of use. We went back to 2000 (year of publication) on this one and found that, generally, the shape of the curves is about the same. To normalize the data, we used a percentage of total use by year of use. The gray line is the medical school and the yellow line is one of the R1s and generally they follow the same pattern of very heavy current use tailing off into the long tail. Of the other three institutions, especially the two R2s have much lower levels of current use but then they tail off just the same as others.

But what we want to point out is that the overall usage of the pre-2011 content still amounts to very big numbers. For one R1, in just this one year, a quarter of a million articles were used from the pre-2011. For the other R1, nearly 200,000 pre-2011 articles were used. Those numbers represent a very high percentage of total use: 24% for the medical school, ranging up to 35% for one of the R2s, which has comprehensive programs across the social sciences and arts and humanities. So our

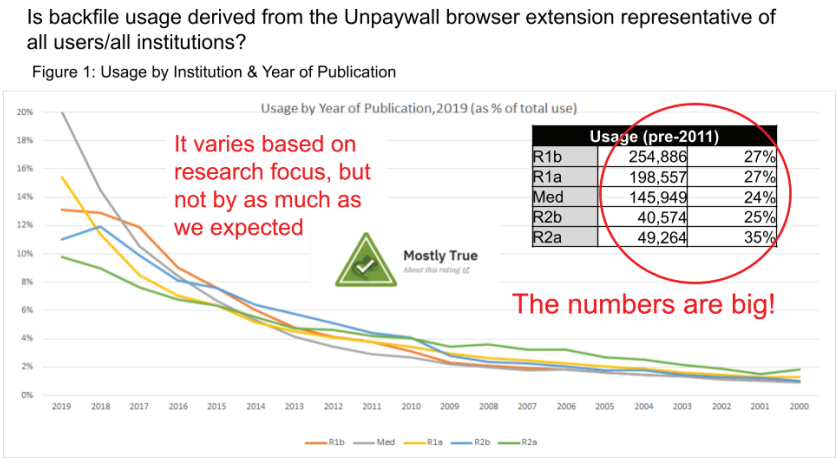


Figure 38. Usage by year of publication from Counter 4 JR 5 reports

determination here is that usage by year of publication does vary on the basis of the research focus of the institution but really not as much as we expected. Our evaluation of this one is "Mostly True."

Now we'll look at the relative interest in older versus newer papers (Figure 39). Unsub is taking a huge data set of millions and millions of transactions and aggregating them up to a high level. We wanted to unpack that a little bit and look at whether within an institution the interest in older versus newer papers changes year over year. To do this, we looked at rank order correlations of these journals by institution. This allows us to look at interest in the current year versus the previous year (2019 vs. 2018), the current year versus two years ago (2019 vs. 2017), and then the current year versus five years ago (2019 vs. 2015). Circled at the top in green are our two R1s—big institutions with a lot of usage. For these R1s, the order of popularity of their journals doesn't really change all that much. But for the R2s, and surprising to us the medical school as well, the interest in older versus newer articles by journal actually does fluctuate quite a bit. So our determination on this one is that interest in a journal does vary year to year within some institutions and it's dependent on institutional size and research focus. So our evaluation is "Mixture." For the big institutions with a lot of usage it seems to work well. For smaller ones, maybe not so much.

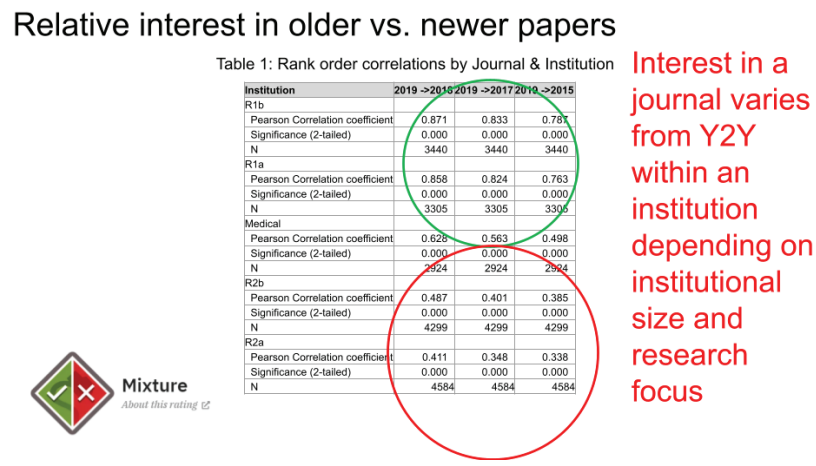


Figure 39. Rank order correlations by journal and institution

Does it work well for ~~low usage journals~~ and small schools?

Table 2: Usage by Institution

	Usage (2011+)	%	Usage (pre-2011)	%
R1b	709,902	74%	255,022	26%
R1a	493,416	67%	245,119	33%
Med	472,614	76%	145,969	24%
R2b	114,053	71%	47,554	29%
R2a	84,352	59%	58,602	41%

Again, the numbers are big!

Interest in back content varies by size of school AND research focus

Table 3: Pre-2011 usage by Broad Subject & Institution

	Sciences	% of Total Usage	Social Sciences	% of Total Usage	Arts & Humanities	% of Total Usage
R1b	188,968	74%	65,734	26%	184	0%
R1a	200,910	82%	43,936	18%	247	0%
Med	132,973	91%	12,946	9%	30	0%
R2b	23,660	50%	23,712	50%	157	0%
R2a	31,646	54%	26,644	45%	292	1%

Figure 40. Usage by period and broad subject area

Next, we wanted to look at the statement about low-usage journals and small schools, but we couldn't come up with a way to look at the low-usage journals in the time we had.

So we're going to exclude that analysis right now. But we did look at the small schools, so we have a couple of tables here (Figure 40).

We added up all of the usage of the backfile by year of publication, divided into the two time frames, 2011–2020 and then pre-2011. And again, you can see in Table 2 that these ranges are pretty wide and the numbers are really big. Because these schools have different kinds of disciplinary focus, we looked at usage by broad subject category and institution in Table 3. We assigned these subject categories based on whether a journal was indexed in the Science Citation Index, the Social Science Citation Index, or the Arts and Humanities Citation Index. What you see here is that the total numbers are pretty high, except for Arts and Humanities (A&H). The very low A&H usage is not surprising, considering that we're analyzing Elsevier journals, but if you were to analyze additional publishers with more of a focus in this area, this category might be valuable. Elsevier is known as an STEM publisher, but social sciences pre-2011 usage is still relatively high, even at a medical school where it accounted for 13,000 uses (or 9% of all usage). At the R2s, pre-2011 usage is roughly evenly split between the sciences and

social sciences. Meanwhile, at the R1s, science usage accounts for 74% and 82% of total usage. We determined that interest in the backfile does vary by size of school and the research focus of that institution. Our evaluation is that this assumption is primarily "False."

Finally, we wanted to look at the idea of correlating the year of publication usage with green OA (Figure 41). We took those numbers and then divided them out by journal and applied the percentage of open access availability to the pre-2011 usage versus the 2011–2020 usage. We used some research shared by Eric Archambault at Science-Metrix.com around percentages of open access availability year to year and then compiled that into our three different subject categories. As you can see, in the last 10 years more open access is being published in all of these areas, especially in the social sciences, so you're not going to find as much OA content in the pre-2011 usage of the backfile. Applying that to Table 5, we came up with the total number and a percentage of the total paywalled articles not provided that these institutions otherwise used. This unprovided number ranges from 15% at the medical school to 22% at one of the R2s. So our determination on this one is that usage by year of publication does vary by size of school and research focus, and there is variance of OA availability by year of publication and discipline. So again, this is a "Mixture."

In summary, we have a couple of take-home points.

1. Unsub is a fantastic and valuable tool. Libraries need this kind of data, and it wasn't easily available previously. In the past, you were taking a shot in the dark when renegotiating your big deal, and Unsub helps you make a much more informed decision if you use it strategically.
2. Some of Unsub's terminology is misleading. As we've discussed, "delayed," "instant," and "free" mean in many cases that the library and its users simply lose access—which may be acceptable, but that's a decision the library needs to make in an informed way. Fundamentally, are you okay as an institution with moving the burden of provision of content off to other institutions or back on to the users?

Can they "correlate year of publication usage with green OA"?

Table 3: Pre-2011 usage by Broad Subject & Institution

	Sciences	% of Total Usage	Social Sciences	% of Total Usage	Arts & Humanities	% of Total Usage
R1b	188,968	74%	65,734	26%	184	0%
R1a	200,910	82%	43,936	18%	247	0%
Med	132,973	91%	12,946	9%	30	0%
R2b	23,660	50%	23,712	50%	157	0%
R2a	31,646	54%	26,644	45%	292	1%

Table 4: Open Access availability by Year of Publication*

Discipline	2011+ OA %	Pre-2011 OA %
Sciences	28%	22%
Social Sciences	36%	28%
Arts & Humanities	24%	19%

Again, The numbers are big!

Table 5: Paywalled Pre-2011 usage by Broad Subject & Institution

	Sciences	Social Sciences	Arts & Humanities	Total Paywalled Articles Not Provided	% of Total use
R1b	147,395	47,328	149	194,873	16%
R1a	156,710	31,634	200	188,544	19%
Med	103,720	9,321	24	113,065	15%
R2b	18,455	17,073	127	35,655	17%
R2a	24,684	19,184	237	44,104	22%

Pre-2011 usage varies by size of school & research focus, and OA availability varies by Year of Publication and discipline

Mixture

*Average OA % for Backfile (<2010) was adapted from research provided by E. Archambault (2020), https://www.science-metrix.com/

Figure 41. Estimated paywalled pre-2011 usage by broad subject and institution

3. There are multiple parameters that need to be set accurately for Unsub to work. Users should take time to understand and set these parameters, or the results will not reflect reality.
4. Librarians should consider whether interlibrary loan is a reasonable substitute for licensed access. We believe that it puts too much burden on the user and potentially too much burden on other libraries.

Finally, we leave you with three questions:

1. Is this tool built to ease the conscience of librarians who need/want to reduce access? If so, is that a bad thing?
2. Is it appropriate to exclude use of content that has already been paid for from measurement of a journal's value?
3. How accurately will Unsub reflect future costs and access across institutions? Is it really OK to ignore pre-2011 use and access?

Notes

1. http://help.unsub.org/en/articles/5238375-release-notes-may-2021.

2. In conversations with the creators of Unsub, Heather Piwowar and Jason Priem, shortly after our presentation, they indicated their intent to make some changes to terminology, parameters, and other aspects of Unsub. We applaud their willingness to update and improve this important resource based on feedback from librarians. We have noted some of these responses in footnotes throughout this document.

3. As of April 2021, Taylor & Francis and SAGE have been added and the cost now ranges from $500 to $3,000 based on library materials budget.

4. Piwowar and Priem noted that the missing columns in the CSV export is a bug and they are working to fix this.

5. Piwowar et al. (2018), The state of OA: A large-scale analysis of the prevalence and impact of Open Access articles. *PeerJ*, 6, e4375. DOI 10.7717/peerj.4375 | Piwowar et al. (2019), The future of OA: A large-scale analysis projecting Open Access publication and readership. *bioRxiv* 795310. https://doi.org/10.1101/795310.

6. Piwowar and Priem intend to change this terminology. While they have not yet settled on a new term, they have suggested that it will be something like "turnaways" rather than "delayed."

7. Piwowar and Priem indicated that the new release of Unsub will support COUNTER Release 5. This includes two important upgrades: (1) "Download decay curves will now be customized to each institution, using YOP download data from the TR_J4. This should completely address the concern that the decay curves of smaller institutions are different from the global decay curves." (2) "The model and forecasting will account for downloads of content published in *all* years, not just the last ten years."

The Time Has Come . . . for More Affordable Course Materials!

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Abstract

The Affordable Materials Project (AMP) at Villanova University is a joint initiative between Falvey Memorial Library, the Center for Access, Success, and Achievement (CASA), the Provost's Office, the Villanova Institute for Teaching and Learning (VITAL), and the University Bookstore, with a mission to provide faculty with resources and options for selecting high-quality course materials while reducing the cost for students, and to create student awareness of affordable options for obtaining course materials. A key component of the AMP program involves providing electronic access options for course materials at no cost to students through library-provided resources. Prior to each semester, the university's course materials list is checked against existing unlimited-user e-book holdings by the library, and the remainder of the list is then sourced for purchase as unlimited-user e-books from GOBI. From the start of the initiative in 2017, an acquisitions workflow was developed and modified over time to best meet the needs of students while overcoming some early pain points, meeting budget requirements and semester deadlines, and balancing competing staff

time commitments. One of the most impactful improvements was the creation of an MS Access database to store all titles, their matches, and their use within each semester. As AMP matured, an assessment project was developed with the purpose of demonstrating ROI for the program of potential student savings over time. Notably, the opportunity for reuse of these materials in future semesters further augmented the cumulative savings effect, which has averaged well over $10 per $1 spent.

Introduction

Villanova University's Affordable Materials Project (AMP) began in Spring 2017 as a joint initiative between Falvey Memorial Library, the Center for Access Success and Achievement (CASA), the Provost's Office, the Villanova Institute for Teaching and Learning (VITAL), and the University Bookstore. While AMP addresses many aspects of the challenges surrounding course material affordability for students and faculty, this chapter focuses specifically on one AMP initiative: the e-book Matching program. This program matches available unlimited seat e-books from the library to the bookstore course materials list, as well as identifies what the library can purchase to support the current semester's courses.

Background

The AMP initiative grew out of a collaboration between the Falvey Library and CASA which developed when CASA moved into the library building's renovated Learning Commons area. CASA had a print lending library of donated textbooks that they offered on semester-long loans to PELL-eligible students. The lending library had grown considerably and Falvey staff were able to streamline operations by cataloging their holdings and facilitating circulation. It was apparent that not only

PELL-eligible student struggled with course materials costs, and AMP was effectively born to address these barriers, with current collaboration between the university entities listed earlier.

The AMP mission is to increase student and faculty awareness about strategies for obtaining quality course materials that are the most affordable. In addition to the library e-book matching project, AMP has an evolving OER educational promotion program and recently launched an OER Adoption Grant Program that awarded five grants this year. More information about all the AMP initiatives can be found on the AMP website: https://library.villanova.edu/amp/index.html.

Acquisitions Process

The initial blueprint for our e-book matching program came from an online presentation shared by 3 librarians from Louisiana State University at the LOUIS Users Conference 2015 (Frank et al., 2015). LSU was matching ISBNs of books reported to the bookstore with e-books offered by major publishers to libraries either with no DRM or with unlimited simultaneous users. Equipped with the library resources and technical expertise to replicate the LSU project, one of our Liaison Librarians brought the idea to our Associate University Librarian for Collections & Stewardship, who championed the proposal and secured Library Leadership Committee commitment for budget and staffing.

Our initial launch was for the Spring 2017 semester with two main workflows on matching the semester's bookstore list: matching available unlimited seat e-books with existing access via the library, and identifying purchase options for titles that the library currently doesn't own or subscribe to. It took a few semesters to streamline these workflows. Since the initial launch, we transitioned to an MS Access Database to store and add e-book matches, bookstore data, and course information. Each semester, we run a match query for titles on the bookstore list, which pulls out what e-books we already have access to and can send to students and faculty immediately after link checking.

For e-books without current library access, we needed a fast, stream-

lined way to identify, select, order, and process the purchased e-book matches, and thus decided to rely on our book vendor (GOBI) solely for ordering AMP e-books to meet the need for a quick turnaround. Identifying and purchasing directly from multiple publishers was cumbersome, and turnaround for access was often too slow for reliable availability prior to the first week of the semester. After identifying in GOBI what e-books are available for purchase in unlimited seat format, we select the material to purchase based on the following criteria:

- Prioritization by number of students affected by totaling enrollment from each course section in which a given work is assigned
- Price cap of $250
- DRM-free versions preferred

The lowest-priced unlimited seat e-book is purchased if approved. Titles that were not selected to be purchased are shared with all the subject liaisons for review and potential purchase using their subject funds, and these titles are then incorporated into the AMP program. We rely on GOBI for ordering due to the very fast activation for our access to the purchased e-books. Once activated, we add the ISBN and URL information to the database and push out updated reports for student and faculty notification, and for adding the material to Blackboard Course Pages and library eReserves.

Each year there is a $15,000 allocation for new AMP e-book purchases, spread between Fall and Spring. This past summer, we also began communicating existing matches for the summer semester to enrolled students, but we don't make any new purchases for these courses. Nonetheless, we automatically matched 31 e-books for what is a smaller offering of courses during the summer.

Staff and responsibilities for these workflows are assigned as follows:

- Library developer
  - Updates the database for the current semester
  - Updates MS Access queries, pulls and loads data periodically from bookstore list and course registration system

- Liaison librarian
  - Reviews and approves purchases with dedicated AMP funding
  - Emails faculty and students directly with e-book matches for their courses
  - Serves as the coordinator between the rest of the subject liaisons and acquisitions
- Acquisitions staff
  - Confirm prior matches by link checking
  - Pull e-book availability and pricing from GOBI for unmatched titles
  - Purchase the approved e-books and manage the acquisitions and cataloging process
  - Add e-book links and ISBNs to the database and send updated reports to others for outreach and access/discoverability efforts
- Assessment librarian
  - At the end of each semester, prepares assessment, particularly estimated ROI for students
- Bookstore staff
  - Prepares and shares bookstore list with the library
- Access services staff
  - Adds matches to eReserves
- University technology
  - Adds matches to Blackboard Courses

Our workflow is extremely time-sensitive, as we try to process the bulk of the workflow within 3 weeks, excluding some prep work before the semester and assessment after the semester. By reusing data from prior semesters, incorporating mail merge for systematic outreach, relying on our book vendor for a quick turnaround, implementing systematic acquisitions and cataloging processes, and storing the multiple data sets in one place for data queries, we have been able to manage a nuanced and complicated process with multiple centers and departments involved with relative success. Our goal is to continue our process improvements and reduce as much duplication as possible while providing a quality service that our students and faculty value highly.

Technology

To carry out the e-book matching, we needed to compare hundreds of thousands of books, looking at all the materials students needed for their classes, all the books in the library, and all the e-books available from multiple publishers. Our Library Developer wrote a Python script that looked for matches across all this available data. While this did work, the matching only updated when the program was run, the inputs were only updated when they fit the developer's own work project constraints, and each special case or new exclusion required the rewriting of the existing program or the creation of a new program. The script was also not able to parse out e-book user seat availability. To remove this bottleneck, we developed a new process that allows the entire library team supporting AMP to edit a shared database via MS Access.

With everyone editing and referencing a shared database accessible via a MS Access file shared on Dropbox, everyone was working with updated queries, and the data was updated for everyone instantly. The specialized Python programs now only handle the most work-intensive information for external system loads, and these outputs are then added to the shared database. This proved to be much more flexible, as team members can now manually edit the source information while everything is always up to date.

The Access reports can be run at any time, which allows for immediate turnaround, and special cases now only require changing some filters instead of writing an entirely new script or query. Any additions to the database are shared and referenced by all other reports, and these updates are seen by all AMP team members and are incorporated into all reports immediately.

The benefits of transitioning to an Access database and queries are multiple:

- Data from multiple systems can be stored: Bookstore lists, Course Registration data including number of students enrolled and faculty information, e-book information including ISBN, URL, Title,

and Author; and acquisitions data of e-books purchased with AMP or subject funds.
- If titles are used in future semesters, they have already been matched in the database which connects the Bookstore List ISBN to the e-book ISBN.
- The data from the bookstore can be easily enhanced with up-to-date course data from our course registration system, like number of enrolled students.
- We built queries to incorporate exclusions at the request of individual faculty that are excluded automatically. Some faculty still prefer print. This is an opt-out program, and the query helps us manage exclusions consistently every semester.
- We can manually add titles that faculty have requested from the library for their courses that are not on the bookstore list—this is especially true for e-books during the pandemic as faculty rebuilt their courses around electronic resources in the middle of the semester.
- We can build new queries as we see the need. Last semester we started loading the acquisition data for each semester, to aid in the assessment process of the e-book usage and ROI reporting. We built queries to report out that ROI. We plan to import COUNTER usage to the database to improve the ROI assessment process.

Outreach

All of the AMP initiatives require outreach or communication. The communication and outreach plan for the e-book matching program has developed and improved over the semesters. At the beginning, faculty were first notified that the library could supply a course text to their students but waiting for the faculty to reply with their approval slowed down the process, so this step was eliminated and we created an opt-out form for faculty instead. Faculty also can request course materials

through their liaison librarian who then notifies the Acquisitions Department for the material to be added to the AMP database, which captures course materials not reported to the Bookstore.

In the first year of the program, most students weren't notified that they could use a library e-book until well into the first or second week of the semester, which was problematic as many students had already made purchases and were disappointed to learn that a library e-book was also available. In the past few semesters, almost all notifications were made in the week prior to the first day of class. This was achieved by improving faculty compliance with the bookstore's book adoption deadlines through notices sent out to faculty and the work process improvements with the transition to MS Access described earlier.

One of Falvey's liaison librarians takes the lead to finalize acquisition decisions and coordinates with the other liaisons on purchase decisions. The liaisons also communicate to faculty and students on e-book matches each semester. We've adjusted the content of student email messaging over time to include in the email direct links to the e-books specific to each course and information on how to annotate them, as well as instructions on how to find the links in the LMS. By storing data in MS Access, communication of completed acquisitions is now done through data exports shared with stakeholders, replacing duplicative and error-ridden spreadsheets. Over time, the timeliness of the University's technology department populating the online course platforms with the e-book links has improved as well due to automated data matching of reused materials from prior semesters and meeting earlier acquisitions deadlines.

Other outreach initiatives include updates to the AMP website, e-newsletters to faculty, staff, and students, stakeholder communications to faculty from the Provost's office and from the bookstore, emails sent directly to enrolled students, and sessions presented on-campus at the library, in departmental meetings, and at Faculty Congress. This multipronged approach allows us to grow the audience that is reached for all the AMP initiatives.

Assessment

Falvey recently completed its triennial community survey just before the pandemic hit, and this was sent to both faculty and students. We asked about the awareness and importance of all the different services and programs that the library offers to the respondents. For AMP, only about half of the faculty and roughly a third of students said that they were aware of the program, though awareness levels did increase for students who were further along in their studies at Villanova. Nonetheless, the survey itself served as an educational tool in boosting awareness. As for importance, both faculty and students recognized the value by ranking AMP in the top five of more than a dozen library programs, with students ranking AMP in the top two. We also received many positive comments from students about how helpful AMP has been for them, which is a clear affirmation of our efforts.

Another way that we can measure value is by recognizing that many of the titles purchased for the program can be reused in future semesters. So, even though we only purchase an e-book once, as long as the same book is being used in a future class, the savings can continue on across multiple semesters.

When assessing performance of the program, the total number of titles in the program has increased over time while our budget for purchasing has remained the same, due to the ability to reuse titles in future semesters. Also, as awareness of the program has increased over time, the number of unused matched titles has decreased to less than 8% of the total titles in the program by Spring 2020.

Regarding title usage, after a very solid start in Spring 2018, we saw a spike in downloads during Fall 2018 and Spring 2019, primarily due to high numbers of downloads of a few very popular titles. The usage numbers normalized again during Fall 2019, but then in Spring 2020, usage increased again, though this could also be attributable to the pandemic, when all our e-book usage increased due to going fully online.

The "long tail" phenomenon of usage applies to our AMP e-books as well. Examining only the 30 titles with the highest use, and representing each ranked title's usage as a percentage of that semester's total usage

yields similar decay curves in the usage distribution among the e-book titles each semester. Despite this decay, many titles below the top 30 still recorded more than 100 downloads per semester, which is unsurprising, given the average class enrollment of approximately 25 students.

Finally, when it comes to measuring ROI, it's important to note that we are only counting purchases made with allocated AMP funding in our cost calculations for that semester, and not including titles already previously owned or already available via a subscription package. As for the student savings, we take the number of students enrolled in the course, multiplied by the bookstore used price. This provides us with maximum potential student savings, and using this method has demonstrated a cumulative savings of more than $700,000 as of Spring 2020.

Other ways of calculating this savings number are excluding zero-use titles from the savings calculation, which reduces savings by about 13% over the course of the program; or, even more conservatively, if the number of downloads is less than the course enrollment number, adjusting the enrollment number downward to the usage number and multiplying that by the used bookstore price. (For example, if 25 students are enrolled in the class, but the course book only had 5 downloads, then 5 would be used as the multiplier.) However, this method reduces the figure by only another 13%, as most of the titles have reasonably high usage. While there are many ways to argue for calculating this savings number, our yardstick approach to maximum student savings has yielded a return on investment of about 16 times, and even the most conservative approach has our savings exceeding our costs by more than tenfold.

Future Planning

In the future, we would like to convene a student focus group to gather an additional AMP data set regarding student purchasing habits. Due to privacy, we don't know who is actually downloading these books (whether the e-book user is in the course or not), so surveying a sample of students in AMP-supported courses to ask about their actual partici-

pation levels in the program would help to provide an even clearer sense of student savings and impact of the program.

Starting in spring 2021, the bookstore will be adding AMP availability to the course section notes on the bookstore website, so this will help to address the issue in which students may have purchased a book before receiving an email from the library that the title is available electronically through the library. This will be especially applicable to titles already purchased and identified in past matches, while new purchases in Spring 2021 might not be available soon enough for this notification. This enhancement also overlaps with another AMP initiative of promoting use and creation of OER materials, as the bookstore will include OER information in the course notes as well.

Additionally, we are updating the data in our database to indicate whether an AMP title is subscribed or purchased, and then identifying high-use subscribed titles for a perpetual access purchase. We'll also keep up our continued outreach through faculty campus currents, student news wire, messaging through the various college deans on OER, and other affordability options, so that we can continue increasing awareness and uptake of the program. The members of the AMP committee continue to meet regularly throughout the year to hear updates from student support offices, and these discussions allow us to brainstorm additional ways that we can help support student access and affordability for course materials. Finally, our outreach also includes sharing our experiences with our colleagues outside of Villanova to encourage them to adopt similar course material affordability initiatives at their own institutions and provide any guidance we can to try to resolve this challenging issue for all students.

Reference

Frank, E., Waugh, M., & Comeaux, D. (2015, October 7–8). *LSU's E-textbook project: Strategy, implementation, and moving forward* [Conference Session]. LOUIS Users Conference 2015, Baton Rouge, LA, United States.

Collections

Making Lemonade Out of a Sour Situation

An Opportunity for E-Book and Streaming Video Education

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Abstract

When COVID-19 hit and the University of Central Florida transitioned to online-only in Spring 2020, many instructors who had never taught online classes were navigating unfamiliar waters. The library also had a lot of temporary access, which made it difficult for librarians and instructors to plan for the fall semester. The Scholarly Communication Librarian, Acquisitions & Collection Assessment Librarian, and Government Information Librarian were fielding a lot of questions and realized this was an opportunity to educate instructors on assigning e-books and streaming video to their students. These librarians developed seminars to answer frequently asked questions and dispel myths about the library's online collection.

Keywords

licensing, COVID-19, online teaching, e-books, streaming video, scholarly communication, copyright

The Problem

In March 2020, all classes at the University of Central Florida (UCF) moved online due to the COVID-19 pandemic. This resulted in rapid transitions for courses that had been face to face, and faculty who had not planned to teach online suddenly needed to find online resources for their ongoing classes in the spring semester. Many of them reached out to the library, and the Office of Scholarly Communication, Acquisitions, and Research & Information Services fielded a large number of questions.

While librarians began helping faculty find online resources, the publishing industry began to respond to the ongoing crisis. A large number of publishers started offering free temporary online access and flexibility around fair use terms. These free resources were a huge help in the short term but created a great deal of confusion for teaching faculty, students, and librarians. Many of these free resources were listed in the library's holdings in order to make them more accessible, but this meant that faculty and students couldn't tell when they were looking at something the library owned perpetually versus something that was only temporarily accessible. Faculty planning for the late summer or fall semester during May or June might then embed resources that would no longer be accessible, leading to a great deal of frustration.

Decision to Do Seminars

The influx of questions about online resources paired with the instability of temporary online resources led the scholarly communications

librarian, acquisitions and collection assessment librarian, and government information librarian to create multiple seminars to help librarians, library staff, and teaching faculty understand how to navigate the rapidly changing landscape. We needed a way to communicate these changes to librarians who were reaching out to teaching faculty and also wanted to speak with faculty directly and impress upon them the importance of looping in the library when assigning online resources. We then created two versions of the seminar, with one geared toward librarians and library staff and the other toward teaching faculty.

Both versions of the seminar were built around frequently asked questions about e-books and streaming video. Coming from acquisitions, scholarly communication, and public services, the three of us together could approach questions from every angle. The goal of the library staff session was to explain the variety of temporary access in depth and show where librarians could find some answers to faculty questions. The goal of the faculty session was to manage expectations surrounding online resources and encourage faculty to contact their librarian when they wanted to assign an e-book or streaming video to their entire class. Many instructors were not aware of the intricacies of e-book user models or how to identify which resources were only temporarily available. In fact, many librarians were also unaware of the extent of these issues. We wanted to both explain why resources in the catalog might not be suitable for assigning to an entire class, whether that was due to lack of perpetual access, limited user model, or copyright issues.

What We Covered

Though we had separate sessions for librarians and teaching faculty, they were very similar in content. The session for librarians was more detailed and delved into technical library issues, such as looking at MARC record detail in the catalog, to give them clues about whether a particular title was owned perpetually by the library. The teaching faculty session was a bit more surface level to give them an understanding

of the bigger picture. Each seminar covered an explanation of e-book user models, DRM, acquisitions models with nonperpetual access such as DDA and EBA, copyright and licensing considerations for assigned library eResources, reasons some titles might not be available for license, and situations where a film might take extra time to find and license.

We structured the session around the following FAQs:

E-Books

- Why can't you buy this as an e-book? Amazon has it for $15.
- How do I know if my book is only temporarily accessible?
- It says "Unlimited" but my students can only check it out for 21 days. What happens then?
- Can I assign this for required reading?

Streaming Video

- We own the DVD. Can I just screen it over Zoom?
- Can I upload a video file to Canvas?
- I heard about a great new film. Can the library buy a streaming copy?
- Can I link to YouTube, Vimeo, and Tubi?

By using practical and common questions, we were able to frame our session in an approachable way. Attendees not only received general information but also had concrete solutions and recommendations for how to address specific examples most often asked by faculty when teaching online. These questions and informal structure of the sessions also provided an atmosphere that provided the opportunity for additional Q&A and discussion that was productive and dynamic.

Copyright and Licensing Considerations for Assigned Library Resources

Throughout all of our sessions, we wanted to highlight the importance of copyright and licensing considerations, as questions about using

resources in online courses are often impacted by these. The scholarly communication librarian-provided information in all sessions offered to help faculty better understand copyright law, fair use, and licensing as they might apply to eResources and online teaching. The goal was to provide information based on common questions (as noted in the previous section) and scenarios for context through practical situations that faculty might face when teaching online and using library resources.

Feedback from Attendees

The feedback we received from attendees was twofold. First, it provided real-time feedback that helped shape future versions of the sessions when we reoffered them again in fall 2020. For instance, in our initial sessions offered to librarians, library staff, and instructional designers, we did not go into as much detail about specific aspects of copyright and licensing, such as the four fair use factors. Instructional designers who attended these sessions indicated that we might want to provide detailed information about the four fair use factors as it was perceived that faculty might not be as familiar with them or understand the complexities surrounding fair use. Librarians indicated that the sessions were not only useful for their own knowledge and understanding but also aided them in more fully facilitating queries from teaching faculty and students on such topics. In addition to this feedback, faculty who attended also provided comments on the sessions, indicating that they were informative. Of note is that the attendance in these sessions led to an increase in follow-up consultations and communication with librarians on these specific topics—often mentioning that they attended these sessions and had further or more specific questions. As we continue to explore opportunities to engage in education about library resources, we will aim to consider more formal feedback through surveys and other means of assessment, in addition to ad hoc feedback received.

Future Discussions and Plans

Navigating library resources, and especially, e-books and streaming videos, can be complicated. Offering these sessions further illustrated the need for continued conversations and support for librarians, teaching faculty, and students related to copyright, fair use, online teaching, and library resources. Though teaching faculty might not need to understand the differences in various e-book models or acquisitions methods, providing them with context and information can aid them in better understanding issues that impact the availability and usability of an eResource that they assign to their students and help them understand that librarians can help them untangle and navigate these issues.

As our group of librarians looks to explore future plans, there are a few considerations that we will aim to explore. First, we will continue to review and assess feedback and attendance information from the sessions that took place in spring/summer 2020 and fall 2020 to better understand if/how future sessions should be developed and offered in future semester—or, if other types of outreach and resource information should be developed, such as videos and LibGuides. Additionally, the group will consider if there are other opportunities to engage with librarians, teaching faculty, and students on these topics in different types of venues. Regardless of approach or venue, our group aims to continue to engage in this important area of education and outreach in 2021 and beyond.

Reimagining a Print Collection Promotion Strategy in the Era of COVID-19

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Abstract

How do you reimagine a print collection promotion strategy during a sudden campus shutdown amidst a global pandemic? The closure of the library building in Spring 2020, and by extension our print collection, forced us to rethink our collections promotions strategy—particularly our effort of "centering marginalized voices" with regular in-library book displays in celebration of Black History Month, Pride Month, and Indigenous Reads. At the same time, our library had recently migrated to a shared library services platform (LSP) environment (Alma and Primo VE, through Collaborative Futures, a consortium of 14 university libraries across the province of Ontario), creating opportunities for tracking and developing digital collections and discovery that were not previously possible. This article will outline how we quickly developed a strategy and procedures for promoting our collections digitally, including the opportunities and challenges presented by this move, and the key workflows we developed to support this work.

Keywords

ExLibris Alma, collections promotions, collection development, COVID-19, e-books, diverse collections

Context

The University of Guelph Library, located in Guelph, Ontario, Canada, is organized in a team-based model. The Collections & Content team is made up of several areas including collection development, acquisitions and resource management, and e-learning and course reserves. In 2018, as the Collections and Content team was reviewing our team goals in response to a renewed set of strategic priorities at the library, we decided to include the explicit goal of "centering marginalized voices" within our collections. The codification of this goal afforded us the opportunity to operationalize the work of centering marginalized voices in a variety of ways. We have undertaken diversity assessments of our leisure reading collection, we are exploring and grappling with racist subject headings that are presented in our catalog; we have made changes to our approval plans to ensure that we are allowing for comprehensive coverage of scholarship generating in these subject areas; we engage in group efforts to learn about topics like Indigenization, anti-Black racism, and a collections promotions strategy that centers and celebrates books by Black, Indigenous, and LGBTQ+ authors through our print book displays. During this time, we also saw a precipitous increase in curriculum and research demands for library resources focused on Indigenous, Black, and LGBTQ+ communities, helping to further fuel our collections development work in these areas.

In December 2019, we migrated our integrated library system, Voyager, to a library services platform, Alma, as part of OCUL Collaborative Futures. Just as we were beginning to get our feet under us postmigration, in March 2020, we were all sent home in the wake of the

COVID-19 global pandemic. And then, as the global health crisis began to unfold, we were shocked again in June 2020, when George Floyd was killed by Minneapolis police and a subsequent global protest movement arose in its wake (including across Canada). While we had been focused on systems changes, and then the move to working from home, we were suddenly faced with a pressing need to reconsider how we were continuing the work of centering marginalized voices in this new reality. While we had an ethical imperative to show solidarity with the activist efforts being led by the Movement for Black Lives, and a shared desire to use library digital spaces as a site to mobilize their messages and demands for racial justice, we also had a very practical need for doing this work: Title requests for books about Black Lives Matter, historical racial justice movements, white allyship, and police brutality were coming in quickly, at a time when our users had absolutely no access to our print collections, and we had no mechanism for acquiring and processing print books. (We have since developed curbside and home delivery services for print materials and have had varying levels of in-library access, depending on shifting guidelines from our public health authorities throughout the pandemic.) Faced with this perfect storm of factors, we worked quickly to explore how we might meet these pressing collections needs using online-only tools and content.

Challenges

The inability for our users to access any of our print titles proved to be an acute collections challenge for acquiring key titles related to The Movement for Black Lives, BLM activism, and contemporary titles about policy brutality. Many of these books are written for popular audiences by popular book publishers or by small, independent presses and do not follow the predicable patterns of availability that a traditional academic monograph normally would. Instead, we were faced with print-only purchase options, or single-user licenses sold at an inflated price point (a cost that could be many times its print equivalent). Throughout the pandemic we have also seen huge shifts in e-book

options, with e-book titles appearing and disappearing on our monograph vendor platform, licensing options changing quickly, or pricing suddenly going up dramatically.

In a fit of desperate, the collections librarian (Meg) began tweeting authors about this issue, only to discover that, while most authors have an incredible amount of goodwill when it comes to making their works available to academic libraries, they are many steps removed from the decisions about how their works are made available across the complex landscape of e-book licensing options. In turn, the collections librarian resorted to contacting publishers to politely beg for licensing options that would allow us to add these titles to our e-book collections. Most publishers were unfamiliar with the idiosyncrasies of academic e-book vendors and workflows—unique both from consumer licensing options and even public library platforms—and these requests were unsuccessful. In the end, we were successful in expanding e-book access by *one* title: Beverly Daniel Tatum's *Why are all the Black Kids Sitting Together in the Cafeteria*, a crucial exploration of racial identity and multiculturalism among American youth, which we worked with the publisher, Hachette Book Group, to make available as a one-user license on the Ebsco E-books platform. The lack of success in moving publishers toward improved e-book access for their content, even during a global pandemic, demonstrates the ways in which academic libraries continue to face a suboptimal market for e-book purchasing options that center user access and preferences. And practically speaking, we were not able to acquire these titles as e-books for our users, which meant, functionally, that we were unable to provide any library access to these titles.

Digital Library Displays and Discovery

Despite these collections challenges, however, our migration from Voyager to Alma and Primo VE created new opportunities for tracking and developing digital collections and discovery that were not previously possible in our old ILS system. This allowed us to easily collect and display titles for specific collections/topics (i.e., *The Movement for Black*

Lives), and then make these collections discoverable in our PrimoVE discovery interface (branded to our users as *Omni*). In Alma, the digital display for these collections is generated using the Managing Collections tool. This tool allows for the creation of a collection and connect relevant bibliographic records to it. To get started, you need a collection name, collection description, images, and bibliographic records for items you want to include in the collection. The items can be in a variety of formats (print, electronic) and for different resource types (databases, streaming media, books). For our purposes, we focused exclusively on electronic resources, due to the uncertainly of circulating print collections at the time. This approach allowed us to quickly develop e-book collections and digital promotions that ensured we could continue to meet our mandate of centering marginalized voices, even without access to our print collection.

The collection name you select is used to generate a brief MARC record for the top-level collection, allowing users to discover it in a general Omni search. One of the images is also used as the icon for the top-level collection discovery in Omni. Clicking on the full display of the collection in Primo leads users to the full collection, allowing them to discover the individual resources associated with the collection. Users can also discover the collection by searching for an individual title that belongs in that collection in Omni. At the bottom of the full display of the record in Primo, users can click on the collection path to see the entire collection.

At the University of Guelph Library, users can also discover the collections by clicking on Advanced Search in Omni, and then clicking on the ellipses at the top, and then clicking on Digital Library Displays. This shows users all available collections. Here you will see the collection name, description, as well as the other images for the collection. By clicking on a collection, users can browse all titles associated with the collection. And although the Digital Library Display link is limited, as it is buried under several clicks, we collaborate with our Communications Team (which includes our graphic designer) to develop promotional materials and images to be featured on the homepage. There are also customizations in Primo to add Digital Library Displays to the top of

the main menu in Primo Search, which can also improve the overall discovery of these collections.

Where Do We Go from Here?

Drawing on the early successes we had in collaborating on these collections, we have worked to develop and proceduralize a "Digital Library Displays" workflow, to help meet a burgeoning number and diversity of requests for new digital library displays. We are fielding requests from several campus partners—both within and beyond the library—to curate, mount, and celebrate various collections of titles from our collections. For example, in June 2021, we will be promoting a collection curated by the Indigenous Student Centre to celebrate Indigenous Heritage Month, and with two librarian colleagues who have scholarly expertise in the areas of Queer theory and activism to develop a display in celebration of Pride month. We have developed and optimized workflows for Collections Requests and Communications Requests, to ensure that new collections are developed smoothly and efficiently (which has been especially crucial while we are all working from home). We are also using the Alma Collections function to curate and promote other types of collections as well, from cookbooks to an in memorium collection, to new publisher package purchases.

We also want to focus on improving discovery for these collections. This includes making the "Display Digital Collections" page more discoverable. As discussed earlier, it is currently hidden and there are options to customize this, specifically, editing the links displayed at the top of our Omni search page to include "Display Digital Collections." The second is to harmonize our new Alma collections with existing communications discovery. Prior to our migration to Alma, we did not have the system capabilities to easily create collections, so we used the website, which worked well for curating and displaying collections. However, now that we have been using Alma collections, we would like to combine our existing collections page with the Alma collections page, or alternatively, work to make them complement each other. The third is

to leverage local metadata fields in the bibliographic records included in the collections. For example, adding a 997 to the MARC records that states the collection name. This would allow us to easily identify records included in collections if the collections were to ever be removed.

Although we developed this collections promotions strategy on a very tight timeline, it has created many new opportunities for helping our users engage with, and access, our collections through our website. In longer term, we will be continuing to explore the Alma Collections tool to find new ways to feature and promote the library's collections.

Thinking Outside the e-Book Box

Crafting Custom License Addenda for Maximal Use of Images in Health Sciences Curricula

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Abstract

The Michigan State University Libraries supports several health colleges and programs with image-rich online textbook resources. These high-quality images are in demand by instructors creating curricula, particularly for a medical school. Standard license agreements and terms of use for these resources can be confusing, vary by publisher, and do not always reflect today's educational needs. Over time, we have developed, negotiated, and used custom license addenda to several e-book packages and products. These license addenda have allowed our faculty content creators to legally embed images from major medical textbooks into course materials and websites. Simultaneously, they link out to the image in its original context which has driven substantial increases in e-book usage over the last four years.

We have found this to be a unique opportunity to collaborate with teaching faculty on the use of resources in education. Our efforts also demonstrate the willingness of major publishers to update their understanding of online education and online medical education materials and allow the uses of their materials that are prohibited by standard agreements and terms of use. We will engage our audience in discussions of existing license language, how one would use plain language to ensure readability and understanding of agreements, and strategies for integrating and embedding library content into curricula that shows the value of library materials and reduces the overall cost for students.

Keywords

licenses, medical school, curriculum, e-books, electronic books, health sciences, licensing, collection management, electronic resources

Introduction

The Association of American Medical Colleges (AAMC) is the key membership and accrediting body for medical schools that grant an MD degree in the United States. Since 2012, they have been tracking ongoing curriculum changes in US medical schools, and a 2018 report showed that 84% had completed a change, were in the process of change, or were in the planning stages for a change (Association of American Medical Colleges, 2018a). That report showed the trend away from the Flexnarian model where students spend two years learning basic science in large lectures and then spend two clerkship years in clinical settings. Instead, basic science training is being condensed and mixed with clinical case-based curriculum, and training in clinical settings is starting earlier (Association of American Medical Colleges, 2018b).

At the same time, the report showed that there is increased use of

self-directed learning formats and online, computer-based instruction. Lecture components of courses are delivered to students online prior to class, and in-person classes use team-based active learning in small discussion groups (Association of American Medical Colleges, 2018b). This pedagogical change is called the "flipped classroom" among educators, and many articles have described its implementation in medical education (Chen et al., 2017). During 2020, the COVID-19 pandemic and social distancing requirements led to many disruptions in medical education and may have sped up the trend toward online learning (Guiter et al., 2021).

One challenge of the move away from in-person classroom toward self-directed online learning is the fact that United States copyright law does not support online education that well. The TEACH Act (Section 110 of copyright law in the United States) is notoriously more restrictive about the display or performance of copyrighted materials online than in face-to-face classrooms (Ferullo, 2014). Many typical online teaching methods, such as posting materials in learning management systems for an entire semester, are not covered by that act, since posting materials is considered "publication" rather than "teaching" by the law's definitions.

Licenses that govern the use of the many electronic resources that academic libraries subscribe to, such as electronic medical textbooks, are often similarly stuck in the past. Allowed uses usually assume individual study of materials on their original platforms. Sometimes images or small portions may be used in presentations, which is useful. However, as we will show later, the terms often leave open the question of the use of images in online, archived, teaching modules.

Needs of a New Medical Curriculum

The Michigan State University (MSU) College of Human Medicine, a community-based medical school with an enrollment of around 800 students, is one of the colleges that underwent a recent significant curriculum redesign. In-person lectures were replaced with online modules to support a "flipped classroom." The old curriculum relied heavily on

textbooks and course packs that contained printed versions of PowerPoint presentations containing images and third-party content. The images originated from a variety of sources. Instructors found them in hardcopy textbooks they had on-hand, electronic textbooks through the library website, or, more often, simply through Google image searches. A course materials unit on campus produced the course packs and licensed or sought permission for each image included. This was a time-consuming and expensive process that passed the costs of copyright clearance on to the students, while instructors remained generally unaware of the work and expense created by their choices of images. As the college began to envision online modules replacing course packs and PowerPoint lectures, faculty from various disciplines were tasked with creating custom content. While they felt comfortable and knowledgeable writing text, they needed supplementary images. The processes to seek and pay for permissions for third-party images that worked for course packs would not work for the new model because the online modules were to be free to students. Costs could not be passed on. College administrators knew enough about copyright to understand that instructors could not simply use images illegally and that they needed some help.

The MSU Libraries serve the College of Human Medicine with collections and services. Around that time, we planned to hire a new librarian dedicated to the college. When library administrators met with medical college administrators to ask them what their biggest areas of need were, college administrators consistently said the faculty needed help with "copyright." We translated this to mean that they needed help finding images legal and free (to them) to use in the new curriculum online modules. The lack of direction in this area could potentially hold up the curriculum redesign process.

Negotiating License Addenda

The librarian hired to work with the College of Human Medicine began meeting with several curriculum design committees to discuss the

development of the new curriculum. Her experiences as a new librarian using this opportunity for relationship-building with a medical school have been published elsewhere in more detail (Kovar-Gough, 2017). As she learned the sources of content and images that many instructors wanted to use, she began to match those needs with the electronic resources that the MSU Libraries already subscribed to or could begin subscribing to. The only difficulty was that instructors wanted to do more than simply link textbook content. They also wanted to embed images from various textbooks directly into the learning modules, add their own content, and "remix" materials from multiple sources into their ideal curricular vision. They also wanted students to have as seamless an experience as possible, without lots of clicks.

Despite college administrators thinking that they needed help with "copyright," it became clear to us that if they were talking about mainly using portions of electronic textbook content, it was licenses and not strictly copyright that were important. The licenses that the MSU Libraries had signed for access to several major medical e-book packages did not necessarily allow the envisioned "remix" kind of use. Typical licenses say that authorized users may:

- Access, search, browse, and view the products.
- Print, download, and store reasonable portions of the products for individual use.
- Incorporate links to the products from websites and course management systems.

Sometimes, provisions are also made for sharing reasonable portions with others on an individual basis for research purposes, deliver portions of the products via interlibrary loan, and using figures or images in presentations.

Typical restrictions on use say that authorized users may not:

- Abridge, modify, translate, or create derivative works based on the products.

- Remove, obscure, or modify in any way the copyright notices as they appear on the products.
- Use any robots, spiders, algorithms, or other automated downloading programs to "scrape" the products.
- Reproduce, retain, or redistribute substantial amounts of the products.

The most relevant clauses prohibiting the use of images in MSU's new curriculum were those about "reproducing," "retaining," and "redistributing." Furthermore, parts of the new curriculum could be considered a "derivative work," incorporating textbook images into an alternate kind of teaching resource. Instructors also wanted to be able to "modify" some of the images slightly, adding labels and putting certain images next to other images to demonstrate their points.

Because the Libraries was paying so much for these products to support medical education, it did not make sense for our institution or library users to pay a second time for permissions to use the products in this way. So, we began negotiations one by one with each major medical textbook publisher for which we subscribed to an electronic e-book package, including Wolters Kluwer, Elsevier, McGraw-Hill, and Thieme. The goal was to get our proposed use included in our licenses in a clear and unambiguous way.

Negotiations with the publishers/vendors took anywhere from a few months to, in one case, two years. At first, publishers did not understand what we wanted. As mentioned earlier, many had an old-fashioned view of how medical education is conducted and could not see why the usual terms allowing image use in classrooms were not sufficient. However, most seemed eager to learn, since their products are geared toward supporting medical education. Both sales representatives and executives in charge of content were supportive. We found the largest barrier to getting the addenda in place was primarily publisher legal departments and the difficulty in translating our needs to something that they would both understand and approve. Sometimes difficulties arose because of contracts that the publishers had with certain authors that would not allow

them to legally approve the uses we wanted for every book. However, for the most part, we were successful. We wrote custom addenda like this, clearly stating the uses that we wanted:

> Authorized users may use and embed images, tables, figures, and video from [Publishers] products in (a) course packs to sell at cost to the authorized user's students, and (b) archived online lectures, videos, slides, course web pages, and other educational materials made available to the authorized user's faculty, staff, and students on a password protected website located behind a firewall.
>
> Authorized users may annotate, overlay and/or enhance images, tables, figures, and video from [Publisher's] products to create "derived works" for the aforementioned uses, provided that all copyright notices, other instructions or disclaimers of the products are not removed or altered in any way.
>
> Authorized Users are permitted to FTP these course packs to its server.
>
> Electronic course packs may be downloaded by authorized users.

Although the new curriculum did not include course packs, we decided to negotiate for that use at the same time in order to support other programs at the university. Sometimes, what was permitted for printed course packs was different from what was allowed for online educational modules, again, because of publisher contracts with authors.

Use of Licensed Images

Once the license addenda were in place, the next step was to communicate with curriculum designers and instructors about the agreements and to give them an easy way to identify sources for images. We created an online guide for instructors with lists of and links to the resources that were "approved." Instructors, for their part, began using the images and incorporating them into the new curricular modules. Each embedded image in a learning module had a reference to the original textbook source as well as a link to the original context of the textbook where students could learn more information.

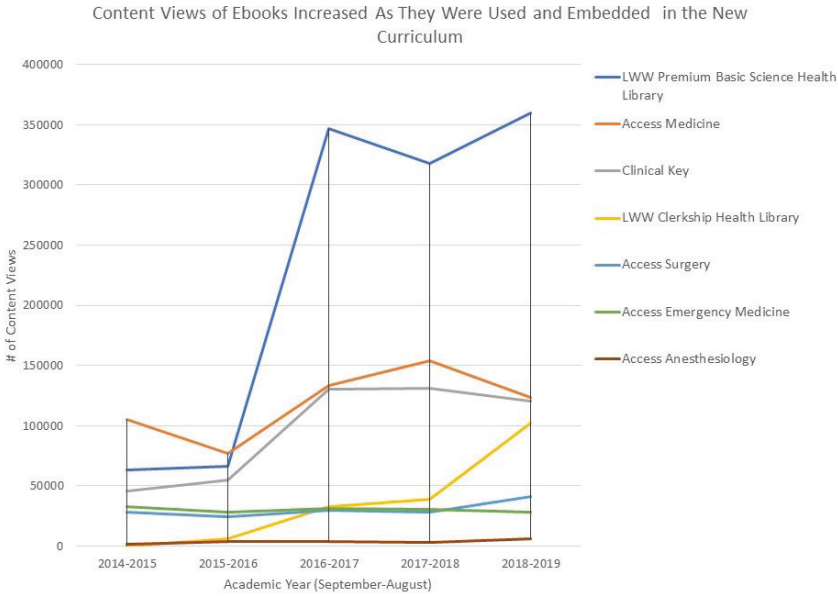

Figure 1. Content views of e-book packages increased when embedded in the new curriculum, with the first cohort of students beginning in 2016. E-book packages showing the highest increases tended to contain books used in the undergraduate medical curriculum, whereas packages containing e-books primarily used in residency programs were not affected.

The new curriculum was developed during 2014–2016. The first class of medical students to begin using the new curriculum started in 2016. The MSU Libraries have always collected electronic resource usage statistics to inform subscription and cancellation decisions. Between 2016 and 2017, we began to notice that usage, measured by content views, of relevant e-book packages had increased by anywhere between 50% and 500%. Then, between 2017 and 2019, usage began to level off at this increased amount (see Figure 1). Clearly, the embedded images were driving use toward the original textbooks. It is interesting to note which e-book packages experienced the increased usage. The Lippincott Williams & Wilkins (LWW) Premium Basic Science Health Library had the most dramatic increase, and it also contained the largest number of books that were incorporated into MSU's undergraduate

medical curricula during the early medical school years. Access Medicine and Clinical Key both had significant, though more modest, increases in usage, probably indicating that only some of their books were relevant for medical students. The LWW Clerkship Health Library did not experience an increase in usage until 2018, the year in which the medical students in the new curriculum entered their clerkship year. In contrast, as a sort of control, the e-book packages Access Surgery, Access Emergency Medicine, and Access Anesthesiology did not experience an increase in usage. These packages contain texts primarily used at MSU by residents and other clinical professionals, and images from those books did not tend to be ones embedded in the undergraduate medical curriculum.

Conclusion

We learned that publishers were very willing to work with us to allow the use of textbook images in our online curricular modules. It may appear that all we did was receive permission to use materials for which we were already paying. That is true in a sense. However, gaining clarity about usage in this remixed way and being able to provide assurance to instructors and course designers that there were sets of images for which they did not have to worry about getting copyright permissions gave everyone a sense of relief and saved time and money. There were other benefits. Close collaboration between the course designers and librarians led many in the medical school to appreciate library resources much more than they had in the past when they were mining Google for images and using hardcopy textbooks sitting on their desks. Students benefited because they were no longer forced to pay copyright fees through purchasing course packs. The increased usage of library e-resources was encouraging to everyone. Instructors were happy to know that students were linking out to more information in appropriate textbook resources rather than simply searching the Internet. Librarians were happy to see resources being used, demonstrating the value of the subscriptions. The vendors were happy to see the high usage too, as having their content embedded so deeply in our

medical school curriculum meant we would be a lot less likely to cancel our subscriptions to these products.

Now that we have several of these agreements in place, we continue to negotiate with these same publishers about how to make their products easier for instructors to use. We have given feedback about the necessity of maintaining older editions of textbooks for a while even when new editions are available. It would be impossible for instructors to switch to images from new editions in the middle of a semester. As it is, it is considerable work to maintain the curricular modules and make sure that images get replaced when necessary, although the college believes that the benefits of the curriculum are worth the effort. We have also explained to publishers how important it is for instructors to easily be able to find the copyright and citation information that the publishers have told us must accompany the images.

There was one downside to the use of library-subscribed images in the medical school online modules. Originally, the medical school faculty had wanted the curriculum to be an open educational resource (OER). OERs are a growing trend, and many universities and their libraries are providing services and funds to assist with creating these resources. It was a worthy goal, and some have encouraged medical libraries to think about how OER could be created for health professional education, while acknowledging it will be much harder than for undergraduate introductory courses (Schellinger & Coghill, 2020). We can confirm that images are going to be one of the barriers to OER for medicine. High-quality illustrations and images have been shown to be essential for learning such subjects as anatomy (Fenesi et al., 2017). We had several conversations with the medical school faculty to explain that making the materials open was not possible if they wanted to use licensed images for which they did not own copyright. Finally, we ended up with a compromise in which the textual content created by MSU instructors is open on the Internet, but each copyrighted image is blocked until MSU users log into the learning management system with their IDs and passwords. Developing a truly open medical school curriculum will eventually require paying medical illustrators to create images and make them open access.

Collection management librarians have access to many resources about licenses, focusing on such topics as terms of use, accessibility, interlibrary loan, and teaching negotiating strategies (Dygert & Barrett, 2016). We have not seen the topic of image use in online curricular content addressed in any toolkits that we have consulted, perhaps because MSU's custom medical curriculum modules are not common. As remix continues as a trend, and as instructors in programs that heavily use images continue to create novel online educational experiences, demand for use of library resources in this way may increase. Librarians in the future may find our experience to be instructive.

References

Association of American Medical Colleges. (2018a). *Curriculum change in US medical schools: implementation of change in 2017–2018*. AAMC. Retrieved from https://www.aamc.org/data-reports/curriculum-reports/interactive-data/curriculum-change-us-medical-schools

Association of American Medical Colleges. (2018b). *Curriculum change in US medical schools: types of change in 2017–2018*. AAMC. Retrieved from https://www.aamc.org/data-reports/curriculum-reports/interactive-data/curriculum-change-us-medical-schools

Chen, F., Lui, A. M., & Martinelli, S. M. (2017). A systematic review of the effectiveness of flipped classrooms in medical education. *Med Educ*, *51*(6), 585–597. https://doi.org/10.1111/medu.13272

Dygert, C., & Barrett, H. (2016). Building your licensing and negotiation skills toolkit. *The Serials Librarian*, *70*(1–4), 333–342. https://doi.org/10.1080/0361526x.2016.1157008

Fenesi, B., Mackinnon, C., Cheng, L., Kim, J. A., & Wainman, B. C. (2017). The effect of image quality, repeated study, and assessment method on anatomy learning. *Anatomical Sciences Education*, *10*(3), 249–261. https://doi.org/10.1002/ase.1657

Ferullo, D. (2014). *Managing copyright in higher education*. Lanham, MD: Rowman & Littlefield.

Guiter, G. E., Sapia, S., Wright, A. I., Hutchins, G. G. A., & Arayssi, T. (2021). Development of a remote online collaborative medical school pathology

curriculum with clinical correlations, across several international sites, through the Covid-19 Pandemic. *Medical Science Educator*, 1–8. https://doi.org/10.1007/s40670-021-01212-2

Kovar-Gough, I. (2017). Taking chances: A new librarian and curriculum redesign. *Medical Reference Services Quarterly*, *36*(2), 129–137. https://doi.org/10.1080/02763869.2017.1293973

Schellinger, J., & Coghill, J. G. (2020). Open education resources: Are we ready for prime time? *Journal of Electronic Resources in Medical Libraries*, *17*(1–2), 49–55. https://doi.org/10.1080/15424065.2020.1760163

Where Have We Been and Where Are We Going?

The 20th Health Sciences Lively Lunchtime Discussion

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Abstract

The year 2020 brought historic changes and disruption to "business as usual." Individual institutions' decisions and priorities were varied, including those affecting library services and collections. The participants of the 20th Health Sciences Lively Lunch (taking place virtually) highlighted

developments, new initiatives, and shifts in practices that took place in current and still evolving areas.

In the no holds barred discussion, moderator Elizabeth Lorbeer (Western Michigan University Homer Stryker M.D. School of Medicine), introduced the session and invited panelists, Matthew Noe, Countway Library, Harvard Medical School, and Rena Lubker, Medical University of South Carolina Libraries, to address their topics. The speakers spotlighted steps for ensuring social-justice-focused, antiracist, balanced collections in the health sciences (Noe), and ripple effects of the COVID-19 pandemic on health sciences collections work and services globally (Lubker). Charleston Conference founder Katina Strauch joined the 20th anniversary health sciences session, remembering her early years working in a health sciences library and advocating for health sciences libraries to continue their work. Nicole Gallo provided insights and reminders from a vendor's perspective. The moderator moderated questions from the virtual audience to the panel on best practices and predictions for the future.

At the beginning of the session, Ramune Kubilius (Northwestern University Feinberg School of Medicine, Galter Library), provided highlights of scholarly publishing trends of the past year, as well as a brief recollection of the first nineteen lively lunches, all summarized in a "Developments" handout (https://doi.org/10.18131/g3-r672-an38).

Keywords

health sciences libraries, global health, library collection development

The year 2020 brought historic changes and disruption to "business as usual." Individual institutions' decisions and priorities were varied, including those affecting library services and collections. The participants of the 20th Health Sciences Lively Lunch panel, in a session that took place virtually, highlighted developments, new initiatives, and shifts in practices that took place in still evolving areas.

The no-holds-barred discussion was introduced by moderator **Elizabeth Lorbeer,** who introduced the session and invited panelists to address their topics, including best practices and predictions for the future. Speakers spotlighted steps for ensuring socially justice focused and anti-racist, balanced collections in the health sciences, then some global responses and challenges during the COVID-19 pandemic that affected everyone beginning in 2020.

In the annual "trends" update, **Ramune Kubilius** shared a link to the "Developments" handout (https://doi.org/10.18131/g3-r672-an38) that provides a snapshot list of scholarly publishing trends, changes, and anniversaries that took place since the 2019 conference lively lunch. The trends handout this year was divided into three parts: (1) **2020 speakers**—included links to biographical information and recent presentations and publications; (2) "**Evolution? Revolution?**"—included links to news items and sites featuring *collections/scholarly publishing—pandemic-era changes & challenges; the economy; diversity & balance in collections; preprints; OA; research data needs & tools; non-traditional resources; affiliating hospital mergers & changes; anniversaries; new & retiring products*. . . ; (3) "**Déjà vu all over again**"—included a round-up of health sciences lively lunch discussions #1–19: themes, links to handouts, "Against the Grain" reports, and expanded abstracts that were published in "Charleston Conference Proceedings."

One planned panel speaker, **Jean Gudenas**, was unable to participate in the 2020 health sciences session. Her article, referenced in the handout and entitled "Collection Development and Opportunities during a Pandemic," was published in Doody's Collection Development Monthly (October 2020) and provided a taste of timely observations she might have made during the session.

Socially Justice Focused and Anti-Racist, Balanced Collections in the Health Sciences

In remarks entitled "Addressing Racism in the Health Sciences Collection: A Start," panelist Matthew Noe divided his presentation into cate-

gories: What Spurred This Now?, Why It Matters?, What kinds of titles exactly?, Potential Roadblocks, and shared Suggested Resources.

Per **Noe**, health libraries are trusted and often users' primary libraries. Medical content impacts health, but roadblocks to addressing calls for balance and neutrality may include internal politics and title availability. Though his June "Black Lives Matter: Antiracism and Health Suggested Resources" compilation was the Countway Library website's most visited page (June–November 2020), such lists are a minimal (first) step.

Libraries are not "neutral," being one of the few remaining trusted institutions in the United States—libraries have a responsibility to continue earning that trust. Often, in medical schools, libraries are their primary users' primary libraries. The community, particularly students, are demanding that attention be paid to correct injustice. Harvard medical students, for example, successfully petitioned a name change, as reported by M. R. F. Buckley in a *Gazette* article in September. The Oliver Wendell Holmes academic society was renamed in honor of the late William Augustus Hinton, M. D. (an alum, international recognized infectious diseases expert, and first Black full professor at Harvard).

Published medical content can have real, harmful impacts on health. A July *Stat* article by Usha Lee McFarling was just one to point out the lack of skin color representation (in content or information) for dermatology. A related question to ask is how many of our "core" texts are primarily written by those in the West?

Potential roadblocks can include internal politics that come into play. There are those who think this isn't libraries' role or those who don't want to stir the pot. And unfortunately, there are those who don't understand the issue. Title availability in this landscape can restrict whether a library can even offer desired or needed resources as e-books, print, and other media. Other roadblocks might include the library's reputation at the institution, challenging calls for "balance" and "neutrality," and questions that include: "Do we need another book list?", which, admittedly, cannot be the only step taken.

Suggested resources include:

- Countway's suggested resources: countway.harvard.edu/news/black-livesmatter-antiracism-health-suggested-resources
- Syllabus: A History of Anti-Black Racism in Medicine: aaihs.org/syllabusa-history-of-anti-black-racism-in-medicine/
- African-American/Black Experiences and Anti-Racism in Graphic Medicine: news.nnlm.gov/ner/2020/06/23/african-american-blackexperiences-and-anti-racism-in-graphic-medicine
- Anti-Racism Resources for All Ages: padlet.com/nicolethelibrarian/nbasekqoazt336co
- Disrupting Whiteness in Libraries and Librarianship: A Reading List: library.wisc.edu/gwslibrarian/bibliographies/disrupting-whiteness-inlibraries/
- UNLV Racism in Medicine and Healthcare LibGuide: guides.library.unlv.edu/medicalracism

Challenges Libraries Face with Involvement in and Support for Their Institutions' Global Health Initiatives

Rena Lubker focused on the COVID-19 impact in a presentation entitled "Global health Initiatives of Library Institutions," particularly relating to services and collections. As the Medical Library Association (MLA) allied representative to the Association of Health Information and Libraries in Africa (AHILA), one role has been in an emulator program, as one of the rooted representatives in different organizations. During the Charleston health sciences discussion, the aim was to share few observations about libraries globally in order to encourage conversation. (During the presentation, photographs illustrated scenarios from around the world.)

Globally, some medical schools that have generators (and electricity) have been able to continue working. Librarians have been sharing a lot of health information, both those who have had to go to work and those who have worked "at the virtual library."

On-site challenges have included libraries whose staffs were small that experienced higher traffic, including those that are open to anyone. A lot of African libraries that have had to be open have put a priority on having hand-washing stations, quite different from those seen in North American or Europe. Staffs have had to continuously add water to make sure they work.

Some countries support information resources in more than one language. So, for example, in Cameroon, those working with virtual libraries with COVID-19 information had to provide information in both French and English. Libraries have been sharing a lot of health information. One library in Brazil curated and shared a page in which health legislation was tracked so that everybody could have access to the health legislation in Brazil. A clinical information portal was created to share information to help people know what they can do to keep healthy, as well as including useful links to information provided by the World Health Organization. Libraries have been very, very active. And here in America, many are familiar with the work of Research4Life.

When grant-funded information training sessions went completely virtual, more people globally could take advantage of the training. International experience gained through webinars can be educational, and attendees can learn more about advocacy. A lot of libraries in Europe, in the United States, and some countries in Africa, and elsewhere, have been using social media to share more health information and to build up networks to help each other. The Librarian's Society of Puerto Rico (Sociedad de Bibliotecarios de Puerto Rico) launched a campaign around misinformation, especially because health misinformation (especially about COVID-19) has been a big thing, a challenge, and a concern. This ranges from misconceptions about the role of medicines and the need for mask wearing.

Public libraries worked to bring people together during the time of the pandemic. Some public libraries turned their spaces into food banks, to share food and information as well. One Toronto (Canada) library transformed to a childcare facility for frontline workers. They also turned the public library into a service point for immigrants who can go and get service since the actual offices were closed. Some libraries actually offered laptops and Wi-Fi hotspots to local homeless shelters.

Life has changed for everyone, all over the world. So where do we go from here? One positive partnership was a COVID-19 safer spaces project where librarians teaming up with architects to design library spaces that are not only usable but also conducive to social distancing so that we can continue to coexist but in a safer physical area. The International Federation of Library Associations (IFLA) has been working to modify restrictive licensing and pricing of e-books so that more libraries can afford e-books so that in academic settings more students can benefit from using those e-books. Licensing needs to not be as restrictive so that most students (who need access) can actually access the same books, instead of having just maybe three concurrent users at a time. The European Association of Health Information and Libraries (EAHIL) sent out a survey specifically to help libraries share ideas on how to move forward as the pandemic wanes.

Other questions remain. While everyone wants to and should have access to digital libraries, what have we learned about what is going to happen to print books that are still circulating? How do we make sure that they're sanitized for the next person who wants to use that book? Will we be prepared to redefine and broaden our role as librarians? What comes to mind is the reskilling movement that was presented in another Charleston Conference session. The director of the Medical University of Lodz, Poland, remarked that we have a long and challenging period ahead of us, following the epidemic of fear and fatigue. It is also a trial period; it will be a hard test of who we are and how we cope. Let us be together.

Respondents

Charleston Conference founder **Katina Strauch** reminisced about early career days in a medical library, remembering a time when library users had to make research appointments with librarians, and literature searches were done offline for a fee. There was a time when doctors received personalized attention from library administrators as soon as they entered the library. There was a divide between public and techni-

cal service roles, and cross-training or skills transfer was not common. For example, technical services librarians were not considered to be qualified in helping to answer reference questions or in staffing the reference desk. There are a lot of bad things out there in world, but there are also a lot of good things, and librarians have done a lot of them. Present-day librarians keep medical libraries alive and well in this era. Session attendees were encouraged to ensure the survival of medical libraries, to collaborate, and to think big.

Library–Vendor Relations

Nicole Gallo shared recommendations for libraries from a vendor perspective, from working for an aggregator, and working with many publishers. Budgets and access are a big concern to many libraries, and there are many solutions available, including some that are free, even if short term. One of the good things about e-content is that it opens up access much more freely and easily.

In addressing the challenges that have come up during the COVID-19 pandemic, questions to ask and actions to consider include: What can your vendors provide? Ask about solutions being offered for free. Take advantage of partnerships. Partner for immediate access. It might be surprising to find that publishers and vendors look favorably on long-standing customer partnerships. It may be an advantageous time to try something new and partner with vendors to see what might work.

In seeking collections that address equity, look for title availability and see which publishers and vendors have the needed content. Publishers are coming into new distribution channels. There are many titles that are specific to the health sciences, so it is worth approaching vendors to find out if they have collections that address equity or if they have future plans to. If something that is needed is not available, ask for it: demand drives availability. It is worth remembering that vendors are putting together collections to address equity needs. Once libraries purchase titles, strive for integration, not a separate "collection."

A lot of us have formed relationships over the year, not only personal

relationships but also good business partnerships. Together, we can have some of these conversations and think big and think about how maybe this pandemic, in this time, is giving us an opportunity to change and maybe change for the better.

Discussion

Panelist and audience discussion, an anticipated part of the annual health sciences sessions, took place in the virtual venue, via chat and verbally. Some themes have been discussed before, and some may provide fodder for future discussions. Panelists and audience shared questions and opinions highlighted further.

While libraries appreciate the curbed cost increases (or flat fee) increases that were announced for 2021 by many publishers, will libraries face "whopping cost increases" in 2022 and beyond as content providers continue to need revenue? From the standpoint of aggregators such as R2, there are continuous discussions not only with publishing partners but also librarians, personally and through surveys. Publishers and vendors want to remain on the "keep lists"; in the book realm, libraries value less expensive e-book collections. The COVID effect on libraries will trickle down and affect budgets, no matter whether someone works in a hospital library or an academic library.

The relatively new tool, Unsub, generated interest at other Charleston sessions, and participants wondered how health sciences libraries will use its capabilities and data. Will its use resonate more with institutions that have open access mandates and transformative agreements?

Cost-sharing partnerships with hospital clinics for clinical tools are not a new cause of concern to libraries, and payment agreements can change if one or the other of the paying partners experiences budget shortfalls. Still, success stories may not always be shared as much as they could.

What would be on someone's list if a genie granted a wish? Better access to certain collections as well as greater support and funding for open access worldwide are still wishes and hurdles for libraries and col-

lections. Though a good budget for collections is optimal, having adequate staffing is also needed in order to not only manage collections but also to become involved in interesting projects. On a larger professional level, work needs to be done to recruit more people into medical librarianship and into academic librarianship as well.

Print and E-Books

How Are Strategies—for Libraries, Publishers, and Distributors—Driven by the Current Necessity of Online Access?

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Abstract

The scholarly book ecosystem was already under budgetary stress before the COVID pandemic closed or limited access to libraries. In the current environment, students and faculty are often no longer located near the university.

It is difficult now for a library to choose to acquire print books regardless of discipline or faculty preferences, which necessarily impacts publisher

decisions and sustainability. Many university presses depend on print sales for 80% of revenue. It is likely, in fact, that publishing and distribution businesses will see an acceleration in the mergers, acquisitions, and closures and bankruptcies that have been commonplace over the past couple of decades.

The digital distribution landscape is complex. Libraries have struggled in good times owing to the number of content sources, the wide variety of acquisition and access models, the costs of content and content management. University presses (and indeed, most publishers) are the other face of the Janus coin with academic libraries, and share the challenges libraries face. One thing is certain: these times have forced change on all participants in scholarly communication.

Collections librarians Rob Tiessen from the University of Calgary and Arielle Lomness from The University of British Columbia, Dean Smith, Director of Duke University Press, and Michael Zeoli from De Gruyter, a scholarly publisher based in Berlin, Germany, share their experiences and perspectives.

Keywords

academic library, university press, scholarly publishing, e-books, print books, scholarly monographs, book vendors, e-book aggregators, library acquisitions, library collection development, library collection strategy, DDA, EBA, library budgets, publisher sustainability

In June 2020, Arielle Lomness, Collections Librarian at the University of British Columbia/Okanagan Campus; Rob Tiessen, Collections Librarian at the University of Calgary; Dean Smith, Director of Duke University Press; and I submitted a proposal to the Charleston Conference titled Print & e-books: How are strategies—for academic libraries, university presses, and vendors—driven by the current necessity of online access? This article is based on our 2020 conference presentation updated by 100

years of experience gained in the past 12 months. In the following four segments, we will share our "notes from the field" 12 months on.

Introduction: Michael Zeoli, De Gruyter

> Some change can be gradual and incremental, but many systems in nature show periods of turbulence and instability, with dramatic changes or growth spurts. Ilya Prigogine, a Nobel laureate known for his theory of dissipative structures in chemistry, argues that instabilities play an important role in transformation and that "most of reality, instead of being orderly, stable, and equilibrial, is seething and bubbling with change, disorder, and process." The study of discontinuities has been a fruitful endeavor across the sciences, as these shifts can provide a window into the organization of a system and the processes that are associated with transition.
>
> (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3163164/)

Libraries have struggled even in better economic times owing to the number of content sources, the wide variety of acquisition and access models, and the costs of content and content management. University presses, and indeed most publishers, are the other face of this Janus coin, sharing the challenges libraries face. The scholarly book ecosystem was already under budgetary stress before the COVID pandemic closed or limited access to libraries. COVID not only increased financial stress but also raised significant barriers to content accessibility.

Complexity in the digital content landscape is growing in tandem with the exponential development of technology broadly. For many years, libraries, publishers, and various distributors have been asking when we would finally reach the tipping point shifting from print to e-books in academic libraries. Many of us naively believed that there would be a steady, *gentle* transition; wiser observers knew that the change would likely be more abrupt, driven by unforeseeable events. In the scholarly book and academic library world, we have been fortunate (?) enough to bear witness to a version of the "butterfly effect." In 1971, both Project Gutenberg and Yankee Book Peddler (then *YBP*, now

GOBI) were born; one produced the first *e-books*, and the other developed the first digital systems for the mass selection and distribution of *print books* to academic libraries via an online interface (GOBI—which appeared ahead even of Amazon). At their origin, it took no special insight to see that the production of digital books and online distribution were destined to meet. The circumstances of this meeting have been marvelous to watch.

Even as late as 2008 or 2009, when print distributors to libraries began to integrate the digital newcomers, for example, Netlibrary, ebrary, EBL, and MyiLibrary, the vision persisted that libraries would just replace the print artifact with a digital facsimile in a one-to-one transfer of both the content and the budget allocation. Currently, for any given new university press title, there are often 14 *access options* available to libraries to select from in vendor interfaces (hardcover, paperback, 1-user, 3-user, nonlinear lending, unlimited user, etc.) and each under a variety of *purchase models* (auto-ship approval, slip notification/library order, patron-driven acquisitions—PDA, evidence-based acquisitions—EBA, etc.). Multiply that by 70,000 or more English-language scholarly books published annually, and one of the enormous challenges posed to library collection management is clear. And we haven't even considered the institutional and library-specific budgetary impacts that are very significant.

Digital technology has been spawning disruptive models in the world at large for some time, Napster perhaps being one of the more notorious ones (Table 1). Technology-driven content access and purchase models have upended not just traditional book distribution but also fundamentally changed the nature of the library mission and forced libraries, vendors, and publishers to dramatically reimagine book distri-

Table 1. Timeline of highlights in digital content distribution.

1993	1994	1995	1998	1999	2001	2002–2005	2004	2007
WWW	Netscape	eBay, Amazon	Google	ebrary, NetLibrary	Napster	Google Books	EBL (PDA creator); MyiLibrary	Kindle

bution, accessibility, and the methods and meaning of library collection strategies. It is also revelatory that the epithet *collection development* is now commonly *collection strategy* and signifies much about the changing role of the library in a world of digital ubiquity.

We shall know soon enough if COVID as well as other unforeseen events this year is the *Copernican moment* in reaching the shift from print to e-books in academic libraries—unless the next twist is mass power outages and a return to candlelight reading. One thing is certain: these times will force change on all participants in scholarly communication.

Library Perspective: Were We Really "e-Preferred"? Arielle Lomness, the University of British Columbia, Okanagan Campus

Going back as far as 2013 at UBC, we had certainly been calling ourselves "e-preferred," but when the pandemic hit we were forced to reconsider whether that was true. Our policies said we were, but were we walking the talk?

Fundamentally, we determined that we do in fact purchase most of our monographs as e-books through evidence-based acquisition (EBA) models and frontlist packages, and this was the same prior to COVID-19. As of late 2020, we participate yearly in five publisher EBA models and purchase over 12 publishers and aggregator packages. We do not anticipate these numbers will stop growing either—as we reassess our collection acquisition priorities and seek out patterns in title-by-title publisher purchases that could benefit from full-package or EBA model acquisitions strategies.

What was even more illuminating in our assessment were our title-by-title purchases. The two campuses, Vancouver and Okanagan, had vastly different approaches leading into the pandemic, with Vancouver also seeing differences at the branch level. Vancouver included a mixture of print and e-preferred acquisitions, and they focused primarily on acquiring e-books as 1-user copies, in order to reduce cost. The Okana-

gan campus however was strictly e-preferred, prioritized unlimited user copies, and purchased print selectively when requested or it was the sole availability.

As a result of transition to online instruction and the lack of access to the physical collection for a number of months, our institution writ large did not come out unscathed. In particular, this was a shock to some Vancouver branches more than others, hitting the budget in different ways. Some saw themselves simply having to increase 1-user titles to unlimited user copies, and others saw a complete overhaul of their collection and had to move most titles online, which proved to be sometimes challenging and expensive.

On the Okanagan campus, however, we were a bit more well situated, as we'd already had a focus on acquiring unlimited user e-books. I guess being the smaller of the two campuses, we'd seen the advantage of providing wider access to our patrons because of how we had been limited in the past by 1-user purchases in our library system. Regardless of campus though, our institution was well situated to face this fast-paced move to online learning and research.

Temporary e-book collections

Starting as early as March 2020, vendors and publishers started distributing so many free temporary e-book collections to be turned on for a set amount of time. Given the length of those, I don't think anyone expected the pandemic to have gone on as long as it has, and without a doubt, libraries everywhere were thankful for this gesture of kindness—but it certainly wasn't without its challenges.

When it came time to review all of the temporary e-book collections that publishers and vendors were throwing our way, we really took the time to review every single offer. We tried to categorize them into what the benefits and drawbacks would be for us.

- Were we getting access to all the available content?
- Was this content already overlapping with aggregator collections we had elsewhere and thus would be duplicating?

- Was this resource something we'd even had before, or was it setting us up to bait our users into liking a product we ultimately couldn't afford down the road?
- Was the end date in line with our academic term in Canada, or was the content going to shut off right when students might need it most?

We considered as many offers as possible and ultimately did very happily say no to many of them. We wanted to find the ones that were the right fit for us, and many of them just didn't have the added benefit of being advantageous for our research and teaching needs. Perhaps that was telling that we were already collecting much of what our users wanted when it came to monographs. One unforeseen hiccup were the publishers that did not take our no to heart and left the content turned on despite our ask for it to be turned off. This was something that we will remember in future negotiations.

To notify our patrons, we did make the collections we activated public knowledge through a *libguide*. And we've kept that up to ensure that users can see what is still active versus what is now deactivated but was once turned on. This has also helped our staff that triage access questions.

When it came time to complete a post-access review for some of the temporary collections, we did see that highly used titles on some of the aggregator platforms (e.g., JSTOR) were already in our holdings through other e-book sources. This reinforced our decision to say no to others that may also have led us to this ultimately conclusion. However, we can insinuate that users perhaps prefer one platform over another, and this is something we need to take into consideration in the future.

At the time of the conference, we were also looking forward to reviewing more of the temporary collections that were still active, including the De Gruyter university press content and the HathiTrust ETAS titles. Based on De Gruyter's usage, we were able to pick up more content perpetually with year-end funds in March 2021 and still look forward to examining HathiTrust titles when our library reopens and turns off that program later in 2021.

Impacts and results from COVID-19

Overall, I believe we are only starting to see the long-term effects that the pandemic, as well as many of the events that transpired throughout 2020, will have on libraries and specifically their acquisitions strategies for both print and electronic monographs.

Specifically, over this past year the UBC saw a multitude of issues crop up around monograph acquisitions, including how non-English language titles had limited availability as e-books and the impact that had on acquiring diverse voices for our collection from other countries around the world, how multiyear commitments for frontlist packages were being limited to year to year, and how the 1-user restrictions on Canadian university press content had its pain points spotlighted.

But with the bad came some good changes; we were able to define clearer language around financial stressors in our licenses, we saw more e-books being made available for sale in Canada that otherwise stated territory restrictions, we started deepening our discussion around when titles are available through multiple platforms and which may be the best for our users, as well as seeing more branches within our system becoming e-book focused and driven to stay that way in the future to broaden immediate access for their patrons.

While the trend of moving to being e-preferred is certainly not going away, libraries must also consider the greater impact that the pandemic will have on the publishing market writ large, including how it will change what libraries buy in print and how in turn this may disproportionately disadvantage the collecting of materials from marginalized voices and topics. Print will continue to serve a purpose in niche areas and should not be forsaken permanently. Instead, this should be the time for libraries to consider **intentionality** behind their print acquisitions and how that may bring life to promoting more voices from BIPOC and LGBTQ2SIA+ peoples, non-English language voices, Global South publishers, as well as small or independent presses.

This topic continues to be an ever-moving target as the pandemic continues and evolves around the world. It is the hope that more conversations can be started between libraries, between libraries and presses or

publishers or vendors, as well as between libraries and bookstores or authors to try and seek out new acquisitions strategies that ensure no voice is left behind.

Library Perspective: Print and E-Book Trends at the University of Calgary: Rob Tiessen, University of Calgary

Even before the pandemic, the University of Calgary Library aimed to dramatically lower the number of print books that we owned and transition to a far larger collection of e-books. A number of things got in the way of those goals. Calgary was having difficulty maintaining spending in the book part of our collections budget. In 2015, the value of the Canadian dollar dropped by 17% vis-à-vis the US dollar in three months and by 23% over the entire year. Given that 85% of library collection expenditures are in US dollars, this was a major hit. The Canadian dollar still has not recovered to its pre-2015 value.

In a choice between maintaining our big deal journal packages and maintaining the book collection, we gradually over time shifted funds to the serials portion of our collection budget. In many respects, the journal packages that we subscribe to, especially the ones that come from CRKN (Canada's national consortium of university libraries), are more important from both a research and a reputational point of view than the book collection. Budget problems caused by both inflation and the declining value of the Canadian dollar made us choose to shift spending away from the book budget (Figure 1).

Even though our book-buying policy was e-preferred, many of our approval books still came in print. This was partially driven by our approval plan. Our main book jobber would wait for two weeks to see if an e-book was coming and would then fill our approval plan with a print copy if an e-book wasn't forthcoming. Ironically, by cancelling print approvals during the pandemic, we are seeing more e-books arrive on our approval plans. Many publishers delay making books available in a digital format until a number of weeks or even months after the print

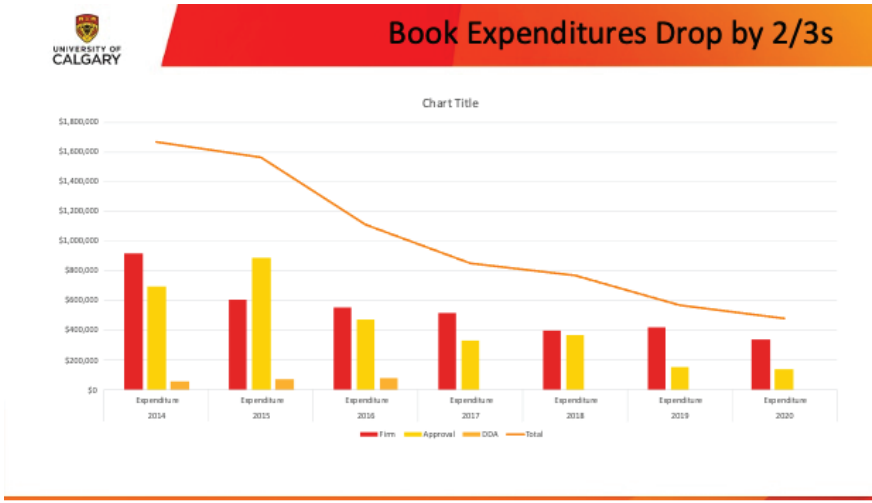

Figure 1. Book expenditures.

copy becomes available. Before the pandemic, our decline in print purchasing paralleled the decline in our overall book budget (Figure 2). Despite our intent, we weren't replacing print with digital.

The early details of the pandemic at Calgary are similar to that of many other academic libraries. All in-person courses were cancelled on Friday, March 13, and Monday, March 16, 2020, while the university

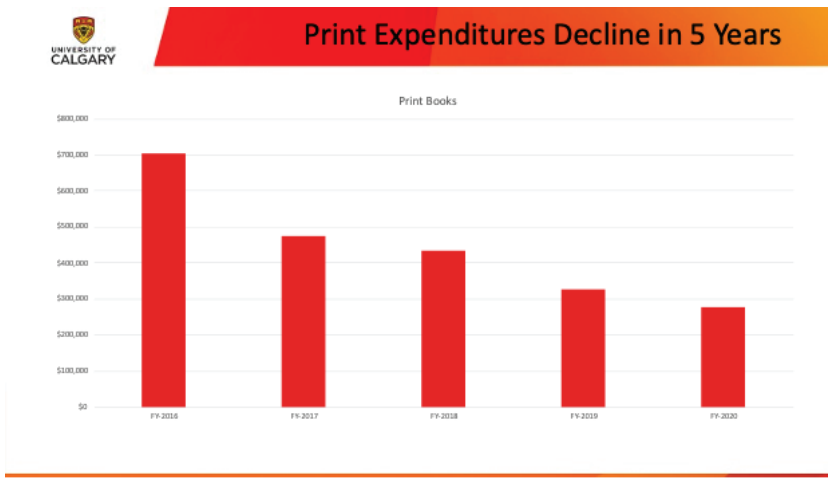

Figure 2. Print expenditures.

administration consulted about whether or not face-to-face courses should continue. By late day on March 13, the decision was made to shift all in-person courses to online for the rest of the semester. On March 16, the main library on campus was closed to the public but remained open to students, faculty, and staff. At the same time, the branch libraries shifted all of their services online. From March 22 to August 9, all library services (including the main library) were shifted to online.

For both the fall and winter semesters, the main library was open exclusively to students, faculty, and staff but with no access to our stack floors. The branch libraries continued to offer all of their services online. For the fall semester, 20% of courses were in person with an enrolment cap of 20 students in a classroom with masking and physical distancing. About 80% of courses (including all the large enrolment courses) were offered online. Because of quarantine issues, there were no print reserves. Alberta health regulations mandated that library material be quarantined for a minimum of 72 hours after being returned during the pandemic. In the near future, the health regulations will soon shorten quarantine of library materials to a 24-hour period.

By May 2020, the decision was made to suspend all print book purchases for the 2020/2021 academic year. The main exception being that we would buy print books for graduate students who needed specific titles for their theses or for comprehensive exams. At this point in the pandemic, delivery of print books had slowed dramatically, so there was still no guarantee that we could acquire print books for graduate students in a timely manner. Both because many students couldn't come to campus and that for health reasons the university was discouraging large numbers of students from coming to campus, we wanted to buy everything digitally. The print part of our approval plans was suspended. We started looking at specific e-book packages that we could purchase to increase access for students.

Over time print demand grew for books that we could not acquire as e-books. We started making exceptions with the main ones as follows:

- Law
- Canadian Publisher Approval Plan

- Education
- History
- Political Science

With the exception of the one approval plan, we are firm ordering print books as needed. While print exceptions have grown, the pandemic has shifted our book buying toward a much more digital collection. It will be very interesting to analyze exactly how much our acquisitions have shifted to digital once we finish our fiscal year.

The question is what we will we do once the pandemic is over? We are considering eliminating print from our approval plans permanently with the exception of our Canadian Publisher Approval Plan. We don't plan to ban print buying when the pandemic is over but are considering limiting print buying to firm orders, which would be a major change in direction for us. We continue to consider our book-buying options while hoping that the pandemic ends soon.

Publisher Perspective: Leveraging Relationships to Expand E-Book Access: Dean Smith, Duke University Press

When I arrived at Duke University Press as director in the summer of 2019, I discovered a talented and savvy publishing staff eager to maximize sales of e-books. There was an entrepreneurial energy in the building to go with publications that challenge the boundaries of knowledge and expertise and embody the core values of equity and inclusion.

I spoke with Cason Lynley, our marketing and finance director, early in my tenure and we both discovered what we love most about e-book sales: "No returns." As a director of a major university press, my primary focus is always on ensuring long-term financial stability. I am responsible for leading the press during a time of tumultuous change including a global pandemic and securing the jobs of 120 staff members. Nothing is more painful than a pallet of returns.

DUP e-book sales accounted for 30% of all book sales—the largest

percentage of any publisher I've worked for. Our library relations team sold e-book collections globally and EBSCO and ProQuest managed single-title sales. Our sales managers Kim Steinle and Kristen Twardowski are excellent stewards of the brand and well respected by librarians and consortia directors. e-book sales (consumer and library aggregations combined) approached $2 million. Combined with print book sales, our revenues exceeded $6 million—enough to qualify us as an Association of University Presses Group 4 press along with Princeton, Harvard, Yale, Columbia, Chicago, Hopkins, MIT, and others.

While EBSCO and ProQuest drove significant sales of single-title e-books, I wondered what full-market coverage looked like for Duke. As director of Cornell University Press from 2015 to 2019, we had great success with JSTOR and De Gruyter in addition to EBSCO and ProQuest. We went from 350 e-books in 2015 to more than 5,000 in 2019. I worked closely with Frank Smith at JSTOR to take advantage of opportunities that presented themselves. Steve Fallon and the team at De Gruyter engineered several one-time backlist sales. Project MUSE, under the direction of Wendy Queen, also produced strong results. This expansion generated significant revenues and usage globally. It greatly helped Cornell break even during some difficult, change-driven years. Those partnerships continue to do this day.

I began having discussions about De Gruyter and EBSCO with Duke marketing director Michael McCullough and Kim Steinle. We agreed to keep the collection model with our library relations team and to expand single title availability to JSTOR, MUSE, GOBI, and De Gruyter. It was a hybrid approach designed to offer flexible options to libraries and to meet them where they wanted to go. Librarians value relationships with their publisher reps. They have worked with preferred vendors for decades and they pursue models that align with their acquisitions strategy. Maximizing market penetration for single-title e-book sales involves leveraging those relationships directly and through partners. Our technology team and marketing staff worked diligently to launch all new aggregations by the summer of 2020.

My vision for e-book expansion first took shape at Johns Hopkins University Press in 2010. Discussions about e-books on Project MUSE

commenced in 2009. Shortly after I arrived, we made a decision to house e-books on MUSE. We built the platform for the University Press Content Consortia (UPCC) for 65 university presses and introduced a collection-based model in 2012. The integrated book and journal platform was launched in nine months. The MUSE staff worked around the clock and through the holidays to launch the site. The market already had a number of models. Springer Nature had arrived a few years before and set the market with offers that involved massive collections at a low price per title. The work of refining the model of the humanities and social sciences had just begun. The jury was out on whether monographs would be used based on outdated circulation studies. The low-use monograph yearned for discoverability.

That experience quickly taught me that libraries preferred a range of models for e-book acquisition. We met with more than 100 librarians who wanted the ability to select titles and others who chose to gauge their demand first. They wanted publishers to put all of their books in the collections. It was a great moment of dialogue and collaboration. To capture the entire market, a publisher needed to experiment with all models and vendors. We quickly pivoted at MUSE to offer single-title purchasing via GOBI with the assistance of Michael Zeoli and developed a home-grown version of evidence-based acquisition. We needed to meet the demand where it existed as much as we possibly could.

I've never been a publisher who believed that e-books would cannibalize sales of print. Many publishers did and maybe still do. Sales data and usage ranged all over the map—title by title. Bestsellers in aggregations sometimes appeared in the top 10 highest-used titles. Sometimes low-selling titles weren't used at all. Additive revenues from e-book sales helped books break even. At Duke, we provide an affordable and well-crafted paperback for individuals and this drives course adoptions. There is no substitute for quality and we are one of the only publishers in the world committed to publishing marginalized voices and decolonial perspectives. During the global pandemic, our titles provided places of refuge for our readers.

We're beginning to experience the positive effects of opening new channels. In 2021, we are experiencing a continued growth in e-book

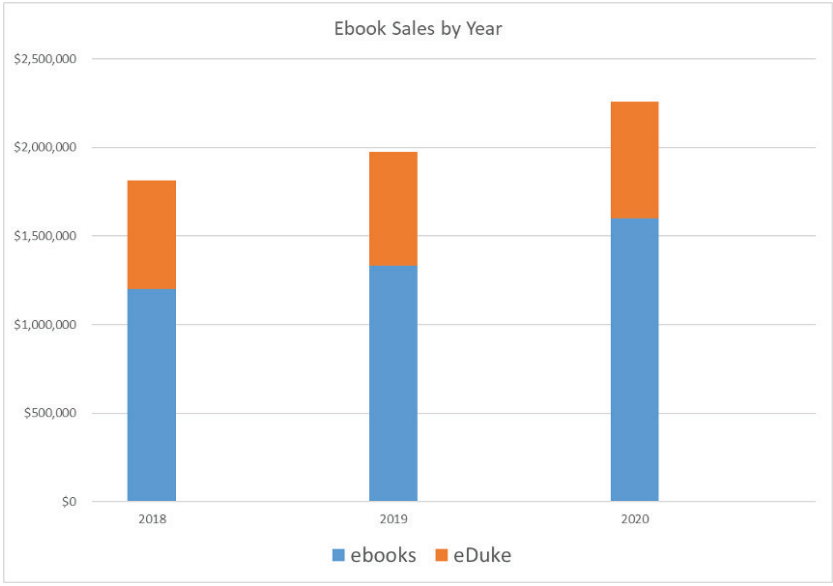

Figure 3. E-book sales by year.

single-title sales. Our e-book collection sales have remained steady and significant growth is coming from single titles via the e-book aggregations including JSTOR and De Gruyter. EBSCO and ProQuest are growing as well as more institutions are expanding their digital resources for students during the pandemic.

Sales of our print titles are growing as well and we've recorded the highest annual sales of print books in the history of the Press. Single-title e-books will also break an all-time sales record (Figure 3). How long will it be before e-books reach 40–50% of books sales? That's a question we continue to ask. We benefit from having coveted and beautifully designed paperback versions and globally accessible e-books. Both formats will continue to provide synergies for the other. e-book discovery in 20 channels definitely helps drive the print versions. And print-on-demand allows for access around the globe.

For the future, as our mission and processes as a publisher evolve, we need to continue to listen to our library partners and to meet their needs. There are many positive signs. And with e-book sales, no returns.

Evolving Collection Development, E-resources Management, and Assessment Workflows to Accommodate Slashed Budgets

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Abstract

Effective collection development and electronic resources management consist of ever-evolving complex processes. One emergent and disruptive challenge has been abrupt and severe cuts to institutional budgets due to the COVID-19 pandemic. In the past at Rowan University Library (RUL), our focus had been on consolidating and streamlining acquisition processes among the three libraries. This consolidation occurred because of the merger of two disparate medical libraries (allopathic and osteopathic) with the main campus library. This complete merger allowed RUL to evaluate the resources that had been purchased over the years. We had also anticipated and planned for leveling budgets due to the eventual flattening of student enrollment. RUL's plans had to be accelerated and adapted to accommodate the urgent nature of these budget cuts while ensuring continuity of communication and service to ensure that these changes do not interrupt the user's research. Because of the two medical schools, this pro-

cess has been inordinately more difficult as we have to consider resources needed for point-of-care and research needs during this crisis. This session will discuss how collection development, electronic resource management, and assessment workflows interact and have evolved as a result of dynamic budgets.

Rowan University

Rowan University, a public university in southern New Jersey, serves 19,600 students and offers over 130 undergraduate, graduate, and doctoral degree programs across three campuses located in both urban and suburban communities. Rowan University Libraries (RUL) consists of three libraries: the Campbell Library, the University's main academic library in Glassboro, NJ; the Cooper Medical School of Rowan University (CMSRU) Library, an academic medical library within Cooper University Hospital in Camden, NJ; and the Rowan School of Osteopathic Medicine (SOM) Health Sciences Library, a second academic medical library in Stratford, NJ.

Enter Pandemic

In early March 2020, Rowan University, like many other universities across the United States, was alerted by the state of New Jersey that it would have to cease in-person instruction (NJ Exec. Order No. 104, 2020). This sudden closure meant that everyone, faculty, staff, and students alike were now operating from the safety of their homes in the hopes of preventing further spread of the COVID-19 virus (Official Site of the State of New Jersey, 2020). Suddenly, what was very commonplace was no longer, and the day-to-day operations of the library were much more complicated.

As the spring semester wore on, and it became clear that university

personnel and students would not be returning to campus, the university made the decision to return deposits for housing, meal plans, and parking to students (Freyre, 2020). While this refund was necessary for the students, it was a hardship for the university and had a ripple effect for many departments throughout the institution including Rowan University Libraries.

In normal years, Rowan University Libraries is fortunate enough to be able to pool the remaining monies from the three libraries so that one-time purchases can be made to support the collections. However, for the remainder of the spring semester, the Rowan University Libraries had to carefully monitor the library budget and a portion of the library funding was reclaimed by the university to support other areas of the institution. Additionally, we were notified that Governor Murphy delayed state taxes from April 2020 to July 2020 as part of his COVID-19 relief efforts (Official Site of the State of New Jersey, n.d.). With this delay in state taxes there would also be a delay in the delivery of the state budget and, as a result, the portion of the state budget to Rowan University and other higher-education institutions in the state (New America, n.d.). This delay in the budget from the state meant that Rowan University would not be able to finalize its budget until late September 2020. The Board of Trustees had also announced that it would reduce tuition and fees by 10% for the fiscal year 2021 because of the pandemic (Rowan University, 2020). The combination of these two developments led to individual departments on campus experiencing up to a 20% cut in their departmental budget including Rowan University Libraries.

Budget Cuts

With such a large budget cut to have to consider, the libraries had to prioritize resources that would be saved and those that would have to be eliminated. The Collection Strategy Librarian, who is also the chair of the Collections Committee, had been preparing the members of this committee for over a year for the possibility of resource removal to appear in the library's budget. Members of this committee include the

two medical library directors, the Director of User Services & Collections, several subject liaisons, and staff members of the Rowan University Libraries. Discussions about possible preparations for a budget cut included how to review journal packages, how to review the databases for renewal decisions, what areas within the monograph budget could be trimmed for discretionary spending if it was a smaller budget percentage cut than a larger one, etc. However, once the university announced what the official provisional and prospective budget would be for the 2021 fiscal year, it was clear what the path forward would be for the libraries.

The priority was to ensure that during the provisional period from July through September 2020 that only materials that supported current classes were purchased. This meant that all requests for research and other semesters were placed on hold for the time being. Next, the library changed the purchasing model for Kanopy from the patron-driven acquisition (PDA) model that it had been to a mediated model. While this was much more labor-intensive it was necessary to control the spending of these funds. Additionally, titles requested through Kanopy were only approved if they were requested by the faculty members and denied if they were requested by students. Whenever possible, if titles were available through other streaming platforms to which the library had access, patrons were pointed to those platforms instead. Finally, a planned review of newly purchased electronic resources evolved into a review of all electronic resources. Because of the need to meet a 20% cut in the budget, all selectors were asked to review every database and electronic title to help determine if these titles were meeting expectations.

However, the library did not make these shifts in purchasing or decisions to remove resources in a bubble. Starting in the spring semester the library began a campaign to work with liaison departments, college deans, and the faculty senate to ensure that faculty were aware of the situation and informed. The Associate Provost of Libraries diligently worked to share information out to the campus as well as seek information back from the campus about the process in an attempt to be as transparent as possible and mitigate fears that might surround the com-

ing reduction in resources as the library worked to meet a necessary university measure of the imposed 20% budget cut.

Contracts

Throughout this process, it was necessary for the library to also reach out to over 120+ vendors and determine if it was possible to renegotiate the many contracts on file in light of the new budget situation. The first contracts that renewed at the beginning of the fiscal year were still under the mistaken belief that the state budget would come through with little change, but as the months dragged on it became clear that the library would not be able to absorb the regular increases from previous years. Quickly it became the Collection Strategy Librarian's role to seek out a flat to a minimal uptick on each renewal whenever possible because of the 20% budget cut.

New Jersey is also a state that typically does not allow multi-year contracts for its state institutions. There are a few exceptions made when the dollar amount greatly benefits the institution, however, the message this year was that multi-year contracts would not be allowed because the foreseeable future was too hard to predict. With such a mandate from university administration on the table, it limits the negotiating with vendors even further. As the liaisons began to finish their review of the electronic resources the negotiations also began to include discussions of what resources would be canceled.

Vendors, of course, wanted to know how these cancellation decisions had been reached. Liaisons made the decision through discussions with their colleagues, usage by the departments on campus but especially if it was part of the curriculum or required for accreditation, and whether or not there were similar resources that were better, easier to use, or used more heavily than the product under consideration. Each liaison then indicated their decision (i.e., vote) for a resource and this was shared with their colleagues who could then agree or disagree with the votes for a resource. In only a few instances were there disagreements about decisions for a resource. Resources slated for cancellation

were then compiled in a smaller list for easier consultation that included contract expiration dates.

Discussions also included whether or not packages should be dissolved for various vendors, both large and small. In some instances, they were and the decision was made to go to an a la carte model. In other instances, there was not enough data to be able to break apart a large package yet (e.g., Elsevier) and the decision was made to renew as is and work with the various faculty, particularly the medical faculty, to determine exactly how that package is being used before deciding to abolish. The main focus for every subject liaison was to ensure that accreditation was maintained for each area and that Rowan University Libraries could continue to provide access for current classes and classes that we know to be regularly occurring. The library was not afraid, however, to drop any resource that was underperforming or was too expensive for the investment.

Workflows

While the budget was not the only pandemic-related factor impacting e-resources workflows, it was pervasive. The initial physical closure of campus and the move to remote education and work caused an increase in technical support problems reported to Rowan University Library by faculty, students, and employees who were trying to access electronic resources from off-campus.

One main factor for this increase in technical support issues is that Rowan University's electronic resources access model is IP recognition from campus and EZProxy authentication from the library website from off-campus. Electronic resources that university users had easily accessed while they had been on campus due to IP address recognition, were no longer accessible in the same ways from off-campus. As a result, the electronic resources team spent a great deal of time on technical support helping users access these resources. The electronic resources team was obligated to focus on providing technical support for current subscriptions and purchases due to the complete campus move to online

education (Official Site of the State of New Jersey, 2020) rather than providing any enhancements.

Due to the university budget cuts, the electronic resources staff could no longer assume with any confidence why a resource was not available. There were now a multitude of reasons as to why a resource may be experiencing difficulty. First, it could be simply the on-campus versus off-campus issue explained earlier. Second, it could be that now that all of the university staff have moved off-campus and critical services were now experiencing delays. As such, there were delays in payment caused by these departments working remotely. Thus, this sometimes required some investigation to determine if this is what occurred. Third, there was also the possibility that subscriptions had lapsed before the liaisons had made their decisions about renewing a resource. Finally, it could be the standard problems at the vendor site. Consequently, ascertaining reasons for lack of access had become infinitely more complicated.

The increased demand on the time of the electronic resources team for troubleshooting access issues forced them to prioritize continuity of service and ensuring access to already subscribed electronic resources rather than adding "free" COVID-19-related resources. While the "free" COVID-19-related resources were plentiful many of them were only available for a limited time and their addition to the library's catalog would have strained the three-person electronic resources staff which was already overburdened with the increased technical support workload. Subject librarians were encouraged to curate these temporary resources from their subject guides until the free access period expired instead.

Furloughs and Documentation

As a cost-cutting measure for the university at the beginning of the 2021 fiscal year, all non-administrative employees were furloughed for one week over a two-week period. These furloughs were disruptive as a result because individuals were not on furlough at the same time within the same department. The staggered absence of individuals throughout

led to delayed projects that lasted for longer than the two-week period identified for the furloughs. For projects that involved more people, the timeframe to re-establish the project was even further delayed.

However, budget cuts also accelerated the process for formalizing and documenting workflows for projects such as the database review and cancellation workflows. While the electronic resources team had a well-established process of identifying and documenting journals to cancel during a subscription year, the team had not developed a similar process for databases. Rowan University Library had so rarely canceled databases in the past, that there had never been a need to document the process before. The university budget cuts compelled the library to review its resources which, in turn, led to the documentation of workflows. While the institution's budget cuts added to and slowed down the electronic resources team's work, these cuts also forced the library to establish new workflows and procedures that made the library better prepared for the future.

Lessons Learned

The budget cuts implemented by the university for the fiscal year 2021 helped Rowan University Libraries view many of their processes and resources in a new light. Several lessons were learned as a result of the increased scrutiny that was necessary because of the tighter budget. While reviewing databases for renewal or cancellation for the first time, subject liaisons were genuinely confused about usage statistics that were reported. They also questioned why these statistics diverged wildly across some databases and content providers. Additionally, some selectors questioned the methodology used to derive usage statistics. As part of conducting future reviews, the electronic resources team intends to instruct colleagues about the specific standard counter usage reports that are used to collect usage statistics as well as the impact of discovery systems on the usage statistics that are collected.

Unforeseen changes made to the university's network policies triggered many other changes in our library's workflows. Our university

recently implemented a zero-trust network or a "never trust, always verify" network policy that requires all users to access electronic resources through EZProxy authentication from a single IP address. This forced the electronic resources team to change library IP ranges at the various vendor administration sites. This also required the Collection Strategy Librarian to contact vendors and modify IP addresses in contracts. Consequently, when vendors shut down access for excessive use reasons, access will be turned off for all users trying to use a particular resource.

With the move to remote teaching and learning, Rowan University Library has had to reprioritize our electronic resources-related goals. It has become apparent that it is imperative to better accommodate users in the nearer rather than more distant future. For instance, in order to prevent vendors from suspending access to electronic resources for excessive downloading when faculty are actually conducting valid text and data mining (TDM) research, we must consider TDM research needs in collection development, budgeting, and faculty outreach. These are areas in which to develop a TDM program even though the library cannot afford to expand purchases in this area right now. Additionally, the access problems that occurred after users were required to authenticate via EZProxy from off-campus via the library website rather than IP recognition prior to the move to remote provided the impetus to accelerate the library's already intended move from IP recognition and EZProxy authentication to federated authentication of electronic resources. The library believes that such a switch will make the user experience much smoother and less confusing.

From the perspective of acquisitions, the budget cuts have been long anticipated and prepared for but this was the first year that any of the preparatory discussions had been put into effect. While much discussion had taken place in the Collection Committee with its many members from across the three campuses it was still quite difficult to come to a consensus. The medical libraries were quite used to operating semi-independently and had the opinion until quite late into the fiscal year that they did not have to worry quite so much about the renewal upticks as the contracts would be covered. It was a much different approach

than from the main campus where the assumption was that the money was not going to be there and every dime needed to be saved. It took several weeks but eventually a consensus was reached on how to approach each contract renewal. The library leadership team had long discussions on how to approach contract renewals and the Collection Strategy Librarian was advised on how to move forward.

The Collection Strategy Librarian has also spent her time at Rowan University in developing strong vendor relations. These relationships have been absolutely critical this year as each and every contract has needed to be renegotiated and, in most cases, brought down from the amount in the original quote. Through open and transparent conversations with vendors, these negotiations have been fruitful and beneficial for both sides and have enabled Rowan University Library to maintain some resources that would have been canceled otherwise.

The best lesson of all of the actions from these past six months of the fiscal year 2021 has been that each and every move Rowan University Library makes now sets the library up for a better position in the fiscal year 2022. There is still so much that is unknown about both the state of the COVID-19 virus in the spring of 2021 and the state of the university in 2021. By continuing to be good stewards of both the library's collections and the university's monies, the library can ensure that the university will be willing to continue to fund the library well in the next budget as we have demonstrated that we are good stewards of those monies. The library's efforts to be transparent with our actions also help to demonstrate that we are acting in good faith and will continue to do so on behalf of the faculty, staff, and students of Rowan University.

References

Freyre, L. T. (2020, April 8). *Refunds and credits for housing, meal plans and parking due to the COVID-19 pandemic*. Office of the bursar. Retrieved from https://sites.rowan.edu/bursar/refunds/covid-refunds-credits.html

New America. (n.d.). *The impact of COVID-19 on state higher education budgets*. Northeast. Retrieved from https://www.newamerica.org/education-policy/reports/state-budget-cuts/northeast/

NJ. Exec. Order No. 205, (March 16, 2020) https://nj.gov/infobank/eo/056murphy/pdf/EO-104.pdf

Official Site of the State of New Jersey. (n.d.). *COVID-19 related tax information*. NJ Treasury. Retrieved from https://www.state.nj.us/treasury/taxation/covid19.shtml

Official Site of the State of New Jersey. (2020, March 16). *Governor Murphy announces aggressive social distancing measures to mitigate further spread of COVID-19 in New Jersey*. News and Events. Retrieved from https://www.nj.gov/governor/news/news/562020/20200316c.shtml

Rowan University. (2020, July 25). Rowan University cuts undergraduate tuition and fees 10 percent. *Rowan Today*. Retrieved from https://today.rowan.edu/news/2020/07/rowan-university-cuts-undergraduate-tuition-and-fees-10-percent.html#:~:text=Seeing%20the%20impact%20the%20pandemic,coming%20year%20for%20undergraduate%20students.

Business Models for Post-Crisis Information Ecosystems

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Abstract

Since early 2020, the global COVID-19 pandemic has interrupted activity across business, education, research, and communities. Public health safety precautions have forced drastic reductions in economic and educational activity, resulting in widespread economic uncertainty and sizeable budget cuts. With library budgets already declining since the 2001–2002 recession following the dotcom crash and more steeply since the 2007–2009 Great Recession spawned by the financial crash, the pandemic has accelerated trends that were already underway. Libraries' reduced purchasing power places the information ecosystem at risk of contraction in the race to contain costs. While economic contexts and publishing forms have changed considerably. Purchasing and pricing models have in large part not kept pace with these rapid changes. Yet evolving technologies offer the potential for new approaches for publishing, distribution, and purchase frameworks. This chapter outlines current research on declining budgets' constraints on business models and summarizes the interactive exchanges from the 2020 Charleston Conference Lively Session (https://2020charlestonconference.pathable.co/meetings/virtual/iynj57JqTdEgGSeis).

Keywords

business models, publishing models, pricing models, library budgets, cost accounting, library collections

The session kicked off with a summary of findings from ongoing research on business models. Pressure points include the evolution and broadening from publications to services to the broader research universe, rising costs in a context of economic constraints and declining budgets, pandemic safety measures and massive support for large-scale pivot to online instruction, complications with evolving Open Access models, and vendor mergers and acquisitions and investor pressures which impact the services they can provide. Updated pricing and purchasing models would benefit from moving away from print-based calculations toward the cost elements found in modern content production and dissemination. Session participants echoed these findings in the conference poll and the Lively Discussion, calling for new approaches to pricing and online platforms.

Business Models and Constraining Factors

Journal Publishing Business Models have experienced mission creep as vendors have evolved from a product model to a service model. Vendors have expanded from traditional roles of servicing subscriptions and providing published resources for libraries. Newly created services continue to inject new cost elements, as vendors branch out into function-specific platforms and research metrics. As a study on business models found, "[a]nother characteristic of the journal business is that many companies have moved toward a service model as opposed to a product model" (Phillips, 2013).

Rising Costs vis-à-vis Declining Budgets

Libraries' flat or declining budgets, in the face of a continued rise in the cost of library materials, leave libraries unable to bridge the gap and thus unable to sustain existing collections. This leaves researchers, educators, and learners with reduced access to resources in an era of increasing research output. The authors of a study on budget erosion note that "[t]he 5 to 6 percent average price increase observed in 2020 is expected to remain constant for 2021, and this will lead to further contraction of resources for library users" (Bosch, Albee, & Romaine, 2020).

Pressure Points: Pandemic

The global COVID-19 pandemic that began in early 2020 has exacerbated numerous existing trends. Physical-distancing mandates triggered facility closings, move remote delivery of services, and large-scale shifts to online instruction. Health safety measures have also included limited hours and staggered work schedules in many libraries and industries whose business models depend on customers visiting their premises.

The pandemic's adverse impact on business and incomes has resulted in budget reductions for public and educational institutions. Concurrently, the massive surge in demand for online education has increased the need for more e-resources. Yet libraries have encountered an unresponsive marketplace lacking the flexibility to fully support these rapidly evolving needs.

Open Access

With the continued growth and importance of open access (OA), libraries face declining budgets spread across larger numbers of competing cost categories. Predatory practices among some OA publishers require greater vigilance among libraries and researchers seeking to acquire knowledge and among scholars seeking to disseminate knowledge (Dempsey, 2020; McCabe et al., 2013; Peet, 2020).

Mergers and Acquisitions

Mergers and acquisitions among library vendors bring consolidation, and at times dilution or discontinuation, of vital services. Mergers can impact the services a vendor is able to provide, organizational memory of distinctive and nuanced services and products, and diluted service and reduced quality experienced by customers. In unfortunate cases, mergers can also bring mismanagement and lead to financial instability.

In the case of vendor ownership by publicly traded or holdings companies, investor pressure to produce returns for shareholders and short-term thinking can exert a negative impact on quality and service (Breeding, 2020; Enis, 2020; Hulser, 2014; Shumaker, 2020).

Getting at the True Cost: In Search of Sustainable Pricing and Business Models

Cost Structures and Sustainability

What feeds into resource pricing? Unsustainably rising rates point to the need to identify cost drivers. The Periodicals Price Survey 2020 states that "New approaches have emerged but none offer a solution to serial costs continuing to rise higher than library budgets" (Bosch et al., 2020).

Production, Pricing, Cost Recovery

Getting at the cost drivers can be achieved through activity-based costing (ABC), a costing method from the field of managerial accounting. It aims to pinpoint the true cost of products, services, and outputs, and to achieve better allocation of indirect costs.

Activity-based costing systems' main objectives are to provide accurate costing by removing cost distortions and to help identify low-value-adding activities (Berg & Madsen, 2020; Kim, 2017).

Table 1. Types of Activities and Examples of Cost Drivers for Each Activity (Fabozzi et al. (2007).

Type of activity	Cost driver for activity
Purchase of materials	Quantity of materials purchased
Machine setups	Number of machine setups
Computer usage	Computer time
Running of machines	Machine hours
Inspections	Hours of inspection time
Testing	Hours of testing time
Prepare billings	Customers served

Table 1 demonstrates types of activities and examples of cost drivers for each activity:

Getting at the True Cost: In Search of Sustainable Pricing and Business Models

Activity-based costing elements for the information ecosystem reflect evolving production methods supported by technologies.

Production Elements:

- Digital production is growing, reflecting the waning of physical production.
  - Technology for production includes digital publishing tools, software, and machines (e.g., servers, platforms, security, cloud).
  - Technical staff with expertise include, for example, engineers, computer and data scientists, and technical support.
- Physical workspaces include buildings, offices, and production spaces.
- Production equipment and supports include computers, printers, software, utilities, telecommunication costs, as well as

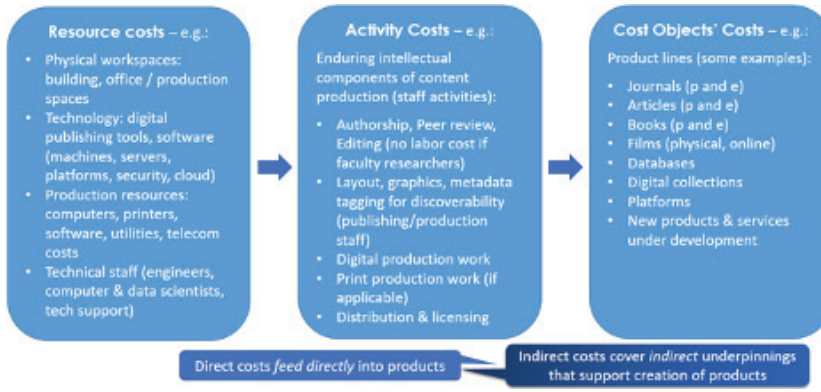


Figure 1. Cost drivers in publishing, in activity-based costing (adapted from Kim, 2017).

production-related furniture and equipment.

- Lasting intellectual components of content production include:
  - Authorship, peer review, and editing (expert staff and academic researchers)
  - Layout, graphics, metadata tagging for discoverability (publishing and production staff)

Changing production has spawned the need for new product price calculations based on current cost factors (Phillips, 2013).

Cost Drivers in Publishing, in Activity-Based Costing Framework:

Cost drivers include resource costs, activity costs, and the costs of the cost objects. Figure 1 provides an example of the components for publishing output:

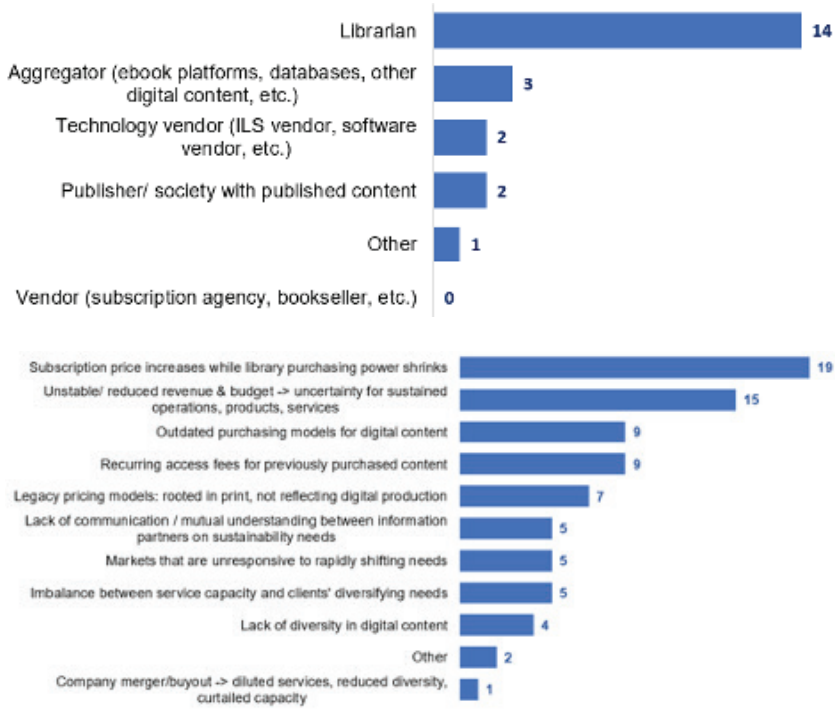
Interactives: Conference Poll

The self-paced session poll provided by the Pathable virtual conference platform enabled the speaker's poll creation before the conference. This

allowed session participants to complete the poll at their own pace—both before and after the conference session. Audience members responded to a total of five questions via the session's built-in poll, with anonymous responses displaying within the session's Polls portal in real time: The session's five poll questions asked the following: **(1)** Are you a librarian, publisher, vendor, technology provider, etc.? This multiple-choice question established basic attendee demographics. **(2)** If you answered "Other" in Q.1, please describe. This free-text question gives respondents to describe their industry position in more detail by accommodating open-ended responses. **(3)** What are your biggest pain points? This multiple-choice question offered responses related to budgets, purchasing power, service capacity, recent company buyout and subsequent pressures, investor and parent company pressures, and marketplace responsiveness to evolving needs. **(4)** If you answered "Other in Q.3," please describe your specific pain point(s). This free-text question gives respondents the space to elaborate on their pain points in more depth and detail beyond the preceding multiple-choice question. **(5)** What changes would you like to see in business models? This free-text question facilitates descriptive, open-ended responses.

The speaker's portal captured poll respondents' multiple-choice poll answers with charts and number of answers for each response option. The open-ended free-text responses were captured with text strings. Pathable's poll software has a feature marking free-text responses with up-votes from others, adding an informal measure for intensity of agreement with these responses. The software does not provide the raw survey data; therefore no mechanism exists to group and analyze response trends by industry demographics.

For production of the conference slides, images of the multiple-choice response charts and values were copied into the slides. For this proceedings paper, the multiple-choice responses were transcribed to Excel for further analysis. For the conference slides, the free-text responses were copied into color-contrasting speech bubbles. For this proceedings paper, the free-text responses were reported as text strings for clarity. In this chapter's text body, each response that received up-



votes was marked with the symbol and a number showing how many times the response was up-voted.

The online conference poll asked the following questions:

Q.1. Are you a librarian, publisher, vendor, technology provider, etc.?

Q.2. If you answered "Other" in Q.1, please describe.

- No response.

Q.3. What are your biggest pain points?

Q.4. If you answered "Other in Q.3," please describe your specific pain point(s).

- e-books and ILL—finding a path toward statewide collection development planning
- Slow vendor response to usability of online resources for users with impairments
- Lack of perpetual access

Q.5. What changes would you like to see in business models?

- Transparent pricing models that offer all libraries the same options, even if pricing is tiered.
- For example, some vendors offer an access-only model to small libraries but not to larger libraries or a subscription model to public libraries but a PDA model to academic libraries.
- Offer the same options to all libraries, with pricing, and let us choose. 9 (this entry received nine upvotes from others who agreed)
- A greater transparency in e-book pricing that reflects efficiencies and economies of scale. 7
- Perpetual purchases that factor in the cost of access in the original price and do not charge annual access fees. Especially for e-books! 7
- Allow institutions to purchase any e-books, not just those e-books that the publisher has designated as appropriate for institutional purchase. 2
- Greater author rights and openness both because taxpayers and other funders pay for this but also because of disadvantaged countries and economic regions. In addition, pricing model transparency, libraries working together where they traditionally have not, and we're still waiting for nontextual publishing to be supported by all the e-book platforms. 1

Interactives: Lively Discussion

Pain Points: Inflexible Purchase Models, Unsustainable Pricing:

Session participants identified bundles and packages as major pain points: Specific singular desired titles are often buried in a large package that must be purchased in order to access the title. The prohibitive costs and inflexible package requirement were widely cited as a deterrent from purchase.

Recurring platform fees for previously purchased perpetually owned content were widely cited as undermining current library budgets and deterrent from purchase.

Session participants expressed concerns with FERPA and privacy implications with authentication requiring named individual users, as opposed to general IP proxy.

Addressing Cost Structures—Some ideas: Content, Aggregation, Pricing:

Session participants agreed that publishers should stop pulling content from databases as the sudden loss disrupts the flow of research. Instead, publishers should work with aggregators toward new cost structures reflecting researchers' need for reliable access to content.

Pricing models need to evolve from reliance on dwindling subscriptions to current content and should reorient toward work with aggregators for hosting digital content. Instead of relying on legacy income from dwindling numbers of subscribers, publishers' income would come from micropayments for digital content earned indirectly from larger numbers of database subscribers by way of database aggregators.

Session participants also expressed the need for transparent pricing and purchasing models, as well as consistent structures for product lines.

License Terms and Resource Definitions:

Session participants also noted some publishers' practice of defining some e-books as textbooks and unavailable for library purchase. Often the narrow textbook definition is a misnomer, as many such e-books are in fact not classroom-oriented textbook but practitioner-oriented overview which students in graduate, professional, and clinical programs are learning how to use as part of their training as future practitioners.

Conclusions and Implications for Future Research

Pricing models for library resources have not evolved with the proliferation of digital content, although print production is receding from predominance. Declining library budgets cannot sustain the continuously rising costs. While Open Access promises barrier-free worldwide access to digital content, the financial frameworks and publishing practices are still evolving. Business models, pricing models, and publishing models need systematic analysis of cost drivers in current, rather than legacy, content production methods to bring the information profession nearer to an economically sustainable ecosystem.

References

Berg, T., & Madsen, D. Ø. (2020). The historical evolution and popularity of activity-based thinking in management accounting. *Journal of Accounting & Organizational Change*, *16*(3), 401–425.

Bosch, S., Albee, B., & Henderson, K. (2018). Death by 1,000 cuts. *Library Journal*, *143*(7), 28–33.

Bosch, S., Albee, B., & Romaine, S. (2020). Follow the money. *Library Journal, 145*(4), 36–41.

Breeding, M. (2020). Consolidation of the library technology industry. *Library Technology Reports, 56*(8), 1–39.

Dempsey, L. (2020). *Collection directions accelerated? Pandemic effects*. Lorcan Dempsey's Weblog, OCLC. Web. Retrieved from https://blog.oclc.org/lorcand/collection-directions-accelerated/

Enis, M. (2020). Ex Libris Acquires Innovative Interfaces. *Library Journal*, *145*(1), 13–14.

Fabozzi, F. J., Polimeni, R. S., & Drake, P. P. (2007). *The complete CFO handbook: From accounting to accountability*. Hoboken: John Wiley & Sons.

Hoffman, S., & Godbey, S. (2020). US academic libraries' staffing and expenditure trends (1996–2016). *Library Management*, *41*(4/5), 247–268.

Hulser, R. R. (2014). Private equity's effect on information professionals and their institutions. *Online Searcher, 38*(6), 26–50.

Kim, Y-W. (2017). *Activity based costing for construction companies*. Hoboken: John Wiley & Sons.

McCabe, M. J., Snyder, C. M., & Fagin, A. (2013). Open access versus traditional journal pricing: Using a simple 'platform market' model to understand which will win (and which should). *Journal of Academic Librarianship*, *39*(1), 11–19.

Peet, L. (2020). Budgeting for the new normal. *Library Journal*, *145*(9), 14–18.

Phillips, A. (2013). Business models in journals publishing. *LOGOS: The Journal of the World Book Community*, *24*(4), 24–35.

Shumaker, D. (2020). EBSCO enters into new partnerships. *Information Today, 37*(4), 20–21.

Archives without Borders

Unifying Commercial and Local Digital Archival Content

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Abstract

Libraries spend significant amounts of money to acquire and digitize local archival collections while also purchasing commercial digital archives from third-party providers. The acquisition of commercial content is often approached separately, and there is a disconnect in the way that libraries present, make discoverable, and intellectually integrate commercial and local digital archival content for their communities. Three faculty librarians from Montana State University (MSU) Library examined the ways in which archival and collection development staff can work together to cre-

ate a more robust digital archival collection by unifying commercial and local content. The MSU Library Archives and Special Collections currently includes over 34,000 volumes and 1,200 linear feet of manuscript materials. The MSU Library also has access to commercial digital archives from multiple providers. This session discussed how they are uniting their archival content by discussing strategies for collaborative collection development, commercial purchasing models, and integration of this content into database lists, discovery layers, the library's website, the curriculum, and through inreach. With the recent essential pivot to remote learning and access, commercial collections of digital primary documents can also be used with local digital collections to help meet the needs of users. The speakers also shared their experiences of working with faculty from their campus and with third-party providers, on this type of collaboration. This session addressed the needs of researchers and learners who are disadvantaged by limited access to archival collections because of current events. It also combined the knowledge of professionals working in often disconnected parts of the institution to unify the archival record so that access to and understanding of commercial and local collections of primary documents are integrated, thereby strengthening and diversifying resources available to users.

Keywords

digital archival collections, collection development, collaboration, inreach, commercial databases, archives, discovery, instruction, outreach

Introduction

Without collaboration, unifying local and commercial archival collections for students and researchers isn't possible and working across the internal borders of an organization is crucial. Three professional librar-

ians working in disconnected parts of their institution, Archives and Special Collections and Collection Development, are working toward unifying the archival record in order to improve access to and understanding of commercial and local collections of primary documents across their institution, Montana State University (MSU). MSU is a medium-sized, public, land-grant university with an FTE of 14,656 (Fall 2020) and a large undergraduate population. The MSU Library that serves this community, employs 56 staff, faculty, and professionals, and belongs to a Montana academic library consortium, Treasure State Academic Information & Library Services (TRAILS). Through TRAILS, the MSU Library works closely with other academic libraries, community colleges, and tribal colleges across the state to share resources and knowledge, including some commercial primary resource collections. The MSU Library also contributes archival records to Archives West, a regional finding aid aggregator that includes the states of Washington, Oregon, Idaho, Montana, and Utah. While the MSU Library has robust digital archival collections available, our users aren't always able to easily discover this content. This chapter will discuss some of these challenges and suggest ways to improve discovery of these materials.

Archival Collections at the MSU Library

The MSU Library Archives and Special Collections (ASC), often described as a laboratory of primary documents, contains more than 34,000 volumes and 1,200 linear feet of physical manuscript materials. ASC collects materials in all formats, including original papers and documents, publications, maps, photographs, and videotapes. ASC faculty and staff work to curate rare and unique collections that represent the cultural and scientific heritage of Montana and the region including: Farm, Ranch Management, and Agriculture; Architecture and Engineering; Histories of Montana and the American West; Native Americans; Montana State University History; the People of Montana; Trout, Salmonids, and Angling History; Politics and Government; Yellowstone National Park and the Greater Yellowstone Ecosystem; Women's and

Gender Histories; and Regional Writers and Narratives. In addition, we purchase commercial archival collections to support these subject areas and the broader curriculum. Many of these collections, both local and commercial, are increasingly integrated into the curriculum at MSU through teaching and into the larger community through outreach and inreach.

Local Digital Archival Collections

All archival collections represent a tremendous investment in time and ongoing effort to process, manage, and secure. Like most archives and special collections, as the MSU Library continues to collect and care for physical archival collections, we are steadily increasing our digital collections and now combine extensive locally digitized and born digital collections with our physical collections, all of which must be made accessible and interesting to students, researchers, and the community.

At this point, the MSU Library's locally digitized collections number just under 1 million digital objects. The largest digitized collection is the MSU *Exponent*, the student-run newspaper, going back to 1894 with over 73,000 items. Other large collections entirely or partially digitized include Ivan Doig's literary archives, Yellowstone National Park collections, fly fishing history, white writing on Native Americans, agricultural history, Montana history, and Extension Service records.

Researchers and students using any archives today need to understand that, while their value and content may be similar, physical, and digital collections are often created and handled differently. Many researchers and donors would like to see everything accessible in digital format, from the oldest to the most recent acquisitions, not understanding that there are limitations to digitization. Decisions to digitize partial or entire collections are based on staffing, funding, collection priorities (including preservation), perceived potential for use, donor restrictions or wishes, and user requests. Such decisions are not easy to make and one hurdle to knowing whether the right collections have been digitized and successfully marketed, then, is the difficulty of knowing how they are being used. While archives have long tracked the use of physical col-

lections to determine use and maintain security, the same usage tracking is not always easy for locally digitized collections. However, this is something at which the vendors of commercial primary source databases excel.

Commercial Digital Archival Collections

In addition to digitizing selected local archives, the MSU Library has been able to purchase several commercial digital archives between 2011 and 2020. Those holdings include HathiTrust, 11 digital archives from Adam Matthew Digital, over 40 Gale Primary Source and Archives Unbound collections, and one ProQuest digital archive, Early English Books Online. As part of TRAILS, the MSU Library was also able to be a part of the purchase of Gale's Nineteenth Century Collections Online. All the purchases were a one-time purchase, meaning that we do not pay any additional yearly fees and our users will have perpetual access to all these collections.

At MSU, interest in purchasing a commercial digital archive is almost always from a non-library faculty member. However, the librarian who liaises to the departments on campus with interest in commercial archives is actively involved in the outreach and coordination of potential purchases. We may consider a purchase because of a vendor suggestion, should the archive align with appropriate collection development areas. Regardless of how we are informed of interest in an archive purchase, we will always ask the vendor to initiate a trial of the resource. Our preference is to have a semester-long trial as opposed to the typical 30-day trial. When faculty and students have, at minimum, a semester to trial and explore an archive, we will usually purchase it. Unless, of course, the feedback about the archive is poor, which, to date, has never been the case. A trial less than a semester long or framed within a specific and shorter period does not tend to align well with an instructor's planned use of it.

We prefer to negotiate a one-time, outright purchase of an archive, versus subscription model access, the latter sometimes being, but not always, an option. We also try to negotiate out of paying any continuing

service fees or hosting fees in later years. That may mean asking the vendor to waive the fees or paying additional fees upfront to avoid paying a yearly fee. It is possible that a significantly high continuing service fee will dissuade us from an archive purchase altogether. If the price of an archive is such that it will require the Library to make payments over multiple fiscal years, and if the vendor allows, we will consider doing this.

We also look at the usage of our commercial archives, although not in the same way as we would for subscription resources. We look at the usage to identify whether a certain vendor's platform or interface is well liked and used and whether there are certain subject matters that get high or low use. This data can inform any future decision-making and whether we purchase future archives from a vendor or on a specific topic.

The Collection Development unit of the Library is not typically involved in the outreach or marketing of a digital archive purchase, but we consider communication and timely responsiveness to a digital archive purchase request to be a component of outreach. Therefore, we make every attempt to ensure that a request is responded to quickly; that a trial is set up in a reasonable and timely manner; and that a decision to purchase or not purchase is made and communicated back to the requestor within a reasonable timeframe. Once a trial or a purchase is actively in place, Collection Development staff can further assist with outreach by providing the requestor with promotional literature and/or connecting them with a vendor representative for future online and in-person training.

The MSU Library is eager and enthusiastic to purchase commercial digital archives from reputable and responsive vendors. We know that the labor vendors put into gathering the physical materials from archives and libraries from around the world is a mountain of work. We appreciate the enhancements made to the physical materials as they are digitized, indexed, analyzed, translated into other languages, restored, and ultimately made easy to discover by our users. As librarians who use a multitude of databases regularly, we are aware of and appreciate the technology used by vendors to enhance the research experience of our

digital archive users. We value the search techniques, the easy-to-use interfaces, the types of content one is able to search (i.e. text and visual content), the organization of search results, the ability to search across multiple archival databases and subjects, and more. The extensive work that goes into creating commercial digital archives also ensures the preservation of many unique cultural materials that might otherwise be lost and thus unavailable for researchers to study. While the cost of a commercial digital archive is typically in the thousands and purchasing one may be an occasional event, we recognize that a commercial digital archive can be a wonderful complement to our local digital archives, existing subject areas, and the curriculum.

Discovering and Using Archival Collections

With a plethora of local and commercial archival materials, it is an ongoing challenge to ensure that users can discover this content. At the MSU Library, there are several paths that users can choose to follow. Like most institutions, we have a dedicated Archives and Special Collections website whose main purpose is to connect users to all our local collections. We also publish our finding aids to Archives West, an aggregator of descriptions of primary sources in the western United States that is maintained by the Orbis Cascade Alliance. Additionally, we use Springshare's A-Z Database List to easily direct our users to many online resources, including local and commercial digital content.

The MSU Library uses Primo by Ex Libris as our discovery layer. In Primo, users can locate finding aid records, records for physical materials that have been cataloged, and links from the Springshare A-Z Database List to both local and commercial digital collections. Title and article-level records for commercially purchased collections are also discoverable in Primo depending on if resource providers have made their metadata available in the Ex Libris Central Discovery Index.

While we have multiple pathways available for users to find and discover digital collections, because of the disconnectedness of these paths, users might not be finding all relevant archival material. Therefore, it is

important for libraries to consider ways that they can streamline and unify the discovery process. One of the ways that this can be achieved is by working directly with faculty, staff, and students through outreach, inreach, and instruction.

Integration Options and Challenges

We know that at the best of times access to library resources of all kinds can pose challenges to users who don't understand our classification systems or the distinctions we make between formats or locations. Novice researchers may also not even understand what primary sources are and how they differ from secondary or tertiary sources. They likely do not know that primary sources can originate in local archival collections as well as commercial databases.

In fact, as with many information needs, the researcher may not care about this distinction. They are often not aware of the provenance of a primary source, who made it accessible, why it's included in a collection, how it was made available, and at what cost. If the information is useful and readable, the original context is clear, and access is easy, as the digital often is, the researcher can remain blissfully ignorant. Whether the collection originated locally in a physical format on the second floor of a library, or lives in a library collection cities away and has been digitized by a commercial vendor, and purchased by the MSU Library, it can be a matter of little concern to a researcher who simply wants the information.

Even finding aids, the extensive inventories, and guides that archivists create for each collection during processing and then make available to researchers, don't make connections between related local and commercial primary sources. Of necessity, a finding aid is focused on laying out the internal arrangement and content details of a single collection, which may be massive, and providing context through assigned subject and topic terms. Researchers may use these subjects and terms to find related material in local collections, or in other institutional collections that have embedded their finding aids in an archive aggregator

like Archives West or ArchiveGrid. These aggregators may also include finding aids for materials that have been harvested by vendors for inclusion in commercially digitized archival databases, but that connection is not made clear.

If commercial and local digitized archives were seamlessly integrated and accessible, this lack of connecting knowledge might not present a problem. But because local archival collections are often siloed and separate from other library collections, whether physical or digital, the researcher may miss vital connections between locally provided primary sources and the content provided by commercial databases, and this poses a problem. Since historical research, for instance, is rarely concerned with isolated local details but generally seeks to place primary documents into larger contexts, this disconnect between the local and the commercial may result in narrow or shallow conclusions that miss larger meaning.

Libraries and archives know this but are hampered by long traditions of separating different physical collections to protect and manage them. What has worked for centuries with traditional formats does not translate well to digital collections or the habits of researchers in the digital world, however. To compensate for this, to achieve optimal online resource discovery that moves across traditional siloes, our instructional programs and reference services must work hard to build bridges between local archives and commercial databases, translating our practices and guiding non-librarians through our content landscape.

Instruction in archives, however, focuses by design on promoting the use of the local primary source collections, whether physical or digital. Archives keep statistics for their local collections to justify budgets and personnel, to set digitization priorities, and to tell the story of their relevance to researchers and administrators. The commercial archives in those expensive databases seem to belong to another world, served not by the library's archive staff but by reference and instruction librarians who may or may not be aware of the content in the local archives because they rarely have contact with staff in the library's archives and special collections area.

Bridging Collections in the Classroom

One way to "de-silo-ize" collections is to break down internal staff silos in the library. At the MSU Library, this happened inadvertently when a long-time Reference and Instruction Librarian moved from the Library's Research and Learning Services department into Archives and Special Collections, bringing along years of experience teaching and using commercial databases. Her work as a humanities subject specialist had increasingly begun to include more local archival collections after the Library acquired the extensive papers of a noted Montana writer. This made the move to archives logical and attractive for her while benefiting Archives and Special Collections by integrating someone into the department with a broader interest and experience in teaching, outreach, and inreach than many in the department.

The result of relocating the librarian was an uptick in archival instruction that acknowledges the existence of both local and commercial primary sources. For example, with this broader focus, a class or a researcher interested in food and domestic life in early Bozeman might be shown the locally digitized handwritten cookbook of an African American resident of Bozeman from the 1920s, Belle McDonald. Then, with the librarian's added knowledge of commercial databases, the researcher could be introduced to the Adam Matthew Digital database *Food and Drink in History* as an important source for related documents and larger context. This means that McDonald's handwritten waffle recipe could be understood against the background of an article about waffles in a national magazine in circulation at the time McDonald was cooking. Similarly, an American Studies course focused on material culture could move from advertising cards and other local objects in the MSU archives to looking at products in *Sears* catalogs digitized by Adam Matthew Digital for their database *Trade Catalogues and the American Home* in order to understand how locally advertised products at the turn of the last century reflected national trends found in household catalogs.

On a larger scale, creating semester-long learning experiences designed specifically to take students across the borders of the local to

the national or commercial archival experience also became possible with the integration of a librarian with an extensive background in public services. Courses such as WRIT 491 Writing in the Archives, codesigned and taught by an English faculty member and the new archives faculty member, have the goal of providing senior writing students with an understanding of the role of archives in public memory and the opportunity to experience some of the transformative power of working in archives whether local, remote, or commercial.

One particularly successful assignment in the course asked the students to read "Dreaming Charles Eastman: Cultural memory, autobiography, and geography in indigenous rhetorical histories" from *Beyond the Archives*, in which the Native American writer and educator Malea Powell talks movingly about sitting in the Newberry Library in Chicago reading the letters of Charles Eastman, one of the first Native American scholars who were actually Native American (Powell, 2008). Students at MSU were then asked to find the papers Powell was reading by searching in the Adam Matthew database, American Indian Histories and Culture, which contains the full text of the Newberry Library's Edward E. Ayer collection including the Eastman papers. This meant that students could easily have the experience of reading the same primary documents the author read—just in digital format. They could then be introduced to some local Native American-focused collections such as the John G. Carter papers and discuss differences between physical and digital experiences, between white accounts of Native stories and Native American voices themselves.

Improving Discovery

While it is absolutely a must that libraries work with instructors to integrate archival resources into the curriculum, there are always going to be users that libraries cannot reach through instruction alone. This issue can be improved by collaborating to create richer, more intuitive discovery options in discovery systems, website updates, marketing materials, more staff development opportunities, etc. Perhaps one of the easiest

ways to address this at the MSU Library is by including links and information about commercially purchased resources on the Archives and Special Collections website in addition to local content. This simple update could create more awareness of archival resources leading to more serendipitous discoveries.

Another avenue we are embarking down is looking at what we can do with our existing discovery layer. Primo by Ex Libris includes a Collections Discovery feature that will let us group items together into a central location in Primo. We are currently utilizing and experimenting with this feature to improve the discoverability and browsability of our finding aids in general, as well as specific collections such as the Ian Van Coller Books, and our Trout & Salmonid Collection. The main impetus for implementing this feature in Primo is because we know that users may be unaware of the advanced search options in Primo that can be used to find archival resources. Additionally, Collections Discovery allows us to add brief descriptions to specific collections, such as finding aids, that provide the user with some insight about what they are looking at. In many cases, a user might come across a finding aid organically during their regular Primo search session and not have any idea about what they are looking at. Similarly, there are also ongoing discussions at the MSU Library around the term "non-circulating" used to describe the terms of use of Special Collections items. While this term is standard library language, it has the potential to discourage the use of archival content.

The MSU Library is also taking a closer look at how we connect users to digital collections via the Springshare A-Z List. For example, what subjects and format types are associated with a specific collection? Is the language simple and understandable or is it jargon? As changes are made to this resource, usage will be monitored to try and understand what the impact is. However, any improvements that are made to ease the discovery of these materials must also be shared internally across the Library, especially with frontline employees who are often the ones to direct users to resources.

Outreach and Inreach

Archives are increasingly aware that promoting or marketing of local collections through outreach is essential to exposing physical and digital archival materials and increasing their use by scholars, students, and community members. While we know that instruction and reference work by archivists and librarians are important in this outreach effort, it's also apparent that more inreach needs to occur as well, especially if we want to bridge the siloed worlds of commercial and local archives. Inreach is defined by the Society of American Archivists as "the activities conducted by an archive within its parent institution to raise awareness and gain support for its programs" (Society of American Archivists, n.d.). How does inreach differ from staff training? Libraries and archives have long been engaged in staff training to improve skills and workflows as well as customer service, but such training has often been confined within the boundaries of departments or to specific areas of work such as cataloging or reference.

While staff training might be seen as a kind of inreach, the distinguishing components of true inreach are its emphasis on awareness and support. Inreach seeks to spread organization-wide understanding and knowledge of the existence and nature of resources, services, and programs. Through inreach, all staff in the organization may become bridges between resources and programs for external users no matter what the user's level of knowledge or entry point into a resource.

A library's public services group is a key focus for inreach. As front-line staff work closely with students, employees, and researchers, they need to be aware of what exists locally and commercially, how to get to it, and how and when to refer users to the archives staff. This is especially important where local archival collections are concerned. There is a "forbidden planet" aspect to the physical archives and staff and student employees may be hesitant to send people to an archives reading room if they are unsure what is there or how they will be received.

To counterbalance this reluctance, a program of inreach could help demystify the archives for library staff by teaching basics such as website navigation and finding aid logistics. The rules attending archival use

that can seem so draconian and arbitrary can easily be explained when the nature of the collections is understood. Rehumanizing the archives and its staff, creating relationships between it and other areas of the library like public services, is an essential step in de-silo-izing not only commercial archival databases from locally digitized archives, but all collections.

Relationship building between archives and other departments in the library should not be limited to public services. Inreach involves creating strong learning motivation and opportunities within the entire organization. Collection development, cataloging, computer services, digital projects, and library administration all need to understand the archives so that cohesive collection development decisions can be made, appropriate metadata can be developed, user-friendly access platforms built and maintained, budgets can be realistically allocated, and donors of funds and collections can see the worth of their investment.

Conclusion

The MSU Library is just getting started down this path of working to better integrate our local and digital archival collections using technology, instruction, outreach, and inreach efforts. As we do this work, we are continually reminded that the landscape of archives is complicated and confusing, whether one talks about local or commercial, physical, or digital collections. If we find it complex, we realize our users must often be absolutely lost.

The collaboration necessary for our research is an example of inreach in action. It has required extensive cross-departmental communication to understand the issues, and to begin the journey toward improving knowledge and discovery of these two categories of archival materials. The authors now know a great deal more about each other's work, the nature and cost of different types of archives, and the challenges we face when trying to better integrate them.

Several specific things have become clearer as we've worked together. We know there is much we don't know and need to find out, such as use

statistics for locally digitized collections. We know that more user input is needed to test the changes we've made in our discovery layer and our website. We know that more inreach is needed because the relationships created by working together always yield the best ideas. And better than ever before, we understand the investment of time and money the MSU Library has made in commercial and local archives. This knowledge encourages further collaboration, urging us to continue our quest to bridge and better promote both commercial and local digital archives and thereby increase our return on investment while improving our users' experiences and research outcomes.

References

Powell, M. (2008). Dreaming Charles Eastman: Cultural memory, autobiography, and geography in indigenous rhetorical histories. In G. E. Kirsch & L. Rohan (Eds.), *Beyond the archives: Research as a lived process* (pp. 115–127). Carbondale: Southern Illinois University Press.

Society of the American Archivists. (n.d.). *Inreach*. Dictionary of Archives Terminology. Retrieved from https://dictionary.archivists.org/entry/inreach.html

Research Librarians and Society Publishers Working Together to Advance Open Access and Research

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Rod Cookson, IWA Publishing
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Alicia Wise, Information Power

Abstract

This paper is based on a transcript of a 'lively conversation' that took place at the 2020 Charleston Conference between Rod Cookson, Gaynor Redvers-Mutton, and Judy Russell, facilitated by Alicia Wise. In addition to the panelists there was active audience participation. The topic of discussion was Open Access agreements between libraries and independent society publishers.

Keywords

open access, society publisher, read and publish, transformative agreement

This chapter is based on a transcript of a 'lively conversation' that took place at the 2020 Charleston Conference between Rod Cookson, Gaynor Redvers-Mutton, and Judy Russell, facilitated by Alicia Wise. In addition to the panelists, there was active audience participation.

Context: Introduction by Alicia Wise, Information Power

In 2019 cOAlition S sponsored a study called Society Publishers Accelerating Open access and Plan S (SPA-OPS). This included a pilot project to help small independent society publishers explore and enter into Open Access (OA) agreements with libraries, and shared principles co-developed by librarians and these publishers.

OA agreements go by many names—Read & Publish, Publish & Read, Subscribe to Open, Transformative Agreements and more—but what they have in common is that money libraries have hitherto spent on subscriptions is repurposed to also fund OA publishing by corresponding authors on their campus. These agreements can be struck by any size and type of publisher, and can be used to sustain fully OA titles or to support hybrid titles to transition fully to OA.

The OA agreements presented in this chapter are cost-neutral both for the university and for the publisher and do not involve limits or caps on how many articles can be published OA (in stark contrast to agreements offered by larger publishers). This enables stakeholders to work together to accelerate the transition to OA in a pragmatic and transparent way. This can of course create challenges for libraries because it can be difficult to gather together the disparate pots of OA funding around campus to administer centrally.

Other features of these agreements include:

- **A mutual commitment** to work on shared approaches for future pricing approaches that are transparent, equitable around the world, and linked to the impact of services on authors, readers, institutions, and society.

- **Archival content to be free** to all in the institution or consortium to access and read.
- **Posttermination access** to be provided so that content can continue to be read if/when an agreement ends.
- **Authors to retain copyright**, and their articles to be published under a CC-BY license.

So what have we learned to date?

Opening Statements

Gaynor Redvers-Mutton from the Microbiology Society

Microbiology Society is a membership charity for scientists interested in microbes. The society publishes six journals, four of which are hybrid. Originally print-based, these four now publish online only, on a continuous publication cycle. The two newest journals, launched within the last few years, are natively OA; so far they have been financially underwritten by subscription journals.

Publishing is part of our strategic mission, and we have remained proudly independent, undertaking the full range of activities ourselves. We have been on a long OA journey: the latest evolution, born in response to Plan S, has been more collaborative than any of our previous initiatives.

Transforming a business model such as subscriptions, around which not only our internal systems, but those of our customers, turn, takes lots of communication to find common cause and determination to reach for shared goals.

One great meeting point was our April 2020 meeting with members of the Association of South Eastern Research Libraries (ASERL), which inspired a panel discussion at Charleston Conference in November that year (held online), the basis for this chapter. The meeting notes bear wider dissemination because they record an open and frank discussion about the ups and downs, the motives and hindrances for both sides in collaborating on transformative deals.

The starting point is to describe why we, the Microbiology Society, decided to innovate with our Publish & Read transformative agreement. Publish & Read is designed to move us, at pace, to a fully Open Access future.

Plan S and funders have an aggressive timetable. They will cease to fund OA publishing costs in hybrid journals by the end of 2023. They acknowledge that accomplishing a fully flipped portfolio would challenge small independent society publishers and so have put some measures in place to help us achieve the transition without falling apart.

The Microbiology Society came to an early agreement that what would work for us is a mixed model, Publish & Read, combining access to all the content on our platform with unlimited Open Access in both our hybrid and our fully OA journals. Characteristics that were important for us were:

- To work with existing sales channels: we need to maintain our existing, well-established, and well-working customer relations, with librarians and with agents.
- To cover the full breadth of what we produce, both hybrid and fully OA: operating different models would stretch a small team too far
- To have no paydown funds to manage—unlimited USE of the journals in its fullest sense, both publishing and read access, without caps. We wanted a model that would mirror the good aspects of subscription publishing, so that authors need only be concerned with the quality of their content, not their access to funding.

In order for this to work for our customers as well as for us, we looked for the simplest model we could so that administration would not overburden the exercise.

Additionally, to build a model that would appeal not only to paying institutional customers, but equally importantly also to authors, within whose ranks are our own society members and trustees, we promoted the following advantages:

- The bundle is designed to be cost-neutral
- It aims to repurpose institutional subscription spend
- It adds a "publish" element to an annual "access" fee in a fair and transparent way
- It adds researcher benefit to an institutional package
- By avoiding the ills of APCs, it appeals greatly to authors
- Inherent in the model is the answer to double-dipping (where authors pay to publish while libraries pay to access the same content)
- It is designed to be administratively light, causing as little fuss and bother as possible.

From a society's perspective, the institutional benefits of transformative agreements such as Publish & Read can be summarized as follows: they put institutions back at the center in the funding cycle for scholarly communication. The APC model threatened that. Taking authors out of the payment cycle, relieving them of financial and administrative responsibilities, is a great gain for all—that is, IF grant funds allocation can be managed and budgeted at the library level. I fully appreciate that is still a big 'if'.

To address this, reporting to enable information flow between publishers, consortia, institutions, and funders has rightly been the focus of much attention since TAs launched and I've no doubt that the coming year will see good initiatives in this area.

At the time of the meeting, we had 80 institutions signed up to our pilot Publish & Read agreements, which happened in the course of one year. We have since seen another 40 join up. Given that these are pilots and deliberately badged as experimental, we have been amazed and delighted at the take-up. The model has been welcomed by researchers, libraries, and funders. We are now working from what we have learned during that first phase and are looking at ways to achieve faster conversion from traditional subscriptions and from a wider geography of institutions.

Finally, the absolute arbiter of our success with Publish & Read was to have moved the dial on how much OA we publish. In one year, the

proportion of OA articles moved from under 20% in 2019 to just over 30% in 2020.

Rod Cookson of IWA Publishing

IWA Publishing is a not-for-profit publisher owned by a learned society with 8,000 members. Our mission is to disseminate knowledge and research about clean drinking water and safe sanitation worldwide. This is research that saves lives and improves global health. A total of 1.8 billion people lack good sanitation and 790 million people don't have access to clean drinking water, including almost one-third of schools on the planet. These are significant challenges on which a great deal of work still needs to be done.

We publish 17 journals and 25 books annually. Over the past five years, we have been actively moving toward an Open Access model, eager for everyone to benefit from the research we publish. We flipped our journal *Water Reuse* to Open Access in 2017 and *Hydrology Research* in 2020 (at significant cost to the IWA). We have launched two new OA journals—the wide-ranging *H2Open Journal* and the niche *Blue-Green Systems*, and also copublish the Spanish language OA journal *Ingeniería del Agua*. We are an early adopter of Read & Publish agreements, with deals in Austria and the Netherlands beginning in 2019 and expanded to cover other countries since. Additionally, we provide waivers to researchers in low and middle-income countries through partnerships with Research4Life and EIFL.

Despite these initiatives, only 16% of our journal articles were Open Access in 2019. We realized that a more radical change was required.

From 2021, we have made our 10 subscription journals Open Access on a Subscribe To Open (S2O) basis. The most recent five years of articles in our S2O journals are free to access, with older archives accessible only by subscribers. Everything published after the move to S2O is published on a CC-BY license, meaning that our 2021 articles will always be Open Access.

S2O is a fundamentally democratic and equitable model. It provides OA publication with no charges for authors—creating a level playing

field however well (or badly) funded a researcher's institution may be. And everyone can read what we publish.

The costs of S2O are covered by subscribers continuing to support the journals after the move to Open Access. This minimizes the system change involved. Our S2O journals are paid for from existing library budgets and use existing infrastructure. S2O is Open Access which relies on the strengths of the current library system and doesn't require the building of a whole new research communication ecosystem. It is continuity and constructive change at the same time, and it delivers Open Access now. We believe that S2O is the future of research and we hope that progressive members of the community agree with us.

Our experiences with Open Access and S2O have focused our minds on three key questions.

These are:

- **How can librarians and society publishers talk more**—and help each other solve the challenges we face?
- **How can we develop collective agreements that facilitate OA**—which bring together many libraries and many publishers without creating a huge administrative burden?
- **How can we make experimental models like S2O permanent**—and develop the tools for sustainable Open Access?

We look forward to working with interested stakeholders from the library community, other publishing houses, and research funders to solve these challenges in the years to come.

Judy Russell from the University of Florida

Gaynor mentioned the April meeting with ASERL, where representatives of five small independent publishers met with a group of librarians who are members of the association. It was a very lively and frank discussion, beneficial to both the publishers and the librarians. There are several challenges right now that impede adoption of the Read & Publish agreements, but the discussion brought increased understanding of

publishers' objectives and how they are approaching their movement to Open Access. With COVID-19, many libraries are facing difficult budget situations, so this is a hard time to invest in new initiatives. Also, for many of us in academic libraries, it is difficult to aggregate the money that is being spent on APCs around our campuses by many individuals and from many sources. That said, the Read & Publish agreements developed by the society publishers give us another interesting approach.

At the University of Florida, I have been very focused on ways the Smathers Libraries can help and support our authors, so the idea that Read & Publish agreements can reduce the barriers to authors choosing Open Access is appealing as long as we can afford the additional costs and can implement the agreements without significant administrative burdens. We have done this in a variety of ways that are documented in this LibGuide: https://guides.uflib.ufl.edu/openaccess. I have one transformative agreement with a large publisher, Elsevier, and am in the process of establishing transformative agreements with several of the publishers from the ASERL meeting, which we are very pleased to see moving forward.

The issues that Rod is raising are very important ones because, if every one of these agreements is unique, and every one of them needs to be negotiated individually, it is a burden on each of the societies as well as on the libraries. That is one of the reasons why many small publishers have gone the way of allowing aggregators or larger publishers to subsume them and manage their resources. As librarians, many of us wish to support small, independent publishers, and we like the idea that they are maintaining independence, so this is an interesting way for us to join with them to advance their progress toward open access.

Another challenge that came up in the ASERL meeting is resolving the expectations of each library or library consortia which may be different with respect to contract language, including identification of the data the publishers need to deliver and the administrative processes to be followed by the libraries. I think Rod and Gaynor would agree that we should try to move collectively toward some more common contract language, expectations about administrative procedures, and minimum data requirements. It would expedite negotiations and simplify admin-

istrative work for the publishers and the libraries to have common provisions as the starting point for contract negotiations.

COUNTER is a good example of how well standardizing requirements has worked with usage data for e-resources. Libraries used to spend a lot of time trying to understand and analyze our usage. It came from different publishers, and it was defined and formatted differently. Harmonizing that data through COUNTER has made life easier and analysis more effective. I think a similar thing could be beneficial for all publishers, not just the small ones, with respect to minimum data for the Read & Publish and other transformative agreements. This might be an effort where the small publishers could actually lead the way, and where libraries could work with the small publishers on defining the basic data needs and formats.

Libraries certainly like the idea that these agreements would be cost-neutral and, obviously, that this will help us avoid the "double dipping" that results when the authors pay to publish while the libraries pay for access. It is a Yin and Yang, where both libraries and publishers have the opportunity to make this administratively light. Libraries can't take on a huge burden for administering these agreements for our campuses, and the small publishers can't take on a large administrative burden in offering them to us. So we have a mutual goal to come up with solutions that can work across multiple independent publishers, and across multiple libraries and library systems, that would allow us to move forward much more rapidly, and with a reduced administrative burden.

To come back to the central idea, what I look for as I evaluate this kind of agreement for the University of Florida is very focused. Obviously, I am always worried about my budget, as we all are, but that is not the starting point. For me, the starting point is how the Smathers Libraries support authors across the university. I look at these agreements as opportunities to ease the costs and administrative burdens for our authors and facilitate their choice of Open Access publishing. I decided to move forward with several of these agreements for that reason.

I hope you will help us talk about and think about how we can move this forward. We have a beginning as a result of the ASERL meeting. I would like to see us join with other consortia to discuss these opportu-

nities and then partner with this group of publishers, and others, to develop some of these standards or to at least get agreement on a more common area of focus. I would like to see these opportunities expand so we can accelerate the movement to Open Access. Transitions are hard and both libraries and publishers would like it to be over with. We would like to be on the other side, but that is only going to happen if we can all work together on it. So I'll stop there to see what kind of questions and comments we have from our lively audience. We would like to engage with you and understand the questions and suggestions you have, or clarifications you need, about any of this.

Conversation and Discussion

Wayne Sime from the Association of Learned and Professional Society Publishers noted that member publishers find it challenging and time consuming to get and retain the attention of libraries and consortia. He suggested that perhaps these important relationships need to scale in some different way, and that there need to be some basic minimum standards in how agreements are implemented.

A participant asked the panel what drives societies more in their Open Access initiatives: their members, boards, and so forth, a competitive spirit, or something else?

Rod's answer was 'mission first'. Societies represent the research community. The International Water Association is an international association in a field where there are many national associations. For example, in the United States, there is the American Water Works Association and other associations. As an international body, IWA tries to bring those associations and the research done by their members together. Collectively, it wants to empower research to travel as far as it can go, and bring interesting work from one country to every other country. Part of that involves disseminating good research from well-funded countries; part of it is sharing good research from low- and middle-income countries. There are different approaches to water management in different places, and the IWA wants to facilitate the exchange

of information. Yes, there is a competitive dimension, and it wants its journals to do well. But more than that, the IWA is conscious that the world of research is changing. It wants to make sure that the journals and books it publishes meet the needs of today's researchers and industry specialists globally.

Gaynor agreed, and added that society publishers have all made huge strides in digital publishing. Open Access really facilitates much more collaborative research. It's what authors want, and it's what funders want. It would therefore be completely counter to the Microbiology Society's mission not to be pushing forward with Open Access. However, it is not a simple change. Even though the society operates in a subject area where there is a lot of funded research, and therefore most of the content it publishes could be supported through APCs, that is not the case for all authors. There is no problem with OA, but there is a real problem with APCs as a way of funding it. Gaynor expressed sympathy for societies that don't operate in well-funded life science fields, as they may simply not yet have had any opportunity or funding to support Open Access. So Read & Publish agreements help her society to balance the desire to move to Open Access and the requirement not to disenfranchise authors who don't have the means to pay.

Judy emphasized that researchers on her campus are motivated to get the widest possible distribution of their research, and particularly any research that affects developing countries and other areas where there are barriers to the access to the information. She explained that libraries share the motivation to reduce barriers to accessing research information, and barriers for authors who don't have access to funding for APCs. When authors don't choose Open Access, it is largely because they don't have access to the funding for the APCs rather than because they have any problem with OA in principle.

During 2020 EIFL brokered Read & Publish agreements between two society publishers, IWA Publishing and the European Respiratory Association, in 26 transition-economy countries: Albania, Armenia, Azerbaijan, Belarus, Congo, Ethiopia, Ghana, Ivory Coast, Kenya, Kosovo, Kyrgyzstan, Laos, Lesotho, North Macedonia, Malawi, Maldives, Moldova, Myanmar, Nepal, Senegal, Sudan, Tanzania, Uganda,

Uzbekistan, Zambia, and Zimbabwe. This means those societies' journals will be completely free to read in those countries, and also that any authors from these countries will be able to publish Open Access without paying any APC. More information is available online here: https://www.eifl.net/news/eifl-iwap-sign-free-read-publish-agreement.

Participants asked Rod two questions: how are you managing any financial loss of the OA transition and how do you promote your Subscribe To Open model amongst your authors and what do they think about it?

Rod responded that IWA publishing is in the fortunate position of generating a surplus from its publishing. With the *Hydrology Research* flip, the association's view was that if it generated less surplus but quickly transitioned to OA, then that was the right thing to do. It is possible that the journal will grow in future and that the association will get back toward where it was financially. The same approach would not work for its very biggest journal, because the cost involved would be too large for the association to bear. It is simply not a level of risk it can afford to take right now.

On the second question, **Rod explained** that IWA Publishing hadn't yet got to the point of talking to authors specifically about the Subscribe To Open model. It is currently working through library channels, consortium partners, and members of the association. It has, however, engaged with authors on its broader OA transition plans. IWA learned very quickly that it needed to be mindful of the amount of time academics can spend thinking about publishing models. It has used its various communication channels to highlight the benefits of OA for researchers. It also tries to help libraries and consortia who have OA agreements with it in their own communication to their researchers. The association is really just learning how to best support these institutions to make this a success. Authors appreciate knowing that they can get APC-free Open Access publishing, and that their library and society have worked together to deliver this.

Johan Rooryck, the Executive Director of cOAlition S, expressed delight on behalf of the cOAlition that this necessary conversation between libraries and small publishers was beginning on OA topics of

shared interest. He asked if there needed to be standards developed between libraries and the small publishers so that these agreements become easier to administer?

Alicia noted that yes, standards are needed and there is a real role for organizations such as NISO. This problem impacts multiple stakeholders, and can only be solved by convening all those stakeholders together to align and simplify. There is scope for data standards, for example, and also for agreement on workflows that are feasible for smaller independent publishers to implement. These smaller publishers don't have the resources available to them that the larger publishers have.

Peter Berkery from the Association of University Presses asked if there was an opportunity to create a kit or a template to streamline the negotiation process, along the lines of the Mellon-funded monograph publishing agreement project spearheaded by Emory University a couple of years ago?

Alicia drew attention to a model agreement toolkit that is available online: https://www.informationpower.co.uk/spa-ops-project/. This was created with input from libraries, consortia, and smaller independent publishers, and made possible thanks to funding from cOAlition S.

Gaynor noted that bringing stakeholders together to inform the development of this toolkit had been invaluable, and that many members of the Society Publishers' Coalition had used it to enter into their first OA agreements. But it will need continued maintenance, because this approach does work, and because of course, the landscape continues to evolve. No toolkit can be a static thing.

Rod agreed that IWA Publishing had found the transformative agreement toolkit very useful. He said that it was good for helping smaller independent publishers to organize data and for framing agreements. It lays out shared principles, too, which can be helpful in adapting existing agreements. It would be helpful if a toolkit and shared principles could be maintained and sustained going forward by larger organizations and endorsed by influential ones.

Johan Rooryck asked what was the best way for cOAlition S funders to facilitate the strategic dialogue between libraries and smaller inde-

pendent publishers such as university presses and society publishers?

Alicia agreed that many of these discussions do happen in Europe, but there seems to be a real challenge in the United States. Bringing all parties to the table is immensely useful. The creation of the Society Publishers' Coalition (https://www.socpc.org) was helpful in enabling smaller independent publishers to work together collaboratively. Could something like this be created in the library community, or does OA2020 serve this function? Then cross-stakeholder working groups would have groups they could consult and with which they could share information.

Judy reflected on the US situation, and acknowledged that this may be a particular challenge because the United States is so decentralized and yet produces an enormous body of research with money from funders who are also committed to public access. Shared principles seem like a really good starting point. She agreed that the laws from country to country (and state to state in the United States) certainly make it more difficult to have any single-template language for agreements. However, library groups have worked together to develop standard language about Interlibrary Loans, the Americans with Disabilities Act, and other issues that matter to libraries. Perhaps members of today's group would be happy to begin those conversations locally and try to bring them up into broader groups that could move this forward?

Rod liked the idea of cross-stakeholder working groups that could develop principles, standards, etc., and then take this work out into the wider community in order to gather and incorporate feedback. This will need to be an iterative process.

And with that lively discussion, hosted by the Charleston Conference, an exciting vision and some practical next steps began to emerge to help our research libraries and society publishers (and other smaller independent publishers) to work together to advance Open Access.

Acknowledgments

Thank you, Adam Chesler, for ably fielding the questions and answers during our online Charleston session.

Library Services

COVID-19: Adapting Library Information Services to the Pandemic at Auburn University

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Abstract

Auburn University Libraries (AUL) closed on Saturday, March 14th, 2020, the day after Spring break, as part of a campus-wide transition to alternate operations. Thousands of students were sent home while faculty and staff were tasked to manage remote instruction and conduct research with new protocols for social distancing, hygiene, the use of space, and information technology. As part of a multi-year transition, Auburn University Libraries continues to reinforce and develop information services that support a growing R1 research enterprise despite the pandemic. We have reorganized within the Libraries while expanding our active collaborations across campus. We added thousands of temporarily free electronic resources to our discovery systems and catalogs to support remote instruction. We have expanded the size, scope, and complexity of our permanent collections with an emphasis on supporting alternative learning experiences that supplement or even replace in-person activities no longer considered to be safe under current conditions. The Technical Services Department in the Libraries, responsible for many diverse functions, has

transitioned to a hybrid organization with staff working remotely and on campus. When many other libraries stopped lending books and other content during lockdown, interlibrary loan activity at Auburn University greatly increased due to an unusual ability to continue working on site in safety and security. Libraries staff in Technical Services, supported by volunteers, have digitally delivered content from the print and electronic collections housed at Auburn University to patrons and library systems around the world. New staff are being interviewed, hired, and remotely onboarded to improve how we manage acquisitions, collection development, and electronic resources. With the Ralph Brown Draughon Library, our main facility, open to the public and students on campus until Thanksgiving break, we continue to address the challenges and opportunities of improving operations and fulfilling our mission.

Keywords

COVID-19, SARS-CoV-2, pandemic, reopening, technical services, remote work, onboarding, remote instruction, interlibrary loan, resource sharing, collection development, electronic resources management, cataloging, metadata, acquisitions, cost sharing, research support, innovation

Introduction

Auburn University Libraries (AUL) closed on Saturday, March 14, 2020, the day after Spring break, in response to a campus-wide transition to alternate operations following the COVID-19 escalating pandemic. Thousands of students were sent home while faculty and staff were tasked to manage remote instruction and conduct research with new protocols for social distancing, hygiene, the use of space, and information technology. With the directive to serve all affiliated students, faculty, and staff with the information they need, in all formats, AUL fac-

ulty and staff continued operations inside the library buildings with adjusted work schedules, dedication, and readiness.

In this poster, we present our unique story of service, preparedness, and surprising success during a pandemic. We admit that Auburn University was and is uniquely positioned by virtue of its location in rural southeast Alabama and by the foresight and planning of the Auburn University Medical Clinic's Medical Director, Dr. Kam (see: http://ocm.auburn.edu/newsroom/campus_notices/2020/11/130319-fredkamrecognizedbymayor.php) who ordered PPE far in advance of the March 2020 closure, prepared the medical staff and guided the health and safety of the university. It is from this vantage point that we highlight the specific efforts of our technical services department with respect to new personnel, collection strategy, interlibrary loan, and document delivery during an unusual period of the global COVID-19 pandemic.

Background

Auburn University has a rich and complex organizational history that emphasizes transformative growth, improvements over time, and a recently acquired R1 status in 2018 (https://ocm.auburn.edu/newsroom/news_articles/2018/12/171722-r1-carnegie-classification.php). Originally founded as the East Alabama Male College on February 1, 1856, this small liberal arts school affiliated with the Methodist Episcopal Church opened its doors to students in 1859. When closed for the Civil War, the cash-strapped College was transferred from the Church to the State in 1872, enabling the institution to reopen as the newly renamed Agricultural and Mechanical College of Alabama, the first land-grant college in the South. The College admitted women in 1892, the first institution to do so in Alabama and only the second in the Southeastern region of the United States. Changing its name to the Alabama Polytechnic Institute in 1899, the institution grew dramatically after World War II, and was renamed Auburn University in 1960. Today, Auburn University serves over 30,000 students in the sciences, social sciences, and humanities.

The AUL consists of the Ralph Brown Draughon Library (main library), as well as two branch libraries; the Library of Architecture, Design, & Construction (LADC) and the Cary Veterinary Medical Library (VET MED). The physical collection is relatively large with over 3.2 million volumes, and like many research institutions, AUL spends most of its materials budget (>90%) on electronic resources; databases, online journals, and e-books. Likewise, these electronic resources account for most of our materials usage as well. While we are very grateful for all financial support received from the University, the state of Alabama, and our donors, AUL is also historically underfunded and understaffed in comparison to our peer institutions. The practical impact of limited resources and staff time has meant that AUL has only recently begun to build more significant e-book and streaming media collections, while also acquiring key databases and online journals to support the growing research enterprise of an R1 institution.

Technical Services Operations

The AUL technical services department is responsible for a multiplicity of functions that include collection development, acquisitions, electronic resources management, physical processing, bindery, and interlibrary loan (ILL) and document delivery (DocDel). From the very beginning of the pandemic, technical services transitioned to a hybrid organization with staff working remotely and on-site. Each staff member was equipped with refurbished laptops, a "hotspot" for Internet connection if needed, headsets, and mice. Every safety measure was taken for personnel working on site, which included the provision of personal protective equipment known as PPE, social distancing, and quarantining of incoming materials and installation of plexiglass shields where needed.

Two personnel searches began several months before the pandemic altered operations and fortunately, these searches only suffered short delays. Once the shock of altered operations subsided, both search committees utilized the Zoom Video Communications software to conduct

all of the necessary business meetings and candidate interviews. In effort to grow capacities in technical services, these positions are new in the department. The acquisitions specialist was created to assist with collection development analysis and management. The electronic resources and discovery librarian was created to manage both electronic resources cataloging and tracking in the knowledge base, as well as to ensure the discovery and access of resources in the EBSCO Discovery Service and VuFind interfaces. The acquisitions specialist was remotely onboarded and trained throughout the summer of 2020 and the electronic resources and discovery librarian was remotely hired in August 2020 and onboarded and trained throughout the fall 2020 semester. Most of the training sessions and many meetings were held using the Zoom Video Communications software and on-site with physical distancing.

Some notable challenges addressed by personnel in technical services and other departments in collaboration included special orders and deliveries of physical items to patrons, as well as more e-book orders. During the initial temporary lockdown period in spring 2020, both staff in the Libraries administration and TSD placed orders through bookstores and other vendors not normally used to acquire physical items for patrons, especially faculty and graduate students. Subject specialists hand delivered items to patrons in the Libraries parking deck or at a distance near the main library entrance. When on-site instruction resumed in the summer of 2020, technical services staff continued to receive deliveries and process physical items, activities that never ceased at (AUL) throughout 2020. This required a continuous managerial presence on-site as well as dedicated staff to open boxes, temporarily store items in a quarantine zone, and observe special safety protocols for handling books, journals, and other materials before these resources could be shelved. Work also had to be coordinated between staff and librarians, some of whom worked on-site and others who worked partly or completely offsite during most of 2020. Some additional student staff were hired, for example, to assist other personnel responsible for cataloging by reviewing and prepping books, including scanning tables of contents.

Management of hundreds of thousands of freely available e-books,

online journals, and extended trials for databases required an ad hoc committee of subject specialists working in collaboration with the collections strategist and acquisitions librarian as well as the department's two IT specialists. Given growing expectations for 24/7 service, troubleshooting and other work processes sometimes continued after hours and on weekends. Removal of the freely available resources from the knowledge base, catalogs, webpages, and LibGuides was arguably more complex and difficult than adding these resources. The new electronic resources and discovery librarian aided in resource removal almost upon arrival in August 2020. Meanwhile, the head of technical services also had to invest additional time in organizing work schedules, gathering supplies, establishing, and maintaining safety protocols as well as managing what was in all reality an increased, not decreased, volume of work for the department. The head of technical services also serves as the department's representative on an operations group formed to manage the COVID-19 response in the main library and its two branches.

Collection Development

The pandemic did not deter AUL from continuing to reinforce and develop information resources to support a growing R1 research enterprise. We added thousands of temporarily free electronic resources to our discovery systems and catalogs to support remote instruction, study, and research. We expanded the size, scope, and complexity of our permanent collections with an emphasis on supporting alternative learning experiences that supplement or replace in-person activities not considered to be safe under risky or changing conditions. Somewhat unusually compared to most libraries, AUL was able to spend more money on collections in 2020 than in 2019, although admittedly starting from a historically underfunded position.

As per the library's strategic plan, research support and student success are two key areas of emphasis that align with the university's strategic plan. As a practical matter, the collection development strategy is in development with the collections strategist and acquisitions librarian

(CS&A librarian, abbreviated) working in close collaboration with subject specialists, academic faculty, researchers across campus, and other stakeholders. Organizationally, the CS&A librarian, along with the acquisitions specialist, is part of the technical services department. An interdepartmental collection development group chaired by the CS&A librarian, comprised of subject specialist librarians, the head of technical services, the special collections librarian and the university archivist, serves as the primary body addressing collection development within AUL. The CS&A librarian also serves on an interdepartmental university-wide research support and partnership working group chaired by the library's assistant dean for research support and technology along with select subject-specialist librarians, IT specialists affiliated with the libraries' research and innovation commons unit, as well as personnel from outside the libraries who serve in the university's Office of the Vice President for Research and Economic Development.

Our collections strategy prioritizes four areas of research emphasis mapped out by our Vice President for Research and Economic Development: the health sciences, intelligent systems, cybersecurity, other security programs, as well as resilient communities. Some notable recent initiatives include research in additive manufacturing, driverless trucks, and the internationally acclaimed "Auburn Dog," specially trained canines used to detect explosives and other dangerous substances in settings such as public transit, large events, and other venues subject to security threats (https://www.auburn.edu/main/auburninspires/feature/auburndog/). While our collection development strategy is intended to support all programs on campus and these four areas of focus, we are actively improving our collections for diversity, equity, and inclusion, making a special effort to acquire African American digital newspapers and expand subject funds for Africana Studies and Women's Studies during our previous and current fiscal years.

The pandemic and resulting online instruction placed tremendous pressure on our institution to acquire e-books and streaming videos which has increased our overall collection, by over five times with some key vendors. While students are on campus, multiple modes of instruction persist with a strong virtual learning component. Cheaper DVDs

and print materials have been replaced by necessity with more e-books and streaming videos. As per the suggestion of the head of technical services, we created a "COVID-19 emergency fund" within our materials budget to provide financial support so that the subject specialists or patrons can request an e-book to replace a physical item already held by the Libraries. Finding alternative sources, exploring new business models, and widening the net to include more vendors were also necessary to meet increased demand. Responding to cancellations and reduced orders, many vendors also seemed willing to offer zero-percent cost increases, waive license restrictions, and change their well-established practices. The CS&A librarian spent a great deal of time working on negotiations, licensing, requesting that vendors register in the new online system launched by the University in 2020, as well as the ongoing effort to ensure that vendors complete the state of Alabama's vendor disclosure statements.

Given our current flat budget, we have made special efforts to collaborate with other academic units, sharing the cost of one-time expenditures and new subscriptions with our Department of Biological Sciences, Department of Chemistry and Biochemistry, the Harbert College of Business, the Ginn College of Engineering, as well as the Biggio Center, a unit in our Provost's Office that provides instructional technology support. We have also recently shared subscription costs for some major publisher packages with Auburn University Montgomery, a separately accredited campus in the Auburn University System. We are also working closely with our Development Officer to expand our donor list for the Libraries. An emerging project includes our planned launch of a new website to provide electronic resources for alumni access in Summer or Fall 2021. We will begin with electronic resources not requiring any additional expenditure by the Libraries while working in close collaboration with our Alumni Association to develop this new service. We anticipate in the future to finance and license electronic resources with the Alumni Association that are specifically for alumni, with the hope of turning the Libraries into a knowledge hub for alumni.

Interlibrary Loan and Document Delivery

As with so many libraries, AUL depends upon Interlibrary Loan to supplement our collection and provide quick access to resources at the point of need by our patrons. When many other libraries stopped lending books and other content during lockdown, ILL activity at AUL greatly increased due to an unusual ability to continue working on-site in safety and security. Libraries staff in ILL, supported by volunteers from other library departments, digitally delivered content from the print and electronic collections housed at AUL to patrons and libraries around the world.

The operations of ILL and DocDel at AUL are organized into three main areas; borrowing (requesting from other libraries), lending (supplying to other libraries), and document delivery (supplying AUL materials to AU affiliated users, a service branded as *AUBIExpress*). There are three staff members who coordinate a designated area and an ILL and DocDel librarian who oversees processes and conducts planning and assessment. Up until the time of closure on March 14, 2020, ILL and DocDel employed five student workers to assist in all areas of operations. To illustrate our normal volume of work, from January 4, 2020, through March 14, 2020, ILL and DocDel supplied 3,932 articles and shipped 1,433 loans for a total of 5,365 items supplied.

When the library announced a need to close completely in response to the pandemic, there was little time to prepare. We quickly devised a plan for ILL and DocDel personnel to work remotely and continue supplying materials to faculty, students, and staff as the university pivoted to remote learning and work locations. All personnel in technical services were issued a laptop with VPN capability to enable remote work and authenticated connection to all work systems. While the Libraries were closed to the campus community, employees had access to buildings via their employee ID. All AUL personnel work schedules were altered so that at least one person in each department worked on-site from 7:45 am to 4:45 pm to answer phones and provide other services and maintain a reasonable level of normalcy.

ILL and DocDel's plan included each full-time employee (four) to choose a day, Monday through Thursday with an additional day, Friday, as a rotational day to work on-site. Daily communication was frequently conducted via the use of Microsoft Teams, email, and traditional telephone calls. Due to the *willingness* and flexibility of personnel, there was often a second and sometimes third person to assist with scanning print materials. We highlight *willingness* because there was an extraordinary spirit of tenacity and individual choice to work on-site by our personnel, and especially when in the beginning there was much anxiety around the coronavirus and its contagiousness. The existing physical space and arrangement in ILL and DocDel already followed the required six feet of social distancing between scanning stations and office desks. All personnel adhered to the use of PPE, which was generously supplied by the library administration.

In addition to library administration permitting personnel maximum flexibility with their work schedules, there was complete access to all print collections in the main library, two branch libraries (the Architecture, Design, and Construction Library (LADC) and the Charles Cary Veterinary Medical Library (VET MED), and the Offsite Library Storage Facility (OLAF). This prevailing staff flexibility and *willingness* enabled us to provide research materials for AUL users as well as those around the world. ILL and DocDel personnel were also assisted by staff in circulation, the branch libraries (some of whom worked remotely), and three faculty librarians. These additional personnel assisted in a variety of ways that included retrieval of materials from stacks and OLAF and scanning of print material. One librarian retrieved material very early in the morning, so each night, slips were prepared for her and left in a designated place for pickup. All materials were pulled and returned to the ILL office very early eliminating the need for the one person covering ILL that day to leave the office. There also were two other librarians who assisted on a regular basis, enabling quick turnaround of materials to be scanned and sent to other libraries or our users.

Libraries staff were able to access collections throughout the pandemic and work was done with a sense of urgency to support online instruction, study, and research. The ability to assist internationally was

held as an honor and we acted with a spirit of mission. It became clear to us each day how fortunate we are in southeast Alabama.

We fully acknowledge OCLC WorldShare and ILLIad as our other valued partners. Borrowing requests were completed remotely since only electronic requests could be received. Print books were not requested since other libraries were not shipping print books during the first few months of COVID-19 closures. A plan was devised to manage the items that were still "In Transit," having been shipped a few days before the closures. Technical services personnel responsible for shipments arranged the incoming packages by date and after three days, we opened the packages and awaited the reopening of the Libraries, thinking that opening would be only a few weeks away. As time passed and we were still closed, we processed books as they were received. On a few occasions, the requesting user asked if the book ever arrived, and a "curb-side" drop-off was arranged.

The ILL and DocDel librarian worked with the CS&A librarian to coordinate book requests for e-book purchases when an Auburn user requested a book. If a book request was for a print book held by one of the AUL libraries, the offer was made to scan the table of contents or index for the user to choose specific chapter(s) or pages. If the Auburn user needed the whole book, the ILL and DocDel librarian consulted with acquisitions staff to see if an e-book was available for purchase. Acquisitions staff placed orders promptly and these e-books were quickly cataloged taking one to two days to complete from start to finish. From March 14, 2020, to October 30, 2020, 95 e-books were added to the e-resources collection through this process. On the other hand, if an AUL print book was not available for e-book purchase, the corresponding subject librarian was contacted and they arranged delivery by either a "curb-side" pickup near the library parking deck or left the packaged book in the front entrance of the library for the user to retrieve.

Several interesting situations arose during the pandemic to alter workflows in ILL and DocDel and one such example occurred when the number of requests for scanned tables of contents greatly increased. Prior to the pandemic closure, ILL and DocDel returned all scanned materials to the circulation area for sorting and reshelving. However,

with only one person in circulation each day, sorting and reshelving came to a standstill and it was decided to arrange the books in call number order on available counters in ILL and DocDel. However, with limited shelving, it took only a few days for the shelving to become filled. During a discussion of other options, it was decided to date carts and place items used to fill requests on the corresponding dated cart and retain these carts in the ILL and DocDel for future use. For quick location, books were placed on one side of the cart and journals on the other, and in this way, these items were quickly located for further scans. After a few days passed, these print items were taken to the circulation reshelving area. When staffing and time permitted, ILL and DocDel personnel sorted the used books in circulation's reshelving area so that circulation staff could quickly reshelve these items in the stacks.

Another change in workflow included ILL borrowed books that were not going to be returned soon due to the large number of libraries completely closed throughout the United States. The ILL librarian in collaboration with the circulation manager, renewed these items in the library's circulation system with a date far in the future. ILL and DocDel created a spreadsheet listing AUL items on loan at other libraries as well as Auburn users with items on loan. This spreadsheet was used by circulation personnel to make renewal adjustments while working remotely. Global renewals were executed twice during the height of the pandemic period. Another change in workflow concerned quarantining of items for disinfection. After the required quarantine time had passed and the book was "checked in" and released from the patron's library record, the book's associated transaction was routed to a newly created queue in ILLiad titled "COVID-19 WAITING RETURN." Since libraries were closed and requested loaned materials to be held, shelves were installed in ILL and DocDel by library facilities that were in library storage. This enabled ILL to safely store hundreds of books that were returned by patrons until the books could be received back at their home library. Furthermore, these borrowed books were not processed as "returned" in OCLC but were only "checked in" from the patron's library record and their status changed in ILLiad. The items ready for return were arranged

alphabetically by OCLC symbol (AAA, ABB, SUS, etc.) on the newly installed shelves and remained on those shelves until the lending libraries permitted their return. Fortunately, many libraries requested returns in mid-August, while others were returned much later. OCLC created a tool so that libraries could easily see if a library was accepting returns and/or resuming print shipments and normal operations started to slowly return near the first of the fall semester.

Due to the continuing flexibility and *willingness* of ILL personnel, we were able to help libraries around the world that also were closed due to the pandemic. AUL ILL supplied 223 scanned requests from 83 different locations and in 20 different countries. Some of the international libraries included; American University of Sharjah, National Library of Australia, Royal Danish Library, University of Haifa, and 79 other locations around the world. Early on, we volunteered to become members of a newly created COVID-19 RapidILL pod. AUL was among 190 other participating RapidILL subscribing libraries that made resources available for libraries that were closed. The COVID-19 RapidILL pod enabled nonsubscribing libraries to request and receive electronic articles and chapters from participating and subscribing RapidILL members at no cost or obligation.

Reviewing the work of ILL and DocDel during the height of the pandemic, from March 14, 2020, to October 29, 2020, we were surprised to see the following:

- A total of 123,234 individual pages were scanned with a turnaround time of less than a day.
- A total of 5,680 items borrowed for AU users.
- A total of 12,325 items loaned to other libraries.
- A total of 1,248 AUL items delivered via DocDel services (AubieExpress) to AU users.
- Down 12% for the number of copies supplied from the same period in 2019.
- Down 22% for the number of loans shared from the same period in 2019.

We were able to achieve this volume and turnaround by the flexibility and *willingness* of the four full-time personnel in ILL and DocDel; staff in circulation, the branch libraries (some of whom worked remotely); three faculty librarians; and two student workers who returned to work part-time in May. As we provided resources to researchers near and far, we received many notes of gratitude in the form of special notes from ILL partners and Auburn University faculty and students. Some of the comments we received were:

> Thank you so much for your assistance getting the pages [from a print journal]. It was very exciting to do this for our patron and help them out when the item wasn't available otherwise.
>
> (United States Air Force Academy Base Library, May 7, 2020)

> I know that your team has been supplying material to us during these difficult times, for which we are very grateful!
>
> (Monash University, Australia, 10/20/2020)

> You have very, very kindly supplied us with a scanned copy of a chapter from a physical item. We appreciate it very much and realise we are lucky to have found someone who can do so. Thank you for being there and being able to do it for us.
>
> (University of Melbourne, May 1, 2020)

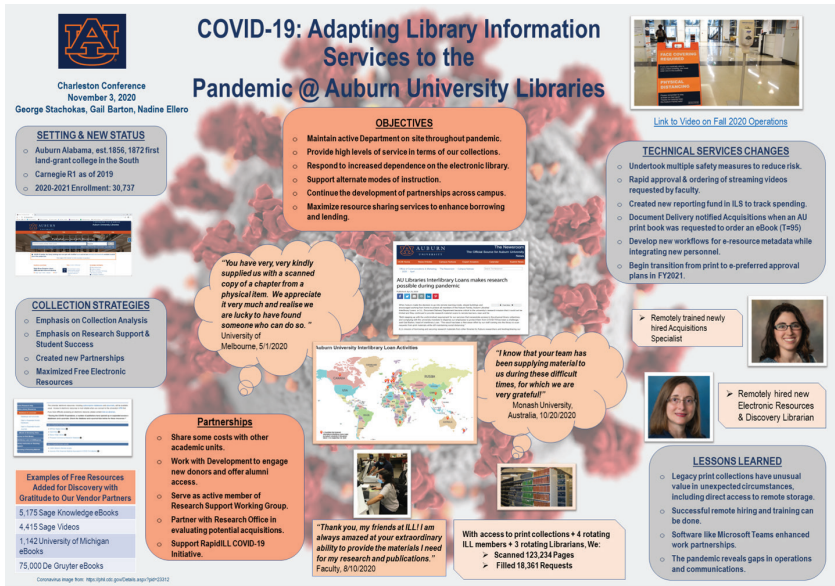
> Thank you, my friends at ILL! I am always amazed at your extraordinary ability to provide the materials I need for my research and publications.
>
> (AU Faculty, August 10, 2020)

It was our ability to serve and the gratitude of those we served that kept our spirits high and our minds free from consuming too much of the coronavirus anxiety.

Lessons Learned

Our story illustrates how the pandemic never once stopped AUL from providing vital physical resources nor hampered technical services from operating at nearly normal capacity. Remote and online hiring of personnel and training continued, legacy print collections served in unexpected ways to help others in great need, and gaps in operations and communication were remedied with software that made all the difference in enabling job interviews to continue and virtual teamwork to vivify in-person meetings no longer taking place.

The authors fully admit and recognize that our story is rather unusual and not reflective of what many libraries experienced during the surge of the COVID-19 pandemic. It is with profound gratitude to university leadership, geographic location, library support, and the willingness and dedication of library staff, that we are able to tell our tale of safe and successful library operations during one of history's most trying times.



Poster 1.

Rebuilding the Plane Mid-Flight

Academic Libraries Responding to Crisis

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Abstract

Serving academic communities requires innovation and responsiveness even during times when the world operates as "usual." Periods of rapid paradigm shift such as the fallout from the 2020 COVID-19 pandemic require even more radical problem solving to keep things running as they

needed to. The effects of COVID-19 were felt across the globe. It changed the way we communicated, worked, taught, and lived. These changes were myriad and their impact will likely be felt for years to come.

The goal of this chapter is to describe how several stakeholders in the academic library community addressed the challenges faced by different types of academic librarians in the areas of technical services, electronic resources, public services, vendor–client relations, and copyright. This paradigm shift represents a potentially restructured academic library now, and in the future.

Introduction

The authors of this chapter presented a Lively Discussion at the 2020 Charleston Conference, held virtually from November 2 to 6. The panel was assembled by librarians from The University of South Florida, and included the perspectives of librarians from two different universities, a consortia, and a vendor. After an introduction and welcome, the panelists presented in the order their work appears in this chapter. Each librarian addressed a specific area of concern from their focal point and discussed the challenges faced by their institution, necessary changes in library services adopted, and ways those changes shifted the ways they served their communities.

Technical Services

Responding to the crisis has required technical services areas to revise many of our services and workflows. Campus and library closures related to COVID-19 occurred before the end of the fiscal year for many academic libraries, and also during what is typically the busiest ordering and receiving period for acquisitions. This made it difficult if not impossible for technical services staff to process and receive orders for print

books and other physical materials. Our first responses to the crisis included contacting vendors to request electronic invoices for open orders and placing holds on forthcoming shipments for print books or other physical materials. Many vendors agreed to hold materials until we were able to reopen our libraries and receive regular mail deliveries. Prior to the pandemic, a surprising number of invoices were still mailed to the library in print. These invoices would be passed from acquisitions to accounting and then filed along with other records of payments. When the library closed, we reviewed our remaining open orders and contacted vendors to request an invoice by email. We also created a dedicated email address for vendors to contact us and send us invoices. This ensured that one person was not responsible for all of the correspondence with vendors. The dedicated email address also enabled us to pass the invoices electronically if needed, and then save them in a shared online folder as an archive. Routing and archiving our invoices electronically is one change that was probably long overdue and hopefully is a practice that we will continue even after we are able to receive and file print invoices again.

Another major change to operations was revising approval plans to accept e-books only. Prior to the pandemic, CU Boulder had a robust approval plan for print and e-books. When the libraries closed, we needed to limit the amount of print materials ordered, and maximize the number of e-books that we could provide in lieu of print. We worked closely with vendors to update our format preferences and explore options to substitute e-books for print. As a general rule, our library does not purchase materials in more than one format, but over the past few months, we made many exceptions to purchase e-books and streaming videos even if we own a physical format. We also set up ordering channels with several new streaming video and e-book providers to accommodate requests for digital content. By next fiscal year, we will have more information about usage statistics and user feedback to determine which e-resources to renew. Eventually, we will modify approval plans to accept more print materials and resume print ordering, although it is difficult to predict if our volume of print orders will ever go back to pre-pandemic levels.

Acquiring the resources that our students and faculty need remains our highest priority as well as one of our greatest challenges. Many of the resources that are needed for research or teaching are not available electronically, are cost prohibitive in an online format, or sold solely to individuals instead of libraries or other institutions. Shifting our collection development strategy to predominantly electronic resources will have long-term effects on the composition of our collection and our collections budget. E-books and streaming videos are more expensive than print books or DVDs and many resources are not available electronically. Relying on e-resources has also highlighted some of the disparities in coverage and availability for e-books and other electronic resources by discipline. Despite limited on-site staffing capacity, we have resumed ordering physical materials for certain disciplines, such as music, art, and non-English languages, that rely on print formats and do not have adequate online coverage. We expect to have sizable backlogs of print materials to process when we resume on-site work.

Remote work and limited on-site staffing capacity also necessitated revisions to rush ordering procedures. e-books and streaming media may be activated quickly, but materials in physical formats take longer to order, process, and deliver through contactless pickup. Turnaround time is further delayed by quarantine times and other safe handling procedures. Like many libraries, we have been closely monitoring the REopening Archives, Libraries, and Museums (REALM) research project conducted by OCLC and the Institute of Museum and Library Services. While we have learned that transmission of coronavirus occurs much more commonly through respiratory droplets than through objects and surfaces, we continue to quarantine materials that are returned from outside sources and we internally date materials so that it is clear when something was last handled. In general, we try to limit how often materials are passed from one staff member to another, especially before delivery to a patron through the contactless pickup service.

The swift shift to remote learning also required investments in new electronic resources to support teaching and learning for the rest of the academic year. To their credit, many publishers and providers offered trial access to e-books, journals, and other scholarly content. CU Boul-

der was very selective about activating trials, in part because managing trials requires dedicated staff time, and also because we wanted to manage expectations for our users and our vendors about what we could reasonably expect to offer after the trial access expired. We were most grateful to publishers and aggregators who agreed to remove concurrent user limits for e-books. This improved access to our existing collections and reduced the number of times our users were turned away from licensed content.

Widespread library closures have also highlighted the importance of interlibrary loan services and shared collections. CU Boulder is typically a net lender in our state and region, but we still rely on a robust resource-sharing network in order to satisfy the needs of our academic community. Library closures and limited staffing have prevented us from lending or borrowing physical materials. As a result, we experienced an increase in purchases for books and articles that we were unable to borrow from another library. As a result, all of our purchase on demand channels had increased activity and are playing a larger role in our collection development strategy.

The activation of shared e-book collections such as the National Emergency Library and HathiTrust's Emergency Temporary Access Service (ETAS) greatly expanded our electronic holdings. These two collections enabled libraries to provide online access to approximately half of the books in our print collections while the print copies were inaccessible. CU Boulder Libraries remained closed in the fall, but offered contactless pickup service for materials that were not available through ETAS. People have expressed gratitude for the service through our online feedback form and social media. Nevertheless, we know that people missed having access to the library and are clamoring for us to open our stacks and let them back into study spaces. Browsing the stacks and studying in the library are still important features of the quintessential college experience. Many faculty and students have stressed the importance of having access to print collections in order to complete their research and learning. We are looking forward to the day that we can resume regular circulation operations, resource sharing, and open stacks and study spaces.

Electronic Resources

The pandemic fast-tracked many e-resources initiatives toward which the SUNY Libraries Consortium (SLC) was already working. The SLC is comprised of 60 schools, half of which are community colleges, and half a mix of research universities, academic medical centers, liberal arts colleges, and colleges of technology. The SLC moved to a shared Alma and Primo environment in July 2019, which allowed us to leverage the Alma Network Zone (NZ) when providing services during the COVID-19 campus shutdowns. The SUNY Library Services (SLS) provides support for shared infrastructure and collections for the SLC.

Similar to the experience at CU Boulder, many vendors offered the SLC free trials and access during the peak of the pandemic. Rather than having campuses activating these resources individually in Alma, we utilized our shared NZ and activated a few of the larger databases that were relevant to the majority of our campuses.

We encountered a few challenges when activating the resources, but once those were resolved, the campuses were able to easily access those resources through Primo without needing to manage them individually in Alma. The NZ was an efficient way to set up and manage access for a large number of campuses, which was a great asset in March when campuses made the quick move to online-only instruction.

Another one of our campuses' priorities was adapting their collections to an online learning environment. The SLS offered a few services designed to do this. One service analyzed a campus's e-resource subscriptions in order to help them identify potential cancellations or explore alternative access such as on-demand article purchasing or interlibrary loan. SLS conducted this service for 10 campuses. On average, for the campuses that utilized this service, SLS identified potential cancellations of around 25% of their collections budgets. Another service SLS offered was helping campuses identify online access to their print resources, particularly their course reserves. SLS used Alma's Network Zone Analytics to gather circulation statistics for print items, and then conducted overlap analysis in Alma in order to identify overlap in a campus's current collection. Finally, SLS worked with ProQuest and

EBSCO, to identify e-book availability on the campus's preferred e-book platforms.

Although the SLC was moving toward more consortial collection building before the pandemic started, the change to online learning fast-tracked these efforts, and our focus is now turning toward projects that support shared collection-building through a number of projects. One project is a shared e-book demand-driven acquisition (DDA) pilot on the ProQuest e-book Central Platform. We have two cohorts piloting this method of shared collection building: one with a multidisciplinary focus that includes campuses from the university center, comprehensive and technology school sectors, and another that includes campuses with nursing programs. These are our first shared DDA programs since moving to Alma, so we're excited to see how we can utilize a shared infrastructure to streamline access and management of DDA programs.

Additionally, the SLS is working to increase the number of e-resources that we license consortially. We currently only license a handful of resources centrally, including Elsevier's ScienceDirect and a package of databases from EBSCO. We're targeting resources that are in high demand at a majority of our campuses, or that meet procurement spending thresholds that require extra levels of approval. Those thresholds are much lower right now than they would be normally due to COVID-19 and the resulting budget constraints, so we are hoping to make procurement more efficient for our campuses by establishing more central licenses.

Public Services: Library Student Success, College of the Arts (CoTA) Librarian

At the University of South Florida (USF), virtual access to public services and instruction were immediately and proactively put into effect. Major website revisions, additional library guides, and online learning objects and activities were developed and then implemented. The increase in the production of digital learning objects included creating additional videos and modules in the Learning Management System,

CANVAS. Fortunately, prior to the pandemic, our unit had reorganized and become the Library Student Success (LSS) unit with a charge to create a sequence of online learning modules. This reorganization significantly improved the librarians' ability to respond in a timely way to the challenges created by the pandemic, since work had already begun on the creation of quality online instructional content. The librarians created nine modules for undergraduates and four for upper-level undergraduate and graduate students. Several examples include:

- The module *Going Down the Rabbit Hole: Finding Relevant Information for Your Papers*, which 289 students completed during the fall 2020 semester.
- The module *Help, I Need This! How Do I Find It?*, which 722 students completed during the fall 2020 semester.
- The average pretest score for the module *Database Searching: Creating an Effective Search Strategy* was 83% and the average score for the posttest was 94%.

This sequence of 13 new learning modules complemented the 32 learning modules created prior to the pandemic. Additionally, LSS collaborated with other library units to revise the library website and create 15 new videos which communicated our commitment to public services such as:

- COVID-19 information hub
  - covid19-usflibrary.hub.arcgis.com/
- Campus Return
  - lib.usf.edu/campusreturn/
- Library Seat Reservation
  - calendar.lib.usf.edu/r/new
- Checked Out Materials (no longer available)
- Welcome Back (now Campus Return)

Two LSS librarians developed a comprehensive spreadsheet that combined all the learning objects and activities: modules, videos, web-

sites, and libguides. The spreadsheet enabled instruction librarians to push learning objects to faculty for instructional purposes prior to the onset of the fall semester. LSS librarians also proactively participated in several other complementary activities including increased virtual online reference services; assisting Information Technology by answering faculty questions about software and hardware issues as the university entered an entirely online environment, and increased proactive participation in Florida's Virtual Reference Service by adding a widget to our webpage which visibly informed students that *Ask A Librarian* was available.

These efforts by the LSS librarians are one example of how all units of the library strove to improve patron support in light of the pandemic and the restricted access to the physical collection and the library. Other examples of enhanced patron support include:

- Providing newly acquired library computers to students for the semester by mail
- Mailing print books to patrons via expanded document delivery
- Extending the due date for circulating books until after the semester was over
- Deactivating overdue notices and fines

For many years academicians have talked about the need to break down silos within institutions of learning, with little success. However, this pandemic created an environment where everyone worked together to accomplish the common goal of improving outreach to students and breaking down existing barriers and silos. It is unclear whether this will be a lasting effect of the pandemic. A few questions we should contemplate as we consider a return to prepandemic activities:

- How are academic libraries functioning now; how will they function in the future?
- What is currently, and what will remain, challenging for libraries?
- Has a paradigm shift restructured how academic libraries function?

- Are the organizational culture shifts and changes in institutional values permanent?
- How can we leverage changes in library assessments, roles, and responsibilities?

Public Services: Library Student Success, Blended Instructional Design Librarian

As discussed previously, the Library Student Success (LSS) department at the University of South Florida (USF) was developing canvas-based information literacy workshops before the pandemic shutdown occurred. These workshops are not intended to replace face-to-face library instruction, but rather to be a way to expand the reach of the library. The sudden shift to online learning made having a method of integrating library instruction into this remote learning period a considerable asset.

The USF Tampa library has had a blended instructional design librarian for five years. One of the primary roles of the blended librarian is to help fellow librarians with the creation of learning materials such as online instructional modules and instructional video content. The department as a whole increased production of these types of materials during the pandemic. In addition, there was a measurable increase in the usage of the library's instructional videos during this time–both videos that were pandemic-specific and preexisting materials that were more specifically on accessing library resources from home. The USF Library maintains statistics on their instructional videos such as overall number of views and average duration of viewer engagement. In particular, the new video content that was created during this pandemic saw increased viewership—about four thousand views for the combined videos that were created, a larger number than usually seen.

Librarians from the LSS department also employed unique skill sets to assist with an online teaching and learning assistance triage program started by USF's Digital Learning Department, Innovative Education. Librarian participants acted as a helpdesk for faculty who were unsure

about how to move their courses online. This assistance program provided help with learning technologies including:

- Canvas
- Microsoft Teams
- Kaltura
- Camtasia
- Badgr & others

The department also found it very important to display an increased responsiveness to faculty anxiety at the beginning of this shutdown. Librarians reached out to the teaching faculty they supported to let them know they were "there for them"—albeit remotely—and to remind them of the services that the library was still working to provide. As colleagues discuss in other sections of this chapter, there were many "moving parts" concerning changes to resources and services during this period. The effects are still being felt across all of higher education, as budgetary cuts occur and access to resources shift. The scope of the change remains to be discovered.

Copyright

Library collections include a variety of materials with a variety of rights statuses. Most of a library's collection will be protected by copyright law. Copyright law restricts what type of copying, digitization, and dissemination can occur with any given work without the copyright holder's permissions. Exceptions in copyright law allow for several types of uses that are common in libraries, like preservation, but no exception specifically addresses using copyrighted material in an unprecedented shift of higher education to online teaching, like what happened in the last half of the spring 2020 semester. Libraries were confronted by the amount of copyright-protected print material on which users still rely, and had to figure out a way to provide access to the materials and services that users needed in a purely virtual environment.

Comfortable, established workflows for electronic reserves were no longer as useful, as many requests suddenly needed more analysis and triage. To address this, librarians specializing in copyright law issued a statement on how fair use applies to emergency remote teaching and research. The statement was used as a guideline for libraries that were trying to understand how services like reserves and document delivery could be made available to faculty who would normally be relying on the physical library collection for required course materials (Yorio, 2020).

Enhanced shared libraries and expanded publisher access did a lot of heavy lifting to help libraries connect faculty with the material needed for courses. HathiTrust's Emergency Temporary Access Service, mentioned previously, provided HathiTrust member library patrons special emergency access to material they would normally be able to obtain from their library's print collections (Hathi Trust, 2020). Similarly, the Internet Archive released the Temporary Emergency Library, which was seen as an extension of the Controlled Digital Lending initiative that the Internet Archive is developing in partnership with libraries (Brewster, 2020).

Publishers stepped in with temporary programs, allowances, and special licenses that expanded the materials that library users could access electronically and provided users with easy-to-obtain licenses to do activities online that would normally be done in person, like read-aloud sessions (Green, 2020). The Copyright Clearance Center, an organization working on behalf of publisher and author rights, also issued a specialized license scheme for educators (Copyright Clearance Center, 2020).

Many of our institutions had been working prior to spring 2020 to expand the catalog of classes that were offered online. Librarians helping course designers and faculty with this process were already encountering obstacles in the form of print or analog materials that had not been offered electronically or streaming by their rights holders. This issue only became magnified when libraries faced the challenge of providing more or all course content online over multiple semesters.

The solutions created to address spring 2020 are now expired or

aging in a way that they are no longer as helpful two semesters later. The expanded application of fair use encouraged by the statement of copyright specialist librarians was based firmly in the immediacy in which the materials were needed and the inability for anyone to plan ahead for moving classes online in march. Fair use is still very much an option that faculty and librarians can rely on when evaluating materials for courses, but libraries can no longer argue that there was no time to plan, no time to acquire licenses, and no time to purchase electronic alternatives because of this emergency situation. Libraries have now had over eight months to do all those things.

A library's ability to make use of HathiTrust ETAS to provide electronic access to collections is contingent on the library being closed and unable to provide any in-person services. As HathiTrust member libraries, and their campuses, begin to open in any capacity, access to digital versions of print holdings will end (Hathi Trust, 2020). This will cause problems for library patrons who are still distanced because of the pandemic, even if their library is open. The Temporary Emergency Library by the Internet Archive is also no longer available to users after it was prematurely closed in response to a lawsuit brought against the Internet Archive's controlled digital lending program by four major publishers (Brewster, 2020).

Expanded access programs and licensing schemes offered by the CCC and publishers are also coming to an end, or have expired, and yet, we still do not have solutions for copyright-protected material that is not being format shifted to digital versions by the rights holders. Instead of leading their library in a search to obtain material or a license to share material in online classes, librarians may be turning toward encouraging faculty to use alternative content that is already available, or content released as an Open Educational Resources or OER. OERs are part of an Open Access movement where creators of content release material without most copyright or licensing restrictions. Libraries may also encourage the creation of OERs in outreach efforts for institutional repositories. A possible lasting effect of the pandemic may be that increased encouragement to use OERs could result in increased production of

OERs and digital learning objects, growing the amount of digital and free-to-use materials to which instructors have access.

Takeaways/Conclusions

The responses described in this chapter demonstrate that libraries respond to a crisis by quickly adapting their collections and services to serve the needs of their communities.

Demand for access to library collections led to new services like contactless pickup and activation of shared collections like ETAS and the National Emergency Library. Collection development rapidly shifted from print to e-books and other resources but continued to grow and be responsive to user needs. Vendors provided essential support through trials, expanded access, and flexible purchase options. Libraries leveraged established resource-sharing processes to fill the gaps in libraries' electronic access to materials.

Reference and instructional services librarians leveraged learning technology to engage library users. Librarians quickly created custom video tutorials and guides and integrated them into online learning environments. Supporting academic instructors moving their courses online proved to be an outreach opportunity that forged stronger relationships with students and faculty.

2020 was a challenging year for libraries, but we learned some important lessons that will help us navigate into the future. The pandemic forced library closures that disrupted services and hindered productivity in all areas of librarianship, but adaptation to remote work environments accelerated the adoption of new communication tools like Zoom and Microsoft Teams. It also encouraged cross-training and challenged people to learn new skills and technology, and to consider new methods for providing the services and resources to meet our communities' needs.

References

Brewster, K. (2020). *Temporary National Emergency Library to close 2 weeks early, returning to traditional controlled digital lending*. Internet Archive Blog. Retrieved from https://blog.archive.org/2020/06/10/temporary-national-emergency-library-to-close-2-weeks-early-returning-to-traditional-controlled-digital-lending/

Copyright Clearance Center. (2020) *Copyright clearance center launches education continuity license*. Press Releases. Copyright Clearance Center. Retrieved from http://www.copyright.com/copyright-clearance-center-launches-education-continuity-license/

Green, A. (2020, March 24). Children's publishers relax fair use policies. *Publisher's Weekly*. Retrieved from https://www.publishersweekly.com/pw/by-topic/childrens/childrens-industry-news/article/82810-children-s-publishers-relax-fair-use-policies.html

Hathi Trust. (2020). Emergency temporary access service. *HathiTrust.org*. Retrieved from https://www.hathitrust.org/ETAS-Description

Jacobs, S. A. [USF Libraries Instruction] (2020, August 12). *Using the USF Tampa library's seat reservation system*. [Video file]. Retrieved from https://youtu.be/j8NvTKwpN_8

Jacobs, S. A. [USF Libraries Instruction] (2020, September 22). *Using the USF Tampa library's catalog to locate media*. [Video file]. Retrieved from https://youtu.be/QAoFX6C1A4k

Jacobs, S. A. [USF Libraries Instruction] (2020, October 1). *Connecting from off campus: Use library resources from home* [Video file]. Retrieved from https://youtu.be/OapFW3Vbans

Yorio, K. (2020, March 14) A crisis—as in school closures due to coronavirus—justifies fair use, say librarians. *School Library Journal*. Retrieved from https://www.slj.com/?detailStory=librarians-address-copyright-concerns-argue-fair-use-applies-amid-academic-closures-coronavirus-covid19

Customer Value Learning

Marketing Research Techniques in Libraries

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Abstract

Information professionals and librarians are uniquely positioned to draw upon and use knowledge from a variety of disciplines in seeking to better serve patrons and customers. In the discipline of marketing, market

researchers strive to learn what is important to their customers. One technique these researchers use is that of constructing customer value hierarchies that graphically illustrate the attributes of a product or service, the consequences of the customer's interaction with those attributes, and desired end states for the customer. How can this technique be applicable to libraries and other non-profit entities? While many information centers and libraries do not directly sell services to customers, the organizations funding them require these services to effectively serve the needs of their patrons. By becoming more in touch with these goals and desired end states, information professionals and librarians are better able to provide patrons needed services. Customer value hierarchies are built using laddering interviews. These one-on-one interviews begin with the attributes of the product, build up to the customer's interactions with it, and learn what the customer's goals or desired end states are when using the product. Marketers then use this information to orient marketing and promotion efforts around the desires the customer has stated.

This article will describe the library's initial efforts in testing this concept through interviews of long-time users of our consumer health information service, describing the process and product of the initial research. The article will further describe the library's plans to scale up this effort into a full qualitative research project by working with our institution's qualitative research expert to develop a question set and research protocol to be submitted to our hospital's institutional review board.

Keywords

customer value determination, patrons, interdisciplinary research, qualitative research techniques

Introduction and Background

There are many ways for libraries to promote their services. We can promote the size and content of our collections, accessibility through print or online, and the helpfulness of our staff. However, promotion efforts need to begin with the patron. While the attributes of our services and patron content format preferences can change rapidly, the needs and goals of the patron, once discovered, can provide a stable basis for promotion efforts. Knowledge from other disciplines can aid in this discovery. Librarians work with knowledge and information from a variety of disciplines and specialties in our work with patrons. While we have our own body of knowledge, our research work for others allows opportunities for us to engage creatively with other bodies of knowledge and to gain the benefit of other perspectives that allow us to improve how we serve.

A study of the discipline of business administration provides many insights that can be useful to libraries seeking to improve their services. Among others, these include the areas of process improvement, the study of leadership, and marketing. This chapter focuses on customer value determination, part of market opportunity analysis, itself an aspect of marketing research. Marketing, as defined by the University of Tennessee Haslam College of Business, "is the customer-centric philosophy, strategies, and tactics necessary to consistently create, communicate, and deliver customer value" (Collins, 2018). The American Marketing Association defines Marketing Research as

> the function that links the consumer, customer, and public to the marketer through information—information used to identify and define marketing opportunities and problems; generate, refine, and evaluate marketing actions; monitor marketing performance; and improve understanding of marketing as a process. Marketing research specifies the information required to address these issues, designs the method for collecting information, manages and implements the data collection process, analyzes the results, and communicates the findings and their implications.

As marketers seek to understand and satisfy the desires of customers, librarians and information professionals seek to better understand the information needs of patrons and address those needs. Library services need to be able to address the needs that patrons have, so in addition to understanding their questions and providing answers, it is important to understand more about what patrons value and what they hope to achieve in coming to us.

There are several activities that libraries perform that can benefit from a knowledge of marketing research techniques. Libraries must discover and satisfy patron needs; this is the subject of customer value research. Libraries, particularly academic libraries, serve as a resource for their organization's accreditation and certification efforts. This requires the ability to understand and effectively communicate the value that the library provides; this can be related to marketing in general. Libraries must also demonstrate the value of their services to the funding organization; these activities relate to customer satisfaction measurement. These activities can all be related to the process of market opportunity analysis.

Customer Value Research in Context

Market opportunity analysis (MOA) refers to that segment of marketing research focused on identifying opportunities and challenges that companies face in bringing products to customers.

More specifically, it includes macroenvironmental analysis, a review of the social, economic, technological, political, and other forces and trends that show how user preferences are changing (Woodruff & Gardial, 1996). It includes customer satisfaction measurement; the satisfaction surveys librarians typically provide to patrons, seeking feedback on services and resources, are examples of customer satisfaction measurement research. By measuring the satisfaction with library services, libraries provide tangible proof of their value and gain feedback that can then be used to improve services. MOA also includes end-user market definition studies, which enable marketers to evaluate the size and prof-

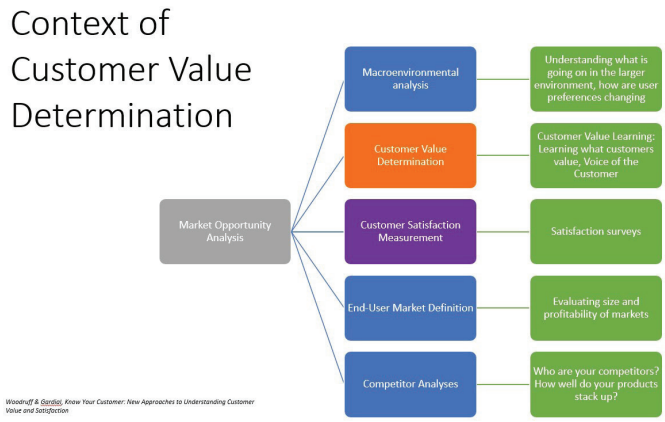

Figure 1. Context of customer value determination

itability of markets they are considering entering. These considerations help marketers provide their companies with data that can be used to evaluate the level of effort and investment required to launch a new product or enter a new market successfully, compared against the potential returns of that market. Competitor analyses are also included; any venture into a new product or market must take into consideration the competitors that already exist, their relative strengths and market share, and whether a new product can compete. While some aspects of MOA are of less relevance to library services, customer value determination (CVD) is relevant to any organization that works with customers.

CVD, customer value research, and customer value learning are all terms for research focused on helping organizations learn what their customers or patrons value. The terms "Voice of the Customer" or "Voice of the Patron" refer to CVD and the systems that companies and other institutions set up to learn about their customers and what they want. Without a clear definition of the value of your services to your patron, seen through the patron's eyes, we cannot truly measure if we are delivering that value to them. It then follows that with a clear understanding of what patrons value in library services, information professionals and librarians can more effectively design satisfaction surveys to measure performance against that standard.

Techniques for Learning Customer Value

There are a variety of techniques that can be used to learn about what patrons value in your service. Both quantitative and qualitative techniques may be used. Regarding qualitative approaches, focus groups are one popular technique that can provide a great deal of data that is significant for improving services and aiding libraries' strategic planning efforts (Wallace et al., 2016). Focus groups gather a group of customers or patrons together with a discussion facilitator. The participants are then asked a series of questions by the facilitator, and conversations between the facilitator and among participants provide insights into the value provided by a product or service. The facilitator seeks feedback from all involved, recording the insights that are gathered. While this approach allows the library to learn from several individuals at once, it is challenging to gather groups of people with different schedules together in one space at one time. Further, the focus group technique requires expertise from the discussion facilitator to keep conversations on track.

Another approach to gaining these insights would be one-on-one, in-depth interviews; two examples of this type of qualitative research would be the "Grand Tour" method and laddering interviews. The Grand Tour takes the interviewer and patron through all aspects of a service in detail, allowing the interviewer to learn what aspects of the product or service provide value to the patron and which do not (Collins, 2018). This project utilized the laddering interview technique to gain insight about the values of patrons using our library's health information service.

Laddering Interviews

In laddering interviews, the interviewer starts with the attributes of the product or service, leading up to the patron's experiences with the service, and finally to learning about the patron's values and desired end

Figure 2. Laddering interview technique

states for using the product. The interviewer begins by asking the patron about aspects of the service.

In this case, the service provided was research completed for patients and members of the public. Patrons contact the library and may request research on a condition, medication, or diagnosis. Interactions with the patrons for this service generally take the form of telephone calls, but research can also be requested via an online form or through an information system provided by the hospital in patient rooms. After interacting with the patient or member of the public, the research is conducted, with resources selected from MedlinePlus and other reputable consumer health information sources. This information is then printed, packaged with cover information including a survey, and mailed to the patron. Requests made through the hospital's information system for patients are delivered to the nurses' station serving that patient room. Occasionally, patrons will pick up information directly at the library.

Regarding the process of the interview, the interviewer begins by asking the patron about basic aspects of the service.

Some examples of questions asked would include those eliciting their thoughts on receiving the material in the mail or about their preferences for print materials versus receiving an email with a list of links.

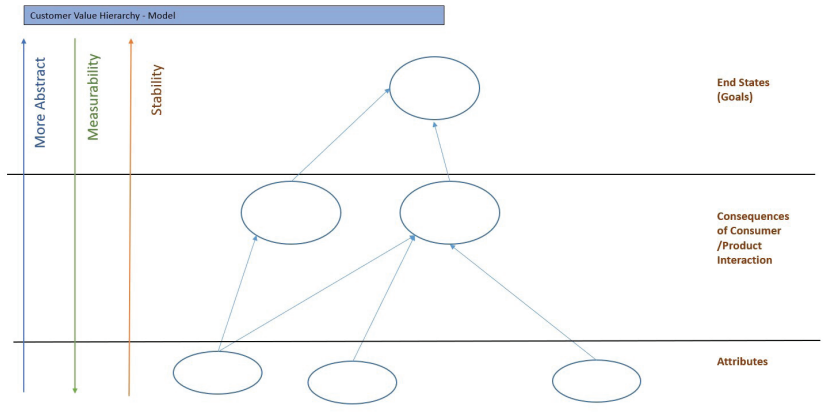

Figure 3. Customer value hierarchy model

Other attributes included how difficult or easy it was to contact the library, their interactions with staff, and comments on the sources used. This was continued until the interviewer gained an understanding of those attributes that were relevant to the patron. From that point, the interviewer began to ask questions about the patron's interaction with those attributes. This allowed the library to gain an understanding of the consequences of patrons' interaction with the service and the benefits they received, including talking to the library staff, saving time doing their own research, finding better research than they could on their own, and whether they found value in having a hard copy of information. At that point, the interview then moves to the top of the ladder, the end states, or goals of the patron. How did using the service make them feel? Interviews are recorded with the patron's permission, allowing the interviewer to listen later and to assemble a customer value hierarchy, which is a graphical representation of the interview.

Initial Research

As part of the requirements for a master's degree in business administration, in early 2019, the first author received instruction in the laddering

interview technique and conducted two laddering interviews with long-time users of the library's consumer and patient health information service. The initial research was conducted following exempt IRB approval (IRB #4464). A convenience sample of two frequent users of the library's consumer health information service was selected. The interviews were conducted and recorded over the telephone with permission of the participants. One of the initial lessons learned from these interviews regarded technology. While there were several call-recording apps that were available at the time of the interviews, the interviewer had good success with one of those in the first interview but was unable to fully record the second interview. It would be necessary to decide on a better way to record these conversations prior to scaling up the project in the future. Using an interview guide provided by the first author's professor, each interview was conducted in 45 minutes, and the participants agreed to this expectation at the outset. It is important to gain the participant's trust, to help them feel in control of the process. Both participants agreed that results from the interviews could be used in presentations, given the assurance that their responses would be deidentified.

The interviews were begun with basic, open-ended questions; participants were asked when they began using the service and what they liked or did not like about it. Asking these questions encouraged them to share their views regarding the important attributes of the service. It could be a challenge at times for the first author to avoid leading the participant; it was important to remember that the success of this technique depends on getting at the participants' needs and values. One early insight the interviewer received was that users of the service really valued receiving printed material. Previously, the first author had viewed the printed packets as really an artifact of a time when computers were less ubiquitous. As noted by "Robert," receiving the print allowed him to be able to quickly refer back to the information, which was reassuring.

The tangibility of paper, and the volume of information that was sent, was also important to "Joy."

She was relieved not to be required to use technology and avoided the information overload she often experienced when trying to find her own information. Being able to trust the information the library pro-

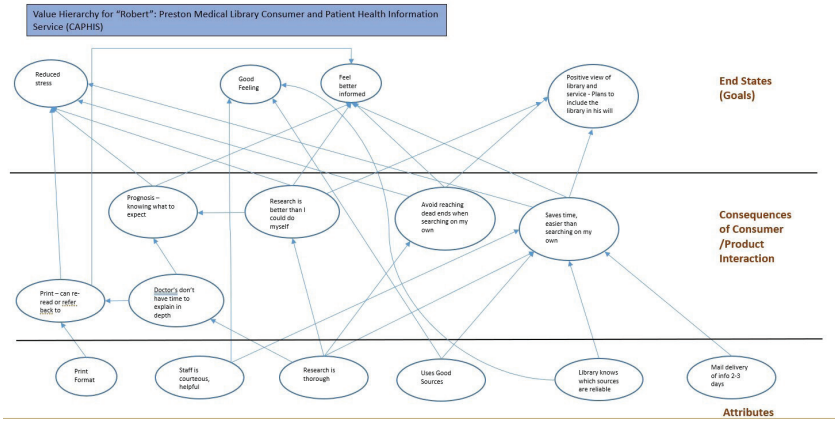

Figure 4. Value hierarchy for "Robert"

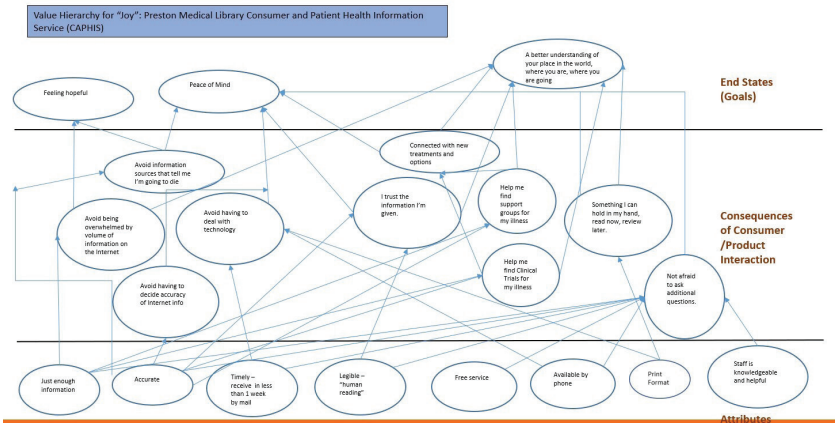

Figure 5. Value hierarchy for "Joy"

vided was also important to both participants. For Joy, knowing that the service was free, she knew she was not limited in how many questions she could ask. Her trust in what the library provided also encouraged her to call on us when seeking relevant clinical trials for her condition; the library service also connects patrons to other needed services. In reaching these patrons' end states, the interviewer learned that the library's consumer health information service helped to reduce their stress, give them hope and peace of mind, and to reduce their feelings of

uncertainty. In summary, our work helped these people feel more in control of their health and their lives.

Further Research and Next Steps

Following the initial study, the authors made plans to expand this project into a full qualitative research study, with a goal of 10 new interviews. IRB approval for the updated research plan was sought and received. The authors met with the hospital's qualitative research expert and drafted an interview guide for the study. Meeting with the qualitative research expert was very helpful for the authors. This allowed them to receive an unbiased view of their efforts and to discuss improvements to the interview guide. Specific changes included rewording questions to make them more open-ended as well as the inclusion of several prompts that could be used for the same questions. These prompts would be of aid if the interviewer were not learning what was needed with the initial prompt or if the interview were getting sidetracked. The qualitative researcher also helped in the design of the study by discussing qualitative research and how sample size worked differently with this type of research. Generally, qualitative research is continued, all things being equal, until nothing new was being learned. This helped the authors in deciding how to begin recruiting for the study.

Following this, the authors reviewed a list of those who had used the service most frequently in the past, identifying a group of 10 frequent users. The authors then drafted a letter to the candidates requesting their participation, under institutional letterhead and signed by the director of the library. Two research assistants were trained in giving the interviews and received research ethics training. In response to the previous issues with recording the interviews, the authors decided to utilize Zoom, providing the interviewees with a Zoom telephone number so that the interviews could be easily recorded. As of the time of this writing, three new interviews have been conducted. As the response from patrons has been lower than had been hoped, a second set of 10 letters was sent out, and the authors plan to revisit the plan for contacting candidates.

Conclusions

Even the smallest libraries can improve services by learning from techniques that are used by some of the world's largest businesses. With a small team trained in qualitative research techniques, customer value research can be used to learn more about what patrons value about library services. The insights that this library has discovered from just the first two interviews have implications for the format in which information is provided and how this service is promoted.

References

Collins, M. (2018). *Customer value learning*. Lecture University of Tennessee, Haslam College of Business. Knoxville, TN.

Wallace, R., Woodward, N. J., Weyant, E. C., & Walden, R. R. (2016). *Rethinking our understanding of user needs through focus groups*. Paper presented at the 66th Annual Meeting of the Southern Chapter/Medical Library Association, Greeneville, SC.

Woodruff, R. B., & Gardial, S. F. (1996). *Know your customer: New Approaches To Understanding Customer Value And Satisfaction*. Cambridge, MA: Blackwell Publishers, Inc.

Taking Multimedia to the Extreme (and Then Some)

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Abstract

As collections and services have shifted online, Media Departments have had to adapt to the new reality. This poster details how Montclair State University's Multimedia Resources Department augmented its available services and integrated new technologies into group study spaces to aid students involved in collaborative group and media projects. This entailed working closely with our Library Technical Support Specialist and Information Technology Division in planning and designing the collaborative spaces. Additionally, we will describe our use of exhibits, workshops, and public programming (lectures, concerts, etc.) to draw attention to our collections and services as well as the use of Zoom in facilitating community and campus engagement. New services such as poster printing and digital piano lending will also be discussed.

Multimedia at Risk

The pandemic has accelerated existing trends towards a greater dependence on online content. In response, Multimedia Departments need to adapt and prepare for the future by introducing new services and facilities that play to their strengths and that emphasize not only the curation of media content (physical and online) but the creation of media content (physical and online) as well. Otherwise, we could compromise our position vis a vis other competing forces on and off-campus. As it stands now, there has been an over 50% decline in circulation of physical library materials (books and media) in academic libraries between 2013 and 2018 according to NCES statistics. At the same time, media formats like VHS, microfilm, and eventually DVDs will be sidelined. Disappointingly, academic libraries rank fourth as a source of film content behind faculty collections, YouTube and other sites, and departmental purchases (Spicer and Horbal, 2017, p. 708). The metrics could continue in the wrong direction if we do not lay out a new strategy.

Catalyst for Change

The renovation of the Lower Level and Multimedia Department of Montclair State University's Sprague Library during the summer and fall of 2017 proved to be a pivotal moment for us. Due to the construction project, the Multimedia Department lost half of its space to the College of Art, which included classrooms, viewing rooms, and a large microfilm storage area. It forced us to closely examine (and question) basic assumptions regarding the Media Department's mission and core services. We needed to redefine our mission and quickly redeploy our remaining space in a manner consistent with this new vision for media services.

Experimentation and New Services

Our new mission for Multimedia embraced not only the curation and collection of media content but also the creation of media content as well by students, staff, and faculty. This expanded mission was consistent with two "near term" academic library trends. The first was viewing patrons as creators of "user-generated videos, maker communities, and crowdfunded projects" as well as other types of products. The second trend involved reimagining the use of library space. Patrons were now "relying less on libraries as the sole source of accessing information and more for finding a place to be productive" (Adams Becker et. al., 2017, pp. 8–9). We were now in the business of not just collecting and providing content but also providing the means for our patrons to create content. At this point, it was just a matter of translating this shift in priorities into new services.

This is not as easy as it sounds. It is a difficult task to determine exactly what our users need and want. User surveys and focus groups are not always the answer. As Steve Jobs once said, "Consumers don't know what they want until they see it" (Isaacson, 2011, p. 143). In other words, organizations and Libraries sometimes need to experiment and use their creativity and foresight to ascertain what will be the next innovative product or service on the horizon.

Collaborative Spaces

As the newly appointed Interim Head of the Multimedia Resources Department in 2018, I became tasked with reshaping the department and taking it in a new direction. I met several times with the Library Technology Support Specialist (Sital Patel) to draft a funding proposal to renovate our group study rooms to create three entirely new collaborative spaces equipped with Sony 4K 65-inch flat screen TVs with remote control and tabletop Crestron controller pads that allow users to connect (using HDMI, VGA, and other cables) to different mobile devices or choose to use the main computer. AirMedia is also available

in all three rooms, enabling patrons to wirelessly connect to the system as well as share the desktop screen from any Windows, MacOS, iOS, or Android device. The main purpose of these collaborative spaces is for students to work on group assignments and media projects (using Adobe Creative Cloud, Microsoft Office Suite, and other available software) as well as video conference (with the pre-loaded Zoom app). Each collaborative space has a whiteboard with markers and erasers to assist with group work. Usage of the rooms has been fairly robust since they opened. This is very similar to the experiences of other academic libraries like Northeastern University's Snell Library where the collaborative spaces have become a popular destination for students (Cohen, 2019).

Photo Studio

Another opportunity for experimentation presented itself after the College of Art reached out to Multimedia in 2019 to work cooperatively on setting up a photo studio in a converted storage area in our department. The Art and Design Department loaned us most of the equipment including a Nikon D300S digital camera, Nikon D3300 all-purpose lens, Sony HDR-XR550 Handycam, fluorescent lamp lights, and photo shooting table (with white tabletop). The Library for its part purchased a Chroma key green background along with brackets. The shooting table is for taking pictures of objects and the green background (with brackets) is for taking photos of individuals or groups of people. Students, faculty, and staff can use an eColor+ poster printer in the photo studio for large-scale print jobs up to 36″ wide. Poster files can be loaded directly into the printer from a flash drive or printed from an attached computer workstation.

The photo studio can be used by itself or in conjunction with the collaborative spaces for anyone needing to create photo images and then edit them or incorporate them into a group project. Each collaborative space has a computer loaded with Adobe Creative Cloud and Microsoft Office Suite that can be used to edit and customize images and text.

Projects can be displayed on the large flat screen TV and shared with other group members. Moreover, students can video conference with their peers by either using the Zoom app preloaded on the main computer or using a Zoom application loaded on their laptops or mobile devices. Each room also has a Polycom AI camera that can be used for this purpose. The AI camera automatically focuses on anyone in the room who starts speaking.

Loan Programs

A private individual donated a Yamaha Portable Digital Piano to the Library and it eventually made its way to the Multimedia Department. Now, students can use the electronic keyboard for music practice and composition, performance, and creating sound recordings. They can borrow the portable piano for up to three days. Musical instrument loan programs like this are part of a growing movement known as "The Library as Incubator Project" that promotes creative expression and brings artists and libraries together (Damon-Moore, 2014).

Last spring the Library purchased three 10.2″ iPads with Smart Keyboards for student use in the Multimedia Department. Students can borrow the iPads while working on group projects in the collaborative spaces or viewing rooms. Each iPad comes with an Apple Smart Keyboard for entering data and composing documents. Besides iPads, students can also check out Sony DVD players and external DVD players (USB). This equipment can be used in our collaborative spaces and viewing rooms. Students can also borrow erasable markers to use with portable whiteboards in the collaborative spaces and our open study area.

Modernizing the Viewing Rooms

The Library submitted a Technology Request Proposal to the IT Division last fiscal year (fy2020) and received funding to start modernizing

one of its A/V viewing rooms. The upgrade was completed in March 2020. The improvements included replacing a legacy television with a 55″ Sony flat screen mounted on a mobile equipment cart and deploying a Sony 4K UHD Blu-Ray Player. In addition, a Crestron control system was installed along with additional data lines for students to connect to the network. The new technology and equipment will accommodate newer media formats like Blu-ray and improve the experience of watching high resolution and streaming video.

We also submitted a new proposal for fiscal year 2021, which seeks to modernize all five of the A/V viewing rooms and install AirMedia wireless to allow students to wirelessly stream video and display their desktops on a large flat screen TV. At the same time, we would like to replace old furniture with more comfortable and ergonomic furniture.

Public Programming & Civic Engagement

From September 26 to December 12, 2019, the Library in cooperation with several MSU academic departments organized a grant funded lecture series entitled *Journey to the Moon: New Jersey and the Launch of America's Space Program*. The nine events celebrated the 50th anniversary of the Apollo 11 mission and New Jersey's contributions to space science. Apollo 11 Astronaut Buzz Aldrin grew up in Montclair before pursuing his career as a military pilot and astronaut. Some of the noteworthy speakers included former NASA Historian Roger Launius and Space Shuttle Astronaut Terry Hart. Dr. Hart presented his lecture on the history of space exploration (and his personal experiences as an astronaut) remotely using Zoom to a classroom full of students and other attendees in one of MSU's Science buildings. Our last event was a panel that featured an engineer who worked on the Apollo 11 Lunar Excursion Module as well as Astrophysicist Charles Liu from the CUNY College of Staten Island and the American Museum of Natural History (Hayden Planetarium). We partnered with the Montclair Public Schools, Montclair Society of Engineers, Montclair TV34, IEEE North Jersey

Chapter, West Orange Public Library, and the North Jersey Astronomical Group (NJAG) on this project. NJAG sponsored a "Telescope Night" after several of our evening events to allow attendees to star gaze and gain an appreciation for Space Science and Astronomy.

Our department also organized two concerts in fall 2018 and spring 2019 as well as two Book Art workshops. Both concerts were co-hosted with the Cali School of Music. Italian musicians Rephael Negri and Delilah Gutman performed Jewish music from around the world during the 2018 fall semester and Arctic5 consisting of five MSU students performed Swedish and classical woodwind works the following semester. The concerts helped to draw attention to the musical talents of our faculty and students and attract accomplished international musicians to campus. It was also an opportunity to put a spotlight on our audio collections by creating subject guides for each occasion.

Several of our public events were video recorded and will be posted either on Panopto or on MSU's Institutional Repository (this is consistent with our new emphasis on content creation). Together with the events, the video recordings help promote science and humanities literacy in the community.

Marketing

We created a slide show using PowerPoint to publicize new films added to our collection, departmental hours, and public events and then displayed it on a large Sony flat screen TV mounted outside the Media Center. The slide show images are stored on a flash drive inserted in the television. In addition, we purchased new carousel display cases to showcase new DVD/CD arrivals and Academy Award winners (and nominees) in the collection. Our new and existing exhibit cases have been used to commemorate historical anniversaries and explore various subjects in film. We also market events, new resources, the collaborative spaces, and photo studio on the OrgSync (Engage) platform for student organizations, library newsfeed, and social media. Encouragingly, DVD

circulation increased 8.5% in FY 2019 (other metrics also increased) after all these measures were put into place.

What We Learned

The key to our success was adopting three operating principles in pursuing our new objectives. First, we tried to think of creative and imaginative ways to serve our users while not being afraid to take risks and experiment. Steve Jobs was a master at using technology in a creative manner to come up with new products and services. Libraries should utilize technology in a similar fashion. Secondly, we tried to focus as much on the creation of content (by users and staff) as the curation of content. Lastly, we utilized the "Hedgehog concept" (Collins, 2001, pp. 95–97) whereby organizations play to their strengths and concentrate on what they do best. Using this concept, we sought to identify new services that complemented our organizational and individual strengths and elicited a strong commitment on our part. At the same time, we tried to avoid adding new services that were extraneous to our new mission. As a result, the department was able to reorient itself during a difficult period and introduce a broad array of new services.

References

Adams Becker, S., Cummins, M., Davis, A., Freeman, A., Giesinger Hall, C., Ananthanarayanan, V., . . . Wolfson, N. (2017). *NMC horizon report: 2017 library edition*. Austin, TX: The New Media consortium.

Cohen, D. (2019). The books of college libraries are turning into wallpaper. *The Atlantic*. Retrieved from https://www.theatlantic.com/ideas/archive/2019/05/college-students-arent-checking-out-books/590305/

Collins, J. (2001). *Good to great: Why some companies make the leap . . . and others don't*. New York, NY: Harper Business.

Damon-Moore, L. (2014). Guitar lending collection at licking county library. *Collections/Libraries*. The Library as Incubator Project. Retrieved from http://www.libraryasincubatorproject.org/15789

Isaacson, W. (2011). *Steve Jobs*. New York, NY: Simon & Schuster.

Shapiro, S. (2020). Taking multimedia to the extreme. *The Journal of Academic Librarianship*, *46*(6). https://doi.org/10.1016/j.acalib.2020.102231

Spicer, S., & Horbal, A. (2017). The future of video playback capability in college and university classrooms. *College & Research Libraries, 78*(5), 706–722.

Consortial Progress

A Proactive Pandemic Response

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Abstract

The Network of Alabama Academic Libraries (NAAL) is a consortium of the Alabama Commission on Higher Education and Alabama's four-year public and private institutions. Our 28 members are quite diverse, but when COVID-19 hit, we were reminded that our struggles are remarkably similar. We worked together to enhance library services throughout the state, tirelessly addressing needs in interesting ways. From helping move classes online to archiving the pandemic, our librarians rose to the challenge and made sure we connected users to the information they needed.

Keywords

consortium, academic libraries, pandemic response, COVID-19, Alabama librarians, Alabama libraries, NAAL, Network of Alabama Academic Libraries, partnering, networking

The Network of Alabama Academic Libraries (NAAL) is a consortium of the Alabama Commission on Higher Education (ACHE) and Alabama's four-year public and private institutions. Our primary purpose is fostering communication and cooperation between member libraries with a focus on purchasing and sharing collections, products, and services that promote teaching, learning, and research. The Alabama Virtual Library (AVL) was created by NAAL, and programs of interest include AlabamaMosaic and the Alabama Digital Preservation Network (ADPNet). AlabamaMosaic is a repository of digital materials on Alabama's history, culture, places, and people that makes unique historical treasures from Alabama's archives, libraries, museums, and other repositories electronically accessible. ADPNet is a distributed preservation network for locally created digital content, a low-cost digital preservation solution for academic institutions, state agencies, and cultural heritage organizations throughout the state.

My first focus as a director was vendor and content provider negotiations, seeking reduced rates for electronic resource subscriptions to address impending budget cuts. Our libraries braced for financial crises, expecting their acquisitions budgets to continue to drop even as they were expected to play bigger roles in virtual research and learning. My challenge was to minimize subscription cancelations.

As our libraries tirelessly addressed their campus needs in inventive and interesting ways, I worked to publicize their efforts, providing interviews and press releases to raise awareness. Libraries are essential and were recognized as such when disaster struck; this should be reflected in our budgets and administrative support. Decades of effort to provide online resources for all Alabama citizens via the Alabama Virtual Library was brought into sharp focus: teachers and librarians are well aware, but now parents helping their kids learn from home for the first time needed to know. And after so much effort and time spent encouraging our users to visit our physical spaces, we had to focus on providing seamless service from a distance.

Our academic librarians took the lead helping teachers move face-to-face classes online and all that goes with it, hand-holding and embedding themselves into courses to help. Most were already well-versed in

online instruction but some had a steep learning curve; the NAAL Continuing Education Committee applied for IMLS CARES Act funding to provide training to better equip librarians newly navigating an all-virtual world. Acquisitions staff addressed e-book purchases and the increased need for streaming video; some administrations were able to fund them with State of Alabama CARES Act funding. Catalogers worked tirelessly to ensure discoverability of new resources. Our librarians wrote grant proposals, took classes and developed online video tutorials and learning guides, expanded their instruction and consultation repertoire, and zoomed for classes and individual student meetings. They were tasked with distributing laptops, tablets, and hotspots to students with technology needs. They translated traditional exhibits to online environments so students could complete assignments.

When staff began returning to their physical buildings, they did all the things: installed plexiglass, rearranged traffic patterns and removed seating to encourage social distancing, distributed masks, provided hand sanitizer, reduced and rearranged staffing hours to limit exposure and provide time for cleaning of shared spaces, and monitored adherence to policy. Quarantining returned items created spacing challenges and cataloging efforts. We provided curbside service, which is still in place for most, even as indoor spaces have reopened. Chat services exploded as reference departments moved online.

Our schools partnered with public health departments—Alabama State University became a testing site, including drive-thru testing, and prioritized teachers, vaccinating at least 800. They and many others became vaccination sites.

NAAL's interlibrary loan service ground to a halt; returned books and materials were often not accepted as campus post offices filled up and staff were unable to access campus buildings. Electronic resource delivery skyrocketed, naturally. During the first month of the pandemic, for example, Auburn Interlibrary Loan responded to over 3,500 requests for materials and scanned over 1,500 pages of materials to provide them electronically. Their department refused to work from home in order to address these anticipated needs.

Our schools with maker spaces and 3D printing equipment never

missed a beat partnering with others on campus, some even took the equipment home with them in the beginning to ensure access. Those with health science programs and medical schools had additional tasks of support, including an intense focus on assessing and providing the latest COVID-19 information. Librarians at the University of Alabama at Birmingham worked with their medical school to help make protective gear for healthcare providers and nasopharyngeal swabs for COVID-19 testing via their 3D printers. Teams of archivists stepped up to document the pandemic, photographing empty campuses and recording the stories of students, faculty, and staff. Just as we have been learned from history and the 1918 pandemic, we worked to ensure future generations can learn about campus life during COVID-19.

Along with the rest of the world, we discovered the need to connect with each other and the helpfulness of online conference software. ACHE purchased Zoom accounts and NAAL used them for chat sessions for directors/deans, then for all those working in different library departments. With no agenda other than communicating and learning from each other, we bonded over common problems, discovered how much networking can decrease stress. We held a virtual NAAL annual meeting for the first time in our 86 years.

Many of these changes will continue after the pandemic, at least to some degree, since the learning curve has been successfully navigated. There's a definite focus on electronic collection development for the future. Flexible schedules and teleworking improve morale, and meeting users where they are has always been a priority. We aren't out of the clear yet, but we've been more successful than most would've dreamed: as always, librarians excel at connecting people to the information they need regardless of obstacles. Alabama librarians definitely rose to the challenge.

Management

Reimaging the Conference Experience in a Post-COVID Library World

Eleanor I. Cook, East Carolina University
Tony Zanders, Skilltype

Abstract

How do you reimagine a print collection promotion strategy during a sudden campus shutdown amidst a global pandemic? The closure of the library building in Spring 2020, and by extension our print collection, forced us to rethink our collections promotions strategy—particularly our effort of "centering marginalized voices" with regular in-library book displays in celebration of Black History Month, Pride Month, and Indigenous Reads. At the same time, our library had recently migrated to a shared library services platform (LSP) environment (Alma and Primo VE, through Collaborative Futures, a consortium of 14 university libraries across the province of Ontario), creating opportunities for tracking and developing digital collections and discovery that were not previously possible. This article will outline how we quickly developed a strategy and procedures for promoting our collections digitally, including the opportunities and challenges presented by this move, and the key workflows we developed to support this work.

Keywords

conference attendance, professional development, diversity, equity, inclusion, management, COVID-19

TONY: Good afternoon everyone, I'm Tony Zanders, delighted to be with you this afternoon. I'm the Founder and CEO of a new company called Skilltype, and I'm honored to be here with my friend and colleague Eleanor Cook, who is the Interim Head of the Music Library at East Carolina University. We're here to share some conversations we've been having for the past 2 years, prior to COVID, about what professional development and what the conference experience could look like. So, without further ado, I'd like to introduce you to Eleanor to get us started.

ELEANOR: Thank you. Okay, a big shout out to all of you in the audience. Good to have you all here. This first slide is showing you a picture of the 1887 ALA Conference. The reason I'm showing this and a few other slides that are similar, I'd like you to imagine what it might have been like to travel in 1887. You'll notice that the picture is of men and women, and all of them are white. Of course, for many years there were no opportunities for people of color, or many other kinds of people, to attend a conference like the ALA conference. So, the beginnings of formal librarianship in the U.S. can be traced back to this. There were other groups that arose over the years to address the need for a more inclusive type of conference experience. But, suffice to say, it was always a privilege to be able to travel to a conference.

Here you see a picture of the 1st Negro Library Conference in Hampton, VA, in 1927. The first library school that was developed for African Americans was at Hampton University. So, you know, there was always the need for the education and the schooling that was necessary for libraries, but for many years it was segregated. And, even as late as 1970, that was the year that the Black Caucus of ALA was created. So, if you can just try to imagine what it was like to travel between 1887 and 1970, it was not like what we do today.

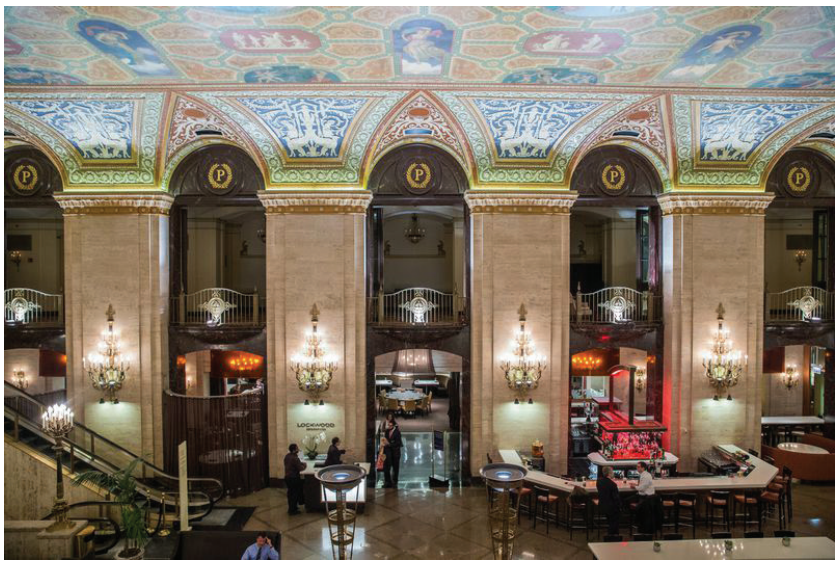
Of course, the Civil Rights Movement and legislation paved the way for more equity in librarianship and in our greater society, but to this day, there are still issues to address. So, the privilege of travel remains one of those issues, and oddly enough, the COVID-19 pandemic has flipped this issue on its head in so many ways.

You can see here, in 2014, a much more diverse group, but yet, it's still hard to travel. [ALA Annual Conference, Las Vegas]

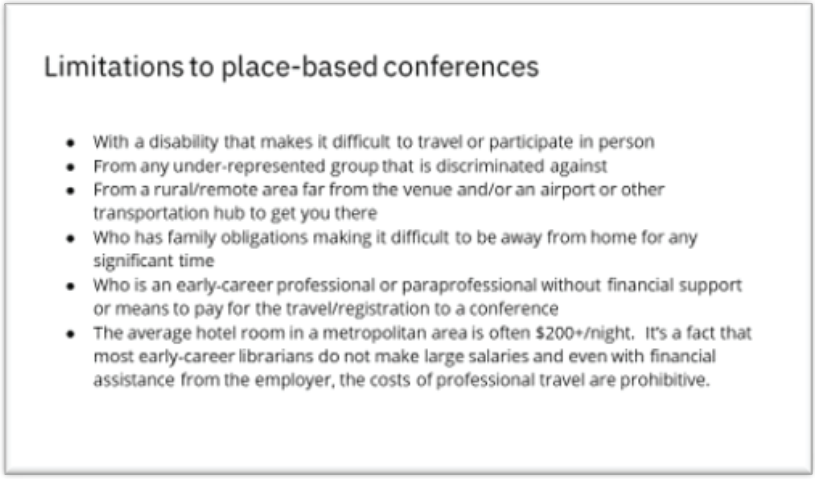
All right and then, in the next slide, you'll see Eleanor and Tony. We met at the Charleston Conference, in 2018. In 1887 this wouldn't have been possible.

So, we want to talk today about the pros and cons of what we're dealing with in 2020.

The Palmer House declares bankruptcy, fall 2020 (Zbigniew Bzdak/ Chicago Tribune)



Here you see the late news about the Palmer House, a large hotel in Chicago, which is declaring bankruptcy this year, because of—well, I guess because of COVID, but other things too, perhaps. This is one of the places when you go to the ALA conference, many people will have meetings here or stay here. I never got to stay at the Palmer House, but I certainly attended meetings at this place; it's quite opulent, as you can see.



All right, let's talk about some of the pros and cons. I'm going to start and then Tony's going to pick up. There are limitations to place-based conferences. Think about all the different people who cannot travel for one reason or another. For example, if you have a disability, it may make it very difficult for you to travel. If you feel discriminated against, it may be hard for you to travel. If you live in a rural or remote area that is far from an airport, or a way to get somewhere, you might not be able to attend a conference. If you have family obligations that make it difficult for you to be away from home for any length of time, you may not find yourself going to conferences. Also, early career professionals and paraprofessionals who don't have financial support or means to pay, might not be going to conferences.

Hotel rooms have gotten very expensive. I would say $200 a night is the ballpark for a metropolitan hotel room. And no matter whether

you're early career or not, if you don't have the money or you don't have the assistance, besides the hotel room, airfares and all kinds of other travel expenses can be prohibitive.

However, there are also limitations to doing it the way we are doing it today. I don't have a slide for it, but I am going to mention a few things, and then Tony is going to pick up. When you do a conference this way, the way we are doing it today, (online) you don't have direct face-to-face networking opportunities. You don't have direct interactions with vendors. You don't get the same cultural experiences when you travel to a place you've never been before, especially if it's a fun place. And we all know that going to a conference is not all work, that there is an element of fun to it as well, and that if it wasn't fun, we probably wouldn't do it as much. Now, our employers do not send us to conferences to have fun. We know that this is serious business and we're there to learn. But it doesn't hurt to have pleasant experiences when you travel. So, I leave it with that, there's more to be said. I would also like people in the audience to give us some other examples as we get into the Q&A about the pros and cons that we are talking about.

TONY: Thanks so much, Eleanor, for setting up this conversation. All of this is taking place during a backdrop of a massive effort to reskill our workforce in light of what is being called the "Fourth Industrial Revolution." The World Economic Forum

estimates that over 50% of our workforce will need to be reskilled by 2025. Much of this is due to the technological shifts that are taking place; new skills and new technology are being introduced to do traditional work, and all of this requires additional learning and development.

Some concrete examples from other industries are listed here. Billions of dollars have been invested into reskilling, upskilling, and professional development across industries. You see examples here from the likes of Google, and AT&T, and Price Waterhouse Cooper. We also see over the past three years the manufacturing industry as a whole investing over 26 billion dollars in the United States alone on reskilling people. And so, apart from the diversity and equity and inclusion issues that were sort of created by the historical roots of professional development in our country, we now have another issue, unrelated to COVID, that's dealing with the need to gain new skills at a rate higher than ever before.

Just to summarize: The model that was designed when ALA was first launched in 1876 has several issues; it's exclusionary, not everyone is able to share their voice, share their expertise, share their vision, for what our work is and should be. It's also homogeneous; the diversity issues in our community are well cited and well documented. It also creates inequity, because in order to get promotions in an academic envi-

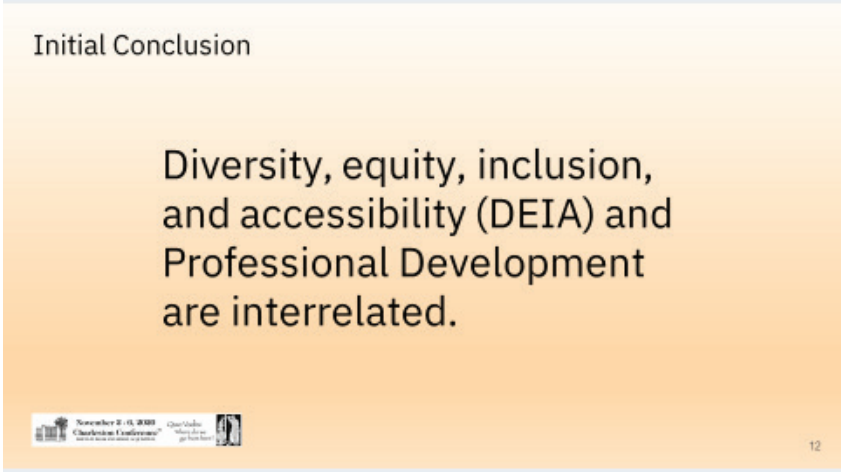
ronment that's based on tenure and promotion, you have to be able to attend these types of sessions and earn these types of credentials and so it creates inequity within itself. It's also cost prohibitive, as Eleanor mentioned.

Something that isn't talked about as much is that in an age of privacy the traditional model monetizes user data and there is a lot of concern about this moving forward as we look to other industries. There is also poor design, and so to navigate once you land from the airport or you drove in through a road trip, and you are at the actual event—no one really loves what it feels like to walk around ALA convention centers, you're often late, and there's like 400 sessions, you're only interested in 6 of them, and by the time you get to the 6 that you like, you're ready to go to sleep, you can't even do the fun things that Eleanor described.

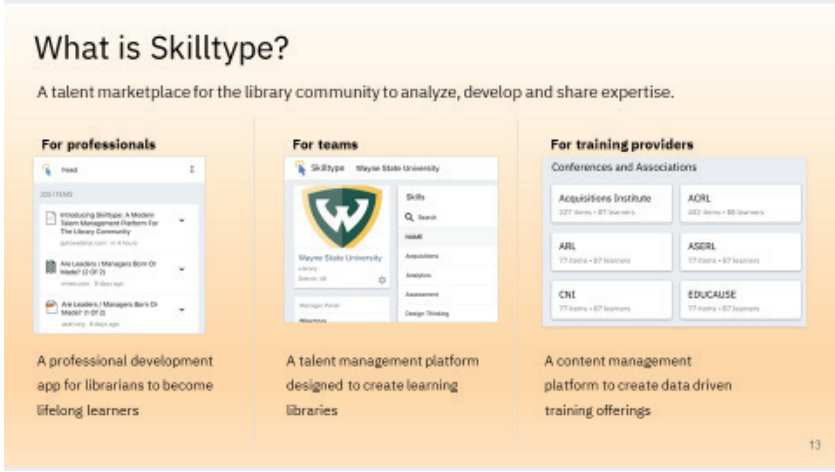
It's also environmentally harmful, for those of us looking at the Green initiatives that we can do to reduce carbon footprint. The airline industry wants this to continue, but many of us don't. The other issue that is not discussed too often, is that it bottlenecks expertise sharing. And so, even for this session, we had to spend a few months preparing our call for proposal, then once we submitted that proposal it took another few months for the conference to actually take place, and by the time the presentation is actually being delivered, we're presenting material that could be six months to a year behind, and depending on the size

of the conference, that timeline is actually longer. And so, it bottlenecks expertise sharing, where sometimes what we're needing to share that we've experienced in our work, there are others who might need that information, like, immediately. And so, there's a better way we believe, to reduce this bottleneck.

Over the past two years, at Skilltype we've been building a global community to tackle these exact issues. It's a pretty diverse community, mixed between academic libraries, professional associations, open-source communities, and others. And, we're really optimistic about the potential that the library and information science community has to tackle these issues head-on.



One of our initial conclusions is that, while seemingly separate, diversity, equity, inclusion, and accessibility are actually tightly related with professional development. And so, now today we have two separate dialogs that are taking place, one around DEI and another around reskilling and upskilling; we believe that these two dialogs should actually be merged together because they have some really strong interdependencies in libraries, at least.

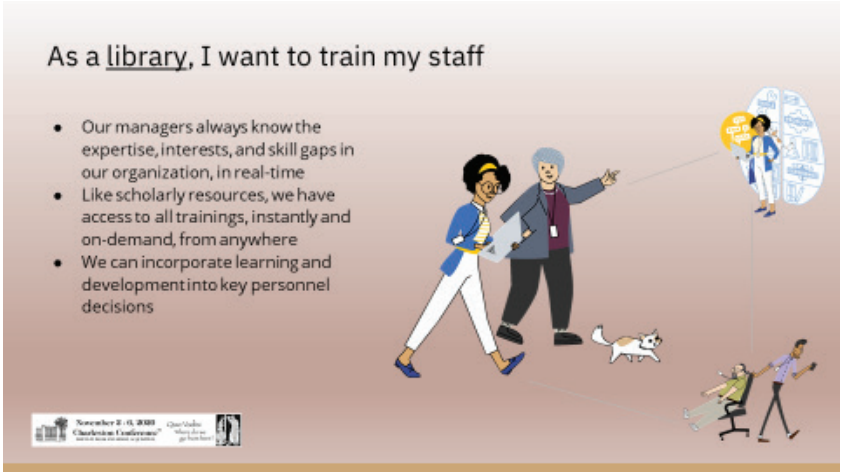


At Skilltype we're working on this from a software perspective. We're working on a talent marketplace that has three components. In the first column here, you'll see what we're doing for professionals, learners, and the goal is to facilitate life-long learning for all of us across the community. Then there's the organizational perspective, what we call Skilltype for Teams, and so, organizations have a stake in this as well. They manage budgets that they have to invest, for professional development on behalf of their learners, and their workforce. And then lastly, but not to forget, training providers, including groups like the Charleston Conference and others. Their world has been turned upside down by COVID-19 as well. And so, we're all in this together, and while things may seem competitive in other contexts, we all have to help each other figure this out, in order to make it into the next 5–10 years of this profession.

What I would like to share today is some of the user research that we've done to address these issues, and the quickest way to explain it will

be in the form of what we call "personas" in the user research world. So, there's really three personas that we're discussing here. On the first, we have each of us as attendees of these trainings and workshops; we're the information professionals. We also have the libraries and organizations that are funding our training and our development to meet their strategic directions as an organization. And then lastly as I mentioned, we have those who are producing and facilitating these wonderful opportunities for us to grow our career.

So, as a professional, I want to develop my skills, and this phrasing is sort of typical for user research, and what would it look like for me to do that in a modern way? Firstly, I want to access every training that was ever created, and I want to do that instantly and from anywhere. Each organization that I'm a member of gives me certain rights and privileges to gain additional training, so my employer gives me access to certain professional development databases that they have access to, like LinkedIn Learning and others on campus, but I'm also maybe a member of a professional association like NASIG, or another group, maybe ALA, and by virtue of that membership I have access to additional trainings as well. All of my training in an ideal world is contextualized based on my career goals; so today I have to sort of figure that out on my own, I have to connect the dots for myself, I have to browse the call for proceedings myself, and wonder if this is a good use of my time, and even if I think it's a good use of my time, how does it fit into the context of my career goals? So, these are some of the things we think about when designing a modern experience for us as learners.



Now, as a library, I want to train my staff; that's why I have a seat at this table. Our managers should always know the expertise and the interests and the skill gaps across our organization. Why? Because that's the information we need to make decisions on where people go. Traditionally, people can sort of raise their hand and say "Hey, I really want to

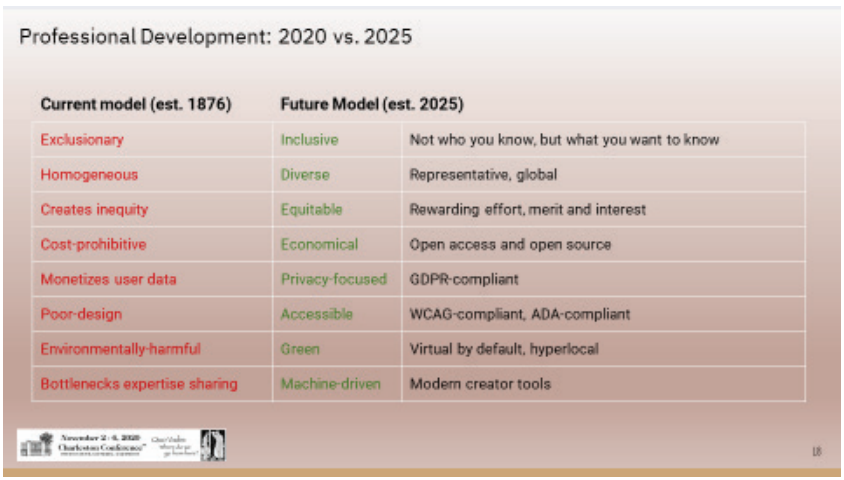
go to this conference; I don't have a really strong reason why, I just love to go, and no one ever said no before, so, hopefully you'll say yes this time. And in this day and age, with the austerity measures in place, that excuse really isn't going to cut it, moving forward. We actually need to tie the learning we plan to do there, with the organization's strategic goals. Like scholarly resources, we should have access to all trainings, instantly and on demand. Again, just like our databases and other areas across scholarly communications. We should have access to this when it comes to professional development and training from anywhere that we are. And, we should incorporate and we want to incorporate learning and development in the activity of all of our workforce as they learn, into key personnel decisions, so perhaps instead of hiring someone from outside to do a certain task, maybe we see that someone can be trained up or reskilled right from within. And this speaks to COVID directly, as many of our institutions are under various austerity measures, most or many include a hiring freeze of some sort. And so, as a library, I not only want to train my staff, but I want to figure out a way to manage and acquire talent in a way that is more sustainable.

And lastly, as a training provider, I want to facilitate training. Traditionally, I am used to the in-person experience, maybe at the Palmer House, maybe in Charleston, at the Gaillard Center. But we're not able to do that anymore. In an ideal world, if we're just sort of starting from

scratch, on a whiteboard, being very imaginative, I'd love to deliver the right training to the right group of people, at the right time, anywhere around the world, I wouldn't prefer to be constrained to having people physically have to come to one place, if there are other people willing to pay me, the training provider, money, to deliver and facilitate this training.

I'd love to create a business model that increases access to our trainings for those who need it the most. So right now, it's not economically feasible to give all of the trainings away for free, for everyone; we've got to sort of rethink things, where we can cover our costs, we can grow our business as a training provider, while at the same time not increasing the inequity that has been in the community historically as Eleanor described.

And lastly, all the wonderful work we do to produce trainings, we don't really have a way to measure the impact of that today. And so, ideally, we'd love to be able to know: did the training that we facilitated and brought together, did it have an impact, a positive impact, on the professionals who attended, on the organizations that paid for them, and also the community at large; are we really pushing the profession forward; sort of taking the baton from the ischool community, to continue lifelong learning and development as people enter different phases of their career in the information profession.



So in closing, when we compare sort of where things have gone, to where things are today, we think we can make some really strong progress by merging together two disparate dialogs that are taking place right now; one around diversity and equity and inclusion and accessibility, with reskilling and professional development; we think if we merge these, we can achieve some of the outcomes you see on the slide here. In the future, we believe professional development will be more inclusive; not about who you know, and if you can get into the right room, but about what you want to know. We believe it will be more diverse—more representative, really addressing the underrepresentation of certain demographics and, also more global. When you talk to colleagues around the world, they share many of the same needs and concerns that we have here in the States. It will also be more equitable, so we will reward people's effort and their merit in their interest in learning. Economical is another key because cost-prohibitive is a reason why many people can't attend this conference. And so, borrowing some of those tenets from open access and open source, and applying those to producing training. Privacy-focused is one that we need to be discussing because, again, much of the data that we share with our organizations, it goes into places as a learner that we're not all that sure where it goes, and so we have some frameworks around GDPR and in the state of CA around how user data should be managed, especially regarding one's career. Accessibility is another key, and so we have other frameworks like WCAG for web accessibility and ADA compliance will be at the top of mind when designing a professional development experience. Green, the one aspect of creating a virtual experience or the right balance of virtual and in-person is that we're going to do a great job of reducing our carbon footprint as an industry. And lastly, creating modern creator tools that reduce the bottleneck for expertise sharing. We think that all these are sort of tenets of a modern professional development experience and COVID has created an opportunity for us to discuss this front and center.

Q&A Session

TONY: We'd now like to open things up questions and discussion and chat; I wasn't able to look much at the attendee list here, and I know we also have a moderator perhaps who has been checking out question, so Stephanie, if you want to help us, or we can sort of browse things ourselves.

ELEANOR: There are a few comments already that are interesting, and so, the first one was Eric, who mentioned that team members really shine in the Chat area, that normally don't speak in person. I thought that was a really great observation.

TONY: Absolutely. This deals with inclusion; not everyone is the gregarious, extroverted type, to share their ideas, especially in a large training session or large workshop. That is a wonderful advantage of thinking virtual first, absolutely.

ELEANOR: While we're waiting for more comments, I would like to also mention that while this type of interaction may be more inclusive, one of the barriers that we have to struggle with is the equality of internet access. Not everybody has high volume internet access. And in fact, today I am sitting in my office at the Music Library to do this presentation because my internet access at home is not reliable enough. You might have lost me; so, you know, I wanted to make sure that didn't happen. Now, it

could have happened here too, but it was less likely. I've heard of students who are trying to complete their undergraduate degree and they're having to go to parking lots, because they don't have internet access at home.

TONY: So, there's this hub and spoke model of having an online experience, but the physical location of our institutions, of our libraries, can serve as gathering places; and, if you think about—in sports—when most people can't attend a football game at the stadium that it's actually at, but there is a really great experience when you go to your local pub or your bar to watch that and share that together, have a beer and connect with people who are local. There's a model for that when it comes to learning and development that I believe that we're going to be exploring as we move forward; the conference, say Charleston, for example, may take place in Charleston, for those who can afford to go, but it won't be a 2nd class experience for those who can't. And to have groups of sort of spokes, of host institutions who can host local and regional events that can be driven to; I think we're going to be exploring this much deeper out of more necessity.

ELEANOR: Yes, a hybrid model is where we are headed. And I think that perhaps our presentation seems obvious to some of you, but I think that when Tony and I started talking about this a few months ago, we realized that it isn't always that obvious to people, and one of our commenters here, Molly, mentions how the virtual conference is much more accessible for her personal and health circumstances, and for me, personally, that's true too, for this year; I've never had that problem before but if I had had to come to Charleston this year, ironically I would have had a hard time, because I'm having some mobility issues, and so I'm happy to be here virtually.

[Other comments from the chat:]

Meeting in person is much more useful and engaging; yes, of course it is—and I think that's why the hybrid model is the best option, and we can continue to explore what that means.

Somebody wanted to know more about Skilltype—and I know we don't have time to go into that, but if folks in the audience are interested, they can engage with Tony either directly or through one of the private chats, I think—I think you're allowed to do that—yes, sure, so you can follow up with him on that. Let's see, what else do we have here:

What will be the range of skills for the training being contemplated?

TONY: I can take this one, this sort of ties in so, when we were working on Skilltype we looked at over 20 different core competency frameworks across libraries globally, and there's believe it or not, over 700 different skills that a librarian, a modern information professional can perform and that's ranging across not just librarianship, and galleries and archives and museums, but also the non-librarianship related work that we have to do in our organizations, so about 30% of our jobs in a research library are not librarianship; they're related to business and IT and HR and other things. And so, there's a lot of skills that are needed, and don't even get into the data analysis and the entire world of data. So, the range of skills that we need in our organizations today are vast.

ELEANOR: Okay, then there's another comment here again from Eric: "Several folks I know have subscribed to a masterclass training resource where celebrities teach their craft." Yeah, since working in the music library I've become aware and familiar with that whole concept. Wouldn't that be cool if we had a masterclass for . . .

TONY: I could see Eric delivering a master class on you know, API integration or things and absolutely, that's part of how conferences get a draw, is through who is presenting, and I think something we need to think about is how do we allow that expert to get access to the audience of people who want access to that person, without the bottleneck. Great reference to master class there.

ELEANOR: Lynn says, "We miss the human connection" and we definitely do.

TONY: Absolutely, absolutely. Now that's why we have this year with COVID and, you know, seemingly going into the next year. It's a special opportunity that I don't think we'll ever have again where we're all sort of, you know, grounded. We can't fly. We can't do what we normally do. We should take advantage of this opportunity to prepare for the time when we can gather again and meet in person again and do so in a way that is more equitable, more diverse, more inclusive, more accessible, more affordable. But fully agree—we miss each other as well.

ELEANOR: Yes, I have co-worker, I mean, a colleague in another town who is participating in the conference but she's home with a head cold. She doesn't have COVID, but she has a head cold. And so, I was thinking, one of the plusses of doing it this way is, if you're sick, you can still participate without spreading your germs, and you won't have to wear a mask. That's the other thing I will not be surprised if in a year from now we'll still be doing that. It's hard to know.

TONY: We're right at the top of the hour and I do see one other one from Ellen Endres, who is a vendor. She says: "As a publisher, it is really important to meet my customers face to face. The virtual vendor showcase is a nice option, but we really rely on our customers to stop in (with intention) rather than meander by our booth. I really miss seeing my customers and colleagues in person."

Yeah, I can't speak on behalf of folks who are running a virtual conference right now. It's a tall order and, you got to commend what they've been able to do under such short notice. But I think we could all agree that we can learn from these experiences and design something that's better moving forward. We're not going to settle for what we're doing today. I don't think anyone would agree with that.

ELEANOR: Right. Well, this was a very quick 30 minutes.

TONY: It was. Our contact information is on the slide—please be in touch in case you have questions about our work, and I hope everyone has a good virtual conference and stay safe, this week and this month. Good to see everyone.

ELEANOR: Alrighty. Take care. Bye bye.

Change Is Constant

Managing an Evolving Acquisitions Environment

Jennifer Culley, Lead Acquisitions Librarian,
University of Nevada, Las Vegas

Annette Day, Director, Collections, Acquisitions, & Discovery,
University of Nevada, Las Vegas

Cory Tucker, Head, Continuing Resources & Collections,
University of Nevada, Las Vegas

Abstract

Library acquisitions is a challenging, ever-changing environment where staff work with a variety of resource types, formats, and evolving tools and technologies. In order to deal with this demanding environment, acquisitions departments continually evolve and often experience organizational restructuring, personnel changes, and review of workflows and processes. The acquisitions department at University of Nevada, Las Vegas, Libraries has experienced all of these, along with additional challenges of an integrated library system migration and a global pandemic. This presentation will explain these changes and provide a picture of strategic decision making, managing staff through change, addressing skills gaps and the necessary work of evaluating workflows and procedures to develop optimal efficiency in our work. This proceeding serves as a case study for the challenges

and opportunities in acquisitions work, providing concrete examples of managing through constant change, and both the successes and missteps encountered along the way, relayed from the points of view of the Director, Collections, Acquisitions, & Discovery; Head, Continuing Resources & Collections; and Lead Acquisitions Librarian.

Keywords

acquisitions, management, change

Introduction

Library acquisitions is a challenging, ever-changing environment where staff work with a variety of resource types, formats, and evolving tools and technologies. In order to deal with this demanding environment, acquisitions departments continually evolve and often experience organizational restructuring, personnel changes, and review of workflows and processes. The acquisitions department at University of Nevada, Las Vegas (UNLV) Libraries, has experienced all of these, along with additional challenges of an integrated library system (ILS) migration and a global pandemic (COVID-19). This presentation will explain these changes and provide a picture of strategic decision making, managing staff through change, addressing skills gaps, and the necessary work of evaluating workflows and procedures to develop optimal efficiency in our work. This proceeding serves as a case study for the challenges and opportunities in acquisitions work providing concrete examples of managing through constant change, and both the successes and missteps encountered along the way.

Organizational Background and Context to Acquisitions at UNLV

Acquisitions work at UNLV Libraries is part of the Collections, Acquisitions and Discovery (CAD) division. This division encompasses the functions of acquisitions, collection management, interlibrary loan (ILL), e-resource management, cataloging, metadata, and scholarly communication, including oversight of the university's institutional repository (IR). At UNLV, change in technical services and in particular acquisitions has been pretty much a constant. When the current division director joined the Libraries in 2013, the division had been through several changes and reorganizations. The current director was the sixth director in seven years with three of the previous directors being interim. Staff knowledge and consistency had been lost through staff retirements and staff reassignments. Most notably, and most impactful, the head of acquisitions had been removed from their role and reassigned elsewhere in the organization. The position had not been replaced. Instead, there had been a distribution of responsibilities to provide oversight to acquisitions work and acquisitions staff. This left the division in a position of playing "catch up" with knowledge and skills in the acquisitions area.

In addition, UNLV Libraries was planning an ILS migration. Therefore, it was essential that acquisition staff understood existing workflows, so they could translate their work activities to the new system. The library technician staff who were responsible for the day-to-day work of acquisitions had a routine of procedures that they carried out, but they struggled to articulate the acquisitions knowledge behind their procedures. It became a priority to identify consistent, knowledgeable leadership to support and train these staff in their work to be well placed for the upcoming migration. At this point in time, there were no new positions available that would have allowed the hiring in of skills, knowledge, experience, and leadership. Without new positions, the division director focused on existing division roles, skills, and aptitudes and looked for ways to utilize the current staff and ask them to step into roles and learn and lead.

Although some acquisitions oversight responsibilities had been

redistributed when the head of acquisitions was reassigned, those staff did not necessarily feel they were best suited to the work. And the division director wanted to look across all staff to identify potential, rather than just focus on the existing assignments and structure in place. In order to identify potential, the division director looked for pointers that would indicate that a staff member had a proactive approach to expanding their knowledge and had the ability to communicate well and manage staff. Pointers included identifying staff who had led projects or committees, developed new workflows or learned new skills, as well as looking at supervision experience and communication skills. The division director worked with department heads to identify staff and worked with those staff to set goals and priorities so that adding new responsibilities wouldn't be overwhelming. An organizational restructure of the CAD division was then enacted and the resulting divisional structure is shown in Figure 1.

This reorganized structure allowed the alignment of responsibilities with staff who felt better able to manage them. In this structure acquisition functions were split across two departments. Continuing Resources and Collections (CRaC) pulled the serials and e-resource functions into one department. Resource Acquisition, Sharing, and Digital Scholarship (RASDS) focused on acquiring materials that have no ongoing cost. The digital scholarship and monographic acquisitions was an unusual combination, but the head of digital scholarship had some monographic acquisitions experience along with management experience, and so it was felt they would be able to effectively bring the various elements together into one department.

As was expected, roadblocks and challenges were encountered in the new department structure. These challenges were largely focused in the RASDS department with the elements of monographic acquisition work. Skills seemed harder to develop than originally thought and training and support didn't seem enough to move staff forward. Staff in this area were supported through webinars, conferences, and encouraged to reach out to colleagues at other institutions to ask questions and seek information. It was a reactive, iterative learning process—responding to issues and questions and using those as a jumping-off point for training

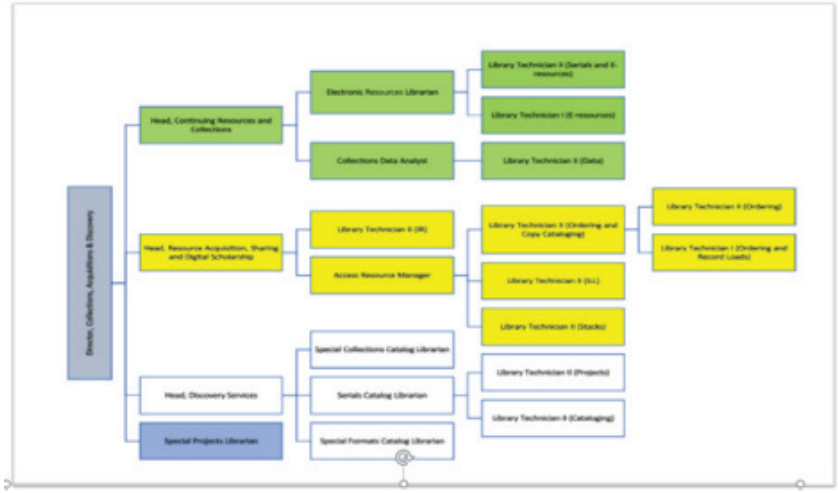


Figure 1. CAD division organizational structure.

and learning. This was a sound way to move forward but was slow and inevitably led to frustrations both for those in the position of oversight—feeling that they were on a never-ending learning curve—and for those who reported to them, who felt that a supervisor should be able to answer their questions. So, progress in monographic acquisitions stalled.

Change takes time, new skills take time, so it was important to allow for stops and starts and pauses. But it was also important to be able to identify when something was not working and when changes needed to be made. There is no simple formula to assess if more time and support is needed or if it's time to reassign responsibilities. In this instance, the division director was committed to taking the time needed to move forward in an iterative learning process. But there was also a focus on outcomes. If articulated goals weren't being achieved and that manifested itself in work errors, inability to fully address questions from subject selectors or supervisees, then it became evident that something wasn't working. In addition, it was important to understand how the staff involved felt about their trajectory. If they saw things in a positive light and felt that they were moving forward and learning, then the division director supported them and worked with them to identify specific training, resources, and additional support structures. If they felt that

they weren't able to grasp the new elements of their role and that their confidence and motivation were slipping, then it was essential to discuss with the staff member and department head if more encouragement and targeted support would help or if it was best to accept things weren't working. In some instances, decisions were made to realign job duties back to previous roles.

Although the above-described reorganization was not fully successful, many useful lessons were learned. The decision to distribute responsibilities across staff who seemed to possess the skills and aptitudes to learn was the only available option at the time. It highlighted that how staff will adapt to new roles and responsibilities cannot be fully known until they are in that role. Enthusiasm and interest are assets that should never be ignored, but they may not be enough, and skills and aptitudes that a staff member exhibited in one area might not always translate. Staff who might have been effective supervisors in an area of their strength found it much harder supervising when they felt they were on the "back foot" not being able to answer questions from their staff and support them effectively.

Establishing the Combined Acquisitions Unit

Over time the CAD division saw some staff departures and with those vacant position lines a new lead acquisitions librarian position was created. This position was created to specifically merge all acquisition functions into a unified cohesive unit (see Figure 2) The goal of having all acquisitions functions in one unit and under consistent leadership was to create a single point of contact for the rest of the libraries regarding their acquisition requests and needs and develop a shared philosophy of how we do acquisitions at UNLV Libraries. Although the workflows of monographic and e-resource acquisition may be different, there are converging points around budget management, ILS use, and interaction with campus purchasing,

Finding and hiring the right person who possesses the appropriate experience and characteristics to provide leadership over the merging

units would be a key factor in managing a successful merger. The ideal candidate would have expertise in the area of acquisitions, including detailed knowledge of issues, trends, and best practices. In addition, since the person in this role would be leading change, the Libraries desired a candidate who possessed other important qualities. Having managerial and supervisory experience would be beneficial in handling personnel issues or concerns associated with changes and merging of the units. The Libraries also needed a candidate who possessed good attention to detail and had strong organizational skills. These qualities are essential to any change management and having these skills would help keep projects moving forward. Another important quality is excellent analytical and problem-solving skills. The analytical skills are vital in keeping the "big picture" in mind and address complex issues associated with merging the two units. Having problem-solving skills was essential because with any change management, issues will arise and being able to artfully handle and resolve any issues would make the merging of the units more seamless.

An important step in the process began before the recruitment of the lead acquisitions librarian began. In order to prepare for the announcement of the position, it was imperative to communicate with staff members in each unit in acquisitions and provide detailed information as to why the units were merging, what impact it may have on each staff member, and to impress upon each staff member that they are vital to the hiring process. The Libraries wanted the staff members to be active participants during the interview and selection process. A meeting was held with the staff members before the announcement was made and the meeting allowed staff members to ask questions, relay any concerns, and provide feedback. Two staff members were selected to be a part of the search committee and the third staff member was a very active participant during the on-campus interview process.

The Libraries successfully filled the position in the fall of 2019 and the combined acquisitions unit was established.

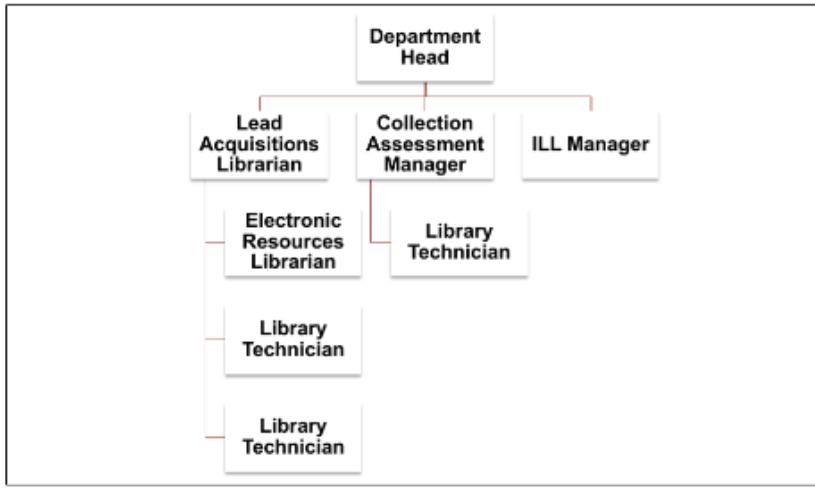


Figure 2. Organizational structure of merged acquisitions unit.

Merged Acquisitions Unit—Challenges

Once the lead acquisitions librarian was hired, they began the work of merging the continuing resources and one-time resource acquisitions duties into one cohesive unit. Several challenges were faced including an ILS migration, realigning job duties for the acquisitions staff, and changing workflows/procedures.

The ILS migration to Alma was completed at the end of 2017, but staff are still learning the system. Cleanup in the system is ongoing and multiple small specific projects are needed to complete the cleanup issues including order record and vendor record issues. Current procedures used by the acquisitions staff seem to be based on the previous ILS and are being reviewed and updated. There are also training issues to better learn Alma and utilize all the available features, including those that allow more automation such as electronic data interchange (EDI) invoicing and the use of the analytics module to gather lists and pull statistics.

Combining the two areas into one unit meant that faculty, staff, and student workers in acquisitions acquired new duties, changing what had

previously been required of them. The following duties were recently implemented or will be added to the staff in the acquisitions unit.

- Supervision of an additional student worker moved to the library technician I.
- Both acquisitions unit students will be trained to receive standing orders as well as the library technician I and library technician II.
- Serials claiming and serials check-in will be moving to the acquisitions unit (both students will be trained as well as the library technicians I and II and the lead acquisitions librarian). This should be completed in early November 2020 and will also include the labeling of both the serials and standing orders.
- Author processing charge invoicing will be moving to acquisitions in late 2020 and will initially go to the lead acquisitions librarian.

Workflows and processes, along with procedures, are continually under review for updates and edits, to streamline and improve efficiency. Cross-training of staff is a goal to minimize impacts of any staff absences or departures or retirements. Projects have been undertaken with the goals of streamlining efficiency and to centralize data. Examples include scanning and attaching invoices to continuing resource titles for easier access to previous years' data and adding reporting codes to each continuing resource in Alma to reflect its spend category in the campus enterprise financial system. The campus system is currently not connected to the library system but a future integration is hoped for, and at that time this data would be necessary in Alma. Ensuring all eligible vendors are set up in Alma for electronic invoicing. This is a key efficiency, as many of these invoices have been entered manually in the past and can easily be as large as 80 pages.

Additionally, the lead acquisitions librarian has been evaluating new vendors to help better and more quickly acquire resources as well as any software that may help efficiencies, such as central ordering programs like Rialto.

Another emphasis area is improving collaboration and communica-

tion between the acquisitions unit and liaison librarians who have collection development responsibilities. New templates have been created for order requests and establishing a process for more regular updates on order status is under development.

Change can be hard for those who have been in positions for long periods of time and are used to doing things a certain way. Improving communication has been key to the lead acquisition librarian's success with the newly combined unit. There was no physical relocation of staff, so many of the changes have come in how the unit communicates with one another, and with the rest of the library as a whole. The lead acquisitions librarian has brought a proactive approach to open communication, utilizing the philosophy that good communication and transparency are essential to problem solving and staff buy-in. By providing full transparency regarding changes, discussing with each staff member the impacts of potential changes and training alongside staff on new duties/tools, the lead acquisitions librarian has established a relationship of mutual respect with the staff. A willingness to ask questions of the staff, such as "What would make your work easier?" or "How do you think we should handle this situation?", has led to staff feeling both comfortable and enthusiastic to suggest changes. Staff feel more empowered to communicate their thoughts, and this has been especially important during stressful pandemic times.

COVID-19 Impacts

COVID-19 introduced additional challenges as the library closed and staff were sent home to work remotely. The acquisitions unit works with a combination of electronic and physical materials. When possible, physical material shipments were put on temporary hold, but many shipments still arrived and were held at the library until staff were allowed to return. Supervisors frantically searched for work or projects that could be done remotely for those whose jobs mostly required working with physical materials in the library. Remote work created technology challenges as staff needed scanners, printers, computers, and vari-

ous software to complete their duties. Working remotely also created a challenge for access to physical mail such as statements and invoices.

In June 2020, acquisitions staff were allowed back in the library on a rotating schedule to promote social distancing, particularly for those students and staff in cubicles or shared areas. This has almost been more challenging than exclusively working remotely. Shipments that were on hold were released and began to come in, creating a backlog with staff only working two to three days a week in the office. The backlog took several weeks to be eliminated. Allowing student workers to return was challenging as the library was still closed and would remain so until early August. This reduced the help on the processing of physical materials. Quarantining materials became necessary and further slowed down processing time.

Not all of the COVID-19 impacts were negative and some of the changes established due to COVID may remain permanent. New projects have arisen from challenges faced working remotely, including working on creating video training for liaisons on ordering. Communication has become more focused and has much improved across the unit. Meeting types and frequency have changed as a result of COVID-19. Staff are working from home or in a hybrid home/office schedule and so all meetings are virtual. The unit meets on a more regular basis to check in as in-office drop-ins cannot happen in this environment. Training has also evolved for the better with staff utilizing web-based meeting software and sharing computer screens for walking through procedures to train.

Future—Looking Forward

So far, the merging of the two units into one cohesive unit is working well. The area of acquisitions is always evolving due to new tools and technology. The libraries will need to keep up-to-date on these changes by scanning the marketplace, gathering information, and analyzing the products to discover potential improvements in workflow efficiencies and cost-effectiveness. We expect to identify new tools and/or technol-

ogy to implement that will continue to streamline our processes such as Rialto. And when the unit does this, it will be essential to analyze staff job responsibilities and identify if realignment of tasks is needed as well as identifying and supporting training needs.

In the short term, a major issue that will have an impact on the acquisitions unit is COVID-19. Nevada, like other states, was hit hard economically by COVID. Due to the fact that the state's major source of revenue is tourism, Nevada will have budget cuts for the next three to five years and one result of the budget cuts is the fact that currently all positions are frozen. If a staff member leaves for a new job or retires, the libraries cannot replace the staff member at this time. If this happens we will have to undertake a thorough review of our processes to see how technology or staff members from other units can help to fill the tasks of the vacant position.

As we look to the future, the new acquisitions unit will still experience change and continue to modernize. Change is a constant.

Reaching Goals through Community Collaboration

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Abstract

This chapter is based on the Poster Session presented at the 2020 Charleston Conference, where we explained how COUNTER as a tiny organization reaches goals through community collaboration. We explain that COUNTER is a membership organization and how its governance encourages cooperation and group effort to create the standard, and to develop tools and guidance to support its implementation.

Keywords

COUNTER, Release 5, collaboration, membership, usage statistics

Collaboration is always recommended at times of crisis, but at COUNTER it has long been a way of life. We work with our members and listen to them carefully because they are the experts. This approach has enabled us to reach goals we could never otherwise achieve. People sometimes imagine that COUNTER has an office, staffed by a team of experts. In truth it is nothing like this, COUNTER has one part-time employee, and most of the work is done by our members who volunteer their time and expertise. We hope that our poster conveyed something of this collaborative effort.[1]

COUNTER was born in 2002 from a collaboration between publishers and librarians. The very first meeting was held before that at a specially convened international meeting in London of some 50 specially invited experts from all sections of the information community, facilitated by consultants Bev Bruce and Judy Luther. The meeting was an essential part of ensuring that all the key stakeholders were involved from the beginning. Secondly, it led to the discovery of people with key skills and knowledge and who went on to contribute generously and incredibly effectively to the successful transition of COUNTER from a research project to the authoritative body on usage statistics that it is today. This spirit of collaboration between the sectors is still a driving force. We are a member organization of around 250 organizations, 40% of our members are libraries, 20% are library consortia, and 40% are vendors and publishers of all sizes. All members are eligible to join our committees and working groups.

Up to seven members are represented on our Board of Directors, which is responsible for governance and strategic direction of COUNTER. Our Executive Committee has responsibility for the day-to-day activity and there are several working groups, including our Technical Advisory Group, our Communication and Outreach Group. Additionally, COUNTER sets up task and finish groups, utilizing members' expertise to address issues of the day and to oversee projects. There is only one part-time member of staff, the Project Director who reports to the Board of Directors.

All sections of our membership are represented on the committees and working groups, so the voices of publishers and librarians are heard

at every discussion. This ensures that the needs of all our stakeholders are considered in decision-making. We also aim to hear the views of our wider membership, they after all are the experts, who are creating and using COUNTER usage reports as part of their daily work. In 2020, COUNTER commissioned an independent review of Release 5, and consultants sought the input of our wider community through interviews, surveys, and focus groups.[2] This exercise resulted in several recommendations, for example about improving the COUNTER audit process, and developing our reporting of open access content. The Executive Committee and Technical Advisory Group are working to address the recommendations in the report.

The Code of Practice

COUNTER creates the Code of Practice, the standard which ensures vendors and publishers can provide their library customers with consistent, credible, and comparable usage data. Our volunteer members formed a working group to design Release 5. Their objective was to resolve issues in the previous release, in particular the double counting of HTML and PDF usage. They also addressed the difficulty of comparing book usage, given that some providers deliver chapters and others deliver books as a single PDF. The working group designed the Code of Practice as a flexible framework, which we can adapt to address changing reporting needs. The Code of Practice defines a standard format and an extension mechanism that allows the creation of additional reports not required for COUNTER compliance like consortia reports.

The Executive Committee and Technical Advisory Group wrote and published the first draft of Release 5 in January 2017. After community consultation, the initial version 5.0 was published in July 2017. The Technical Advisory Group (and Executive Committee) maintains the Code of Practice and supports the community in implementing and using it. Most changes are made based on feedback, questions, and requests from the community.

Version 5.0.1 of the Code of Practice, with clarifications, corrections, and some amendments (announced in advance) was published in December 2018. Version 5.0.2 will be published for consultation in mid-2021 and will be effective from January 2022. To ensure that the Code of Practice is more transparent, we are moving it to a GitHub repository. We hope this will increase collaboration with the community.

Guides and Training Materials

The Code of Practice is a technical document, and so guides and manuals are essential in supporting different stakeholder needs. Some of our guides support publishers and vendors in implementing the Code of Practice on their platforms. Other guides and our manual are written to ensure that librarians can make the best use of their COUNTER reports. Tasha Mellins-Cohen, a member of the Executive Committee, has written our series of Friendly Guides to Release 5.[3] Consortia members. COUNTER reports are used by libraries all over the world, so when possible, we try to ensure translations into other languages. CRKN/RCDR and Couperin have translated the Friendly Guides into French. Magaly Bascones from Bloomsbury translated the Friendly Guide for librarians into Spanish.

Members told us that they appreciate the Friendly Guides but would also like online tutorials, and so we developed our COUNTER Foundation Classes. You can find these on the COUNTER YouTube channel.[4] These classes have been a collaborative effort; members of our Executive Committee peer reviewed them, and Tasha Mellins-Cohen provides the 'voice of COUNTER' for these tutorials. Couperin has translated these Foundation Classes into French, and these are also available from the COUNTER YouTube channel. Our members also give presentations at conferences and run training webinars.

Building Tools That Are Freely Open

Our community has created tools that support the Code of Practice and which enable automated harvesting of COUNTER reports. A great game changer for Release 5 has been the development by Bernd Oberknapp of the COUNTER Validation Tool. This tool enables publishers and vendors to rapidly test their SUSHI and tabular reports. If there are errors in the reports, they receive warnings and notices. The tool not only improves the accuracy of COUNTER reports, but also helps the independent COUNTER auditors in their work of ensuring that publishers and vendors are complying with the Code of Practice. Libraries can use it too, to check that the reports they receive are to the standard.[5]

COUNTER_SUSHI is the protocol developed to automate the harvesting of COUNTER reports from SUSHI-compliant providers. It enables libraries and library consortia to automatically harvest their reports from all of their providers. Librarians can then integrate these automatically retrieved reports into their electronic resource management systems or other usage statistic reporting services. Enabling automated harvesting of reports can be a challenge for smaller consortia and libraries, so EBSCO, a COUNTER member, developed the Release 5 SUSHI Harvester, built by EBSCO. This tool runs with Microsoft Access 2016 or later and is easy to use if you are familiar (as a user) with how Microsoft Access forms work. Built by Melissa Belvadi and students from UPEI, the COUNTER-5-Report-Tool, is another tool and freely available from GitHub. We should also mention that Melissa Belvadi, a member of the Technical Advisory Group, has also written a user-friendly guide to COUNTER_SUSHI which is available from the COUNTER website.[6]

CC-PLUS is an open-source software, community, and administrative tool for usage statistics management. The COUNTER members involved are the Pennsylvania Academic Library Consortium, Inc. (PALCI) and seven partnering international library consortia (CDL, Couperin, CRKN, Jisc, SCELC, USMAI, and VIVA). In the true spirit of

COUNTER collaboration, CC-PLUS took as its starting point, the code developed by Bernd Oberknapp for the COUNTER validation tool.

We hope that our poster session and this article will inspire more libraries, library consortia, publishers, and vendors to become members of COUNTER and to take an active role in our developments. We would welcome your involvement.

Notes

1. COUNTER: reaching goals through community collaboration. Retrieved April 30, 2021, from https://www.morressier.com/article/counter-reaching-goals-community-collaboration/5f5a04c62c3338b5c13cd037?, Morressier.

2. Jago, D., Sandler, M., and Wise, A., COUNTER RELEASE 5: an independent review an independent review, July 2019, Project COUNTER. Retrieved April 30, 2021, from https://www.projectcounter.org/wp-content/uploads/2020/10/COUNTER-report-Oct-2020-for-public-release.pdf.

3. Friendly Guides and Manual for librarians, Retrieved April 30, 2021, from https://www.projectcounter.org/friendly-guides-release-5/, Project COUNTER.

4. https://www.youtube.com/channel/UCptZRuV5XbtP-jWkTckDpIA.

5. COUNTER Validation Tool, Retrieved April 30, 2021, from https://www.projectcounter.org/validation-tool-preview/.

6. Harvester Tools and Services for Consortia and Multisite Libraries, Retrieved April 30, 2021, from https://www.projectcounter.org/counter-harvester-tools/.

Evolving Partnerships in Support of Online Learning

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Abstract

Join us for a collaborative discussion on the strategic solutions that libraries, publishers, and vendors are using to support academic communities in response to the COVID-19 pandemic. Presenters will share how to approach and identify opportunities and resolutions amid uncertainty, and how to implement long-term changes to resources, services, and instruction formats. The audience will come away with a renewed perspective on the unmatched benefits of developing relationships that yield effective solutions in times of crisis, and that continue to support and prioritize accessible, effective learning.

Phill Johnson, Dean of the Library, Auburn University at Montgomery, and Ron Leonard, Director of Special Initiatives at the Alabama Commission on Higher Education, share how the Alabama Virtual Library (AVL) board members quickly reached out to new and existing vendors to request temporary access to online resources. With working through several partners to support free or extended access to e-books, e-textbooks, and digital resources, in a matter of a few weeks, 31 additional resources were made freely available statewide for several weeks to months.

Keywords

publishing, online learning, remote learning, vendors, partnerships, resources, online resources

As an attendee, you'll . . .

- Hear how publishers are partnering to support students, libraries, and faculty
- Learn about an innovative approach to provide online access to students forced to return home to another state or country
- Hear how the AVL reached out to the vendors and negotiated access
- Learn how this experience is helping guide the future of the state's libraries
- Get insight as to the challenges and successes for making the resources available

Strategic Solutions in Response to COVID-19 Pandemic

The Charleston presentation centered around the strategic solutions that libraries, publishers, and vendors are using to support academic communities in response to the COVID-19 pandemic.

In mid-March, as the spread of COVID-19 around the world continued, Taylor & Francis adapted to remain committed to support our customers as they increasingly moved to remote learning and instruction.

As we pivoted our current strategies, we worked quickly to provide free access to vital research through working with other industry partners to support the academic community. Taylor & Francis marketing colleagues developed a microsite with centralized access to relevant Taylor & Francis journal articles and book chapters through www.taylorandfrancis.com/coronavirus. Our F1000Research division created a dedicated Gateway to showcase research published in this area and prioritized the rapid publication of COVID-19 materials.

Supporting Remote Learning

In April 2020, we partnered with RedShelf, VitalSource, and Kortext to grant free e-book access to students and faculty who had left books on campus and were unable to get to them because of campus closures.

At the same time, we made 10 of our top online and distance learning books free to view so that faculty had access to the full text of these books at no charge. We hosted a webinar with Susan Ko, the author of *Teaching Online*, that focused on practical tips and strategies that would be helpful for instructors transitioning to teaching online for the first time. Taylor & Francis marketers created additional materials to support instructors teaching online for the fall semester.

In response to a surge in last-minute e-inspection copy requests (suggesting a lot of last-minute course decisions), we changed some of our internal processes to work through requests more quickly. As we move forward, we continue to evaluate how we can continue to provide

our customers with the usual range of services, while also creating additional materials to help support them while they faced new and unexpected challenges.

Evolving to Support the Academic Community

We pivoted our content strategy to focus primarily on resources that are specific to online teaching and fit with what challenges instructors are encountering. Through working with our ad partners, we adapted existing plans to create a forum for librarians to come together to collaborate and brainstorm on challenges because of the COVID-19 pandemic. We created *The Socially-Distanced Library: Facilitating the Transition to Online Services and Instruction* webinar series with our partner Choice and with presenters Ron Leonard and Dr. Phil Johnson. The webinar series included:

- The Leadership Perspective
- A Case Study of the Alabama Library System & Auburn University
- Transitioning Faculty to Online Teaching Environments
- Physical Spaces, Transition Tactics, and a Look at the Data

Following the webinar series in November 2020 we launched the *Socially-Distanced Library* Podcast. We continue to look at how our participation at conferences will take place and we've moved to attend virtually in 2020 and 2021. Taylor & Francis continues to expand our partnerships and look for ways to develop new partnerships. We look for opportunities to partner with libraries in ways we have not supported them previously. We hope to create new opportunities to pilot different purchasing models, explore the potential interest for new products, resources, or how we can partner with bookstores on campus.

Closing Remarks

Taylor & Francis continues to work to explore how we can further develop our partnerships and exploring ways we can get involved to support topics on current industry challenges. Through striving to continue to have conversations to explore new ideas, we can develop mutually beneficial relationships.

Overview of Visible Body

Our goal at Wolters Kluwer was to help Alabama students, educators and residents ensure that their healthcare learning was not interrupted during this unprecedented time due to COVID-19, by providing easy, online access to virtual anatomy content from Visible Body Human Anatomy Atlas. More important than ever was the need for access anytime and anywhere via desktop or mobile app. Online and digital learning solutions have become a core part of the allied health, nursing, and medical school experience blended with traditional instruction designed to maximize all students' success. And for the residents of Alabama, the general understanding of anatomy and physiology is essential to a layperson's critical thinking about medical news stories, public health, and insurance issues. Importantly, this understanding supports personal medical decision-making, or for family members, and health care rights (state and federal) and informed consent. Seeing body structures, organ systems, and basic anatomical terms (medial, lateral, anterior, posterior, etc.) all give the layperson the power to ask good questions.

Supporting the Alabama Virtual Library for Online Learning

As schools and colleges across the state of Alabama transitioned to remote and hybrid learning environments due to the pandemic, Wolters Kluwer collaborated with AVL to provide access to the Visible Body

module as part of the AVL online library. All Alabama residents now have access to high-quality, unbiased anatomy content. Knowledge of the body systems and how they interact with one another is important because it builds and promotes health and well-being. Each body system has roles and functions that affect all other body systems. For medical students, the resource can replicate dissection lab experiences in a virtual setting with interactive 3D simulations and enhance studying with its quiz functions. For clinicians, it can aid in providing telehealth consultations in better understanding the location of a patient's symptoms, in describing diagnoses, and with overall communication. For the public library patron, it can show the location of a medical condition, surrounding structures and organs, pathologies, etc. For the parents that are home schooling and need access to an anatomy database, insurance companies that work with medical claims, researchers at law offices that work with medical cases to health care providers that do not have access to a database with this type of information Visible Body provides answers.

Human Anatomy Atlas

Visible Body's Human Anatomy Atlas 2020 provides medically accurate male and female 3D gross anatomy models, select microanatomy of tissues and organs, cadaver slices, and diagnostic images. Other features include access to quizzes for self-assessment, information on common diseases for each body system, and animated models of muscle actions. All of the content is created by medical illustrators and biomedical visualization experts and is reviewed by professors and healthcare professionals. Visible Body's 3D products have won prestigious awards from professional societies and consumer groups for anatomical accuracy and ease of use.

Education Resource Portal

To assist faculty with utilizing Visible Body in the classroom there is an Education Resource Portal filled with teaching ideas and tools. Content in the portal is written by anatomy professors for anatomy professors. From lab activities to lesson plans to lab manuals to videos to student handouts to e-books and even a blog—this site has it all. The portal presents anatomy and physiology in a way that's easy to digest. To motivate students there is a section of handouts that include study tips, job statistics, and interesting human body facts. Did you know that the brain's memory storage capacity is 2.5 petabytes which is equivalent to 3 mission hours or 300 years of video?

As Alabama's premier online information portal, AVL raises the level of excellence in schools and communities across the state and at Wolters Kluwer, we are proud to be a part of this success story.

Pivoting During a Pandemic at the Alabama Virtual Library

In early March 2020, it was business as usual for the Alabama Virtual Library, also called the AVL (Home | Alabama Virtual Library (avl.lib.al.us)), which is a State of Alabama entity that provides free informational and educational resources to all of its citizens. Its database review committee was in the process of setting up some resource trials with companies such as InfoBase, and Statista. Also, several of its board members were preparing to speak at the upcoming 2020 Alabama Affordable Learning Conference about its application for an IMLS grant to establish OERs training centers around the state. Then seemly overnight, everything changed. In-person events, such as the Conference, were postponed or canceled. Simultaneously, schools and colleges were closing due to the surge of cases of the highly contagious COVID-19 virus. As a result, suddenly all types of institutions were having to quickly transition from primarily offering face-to-face learning to virtual learning. As events continued to unfold, it became apparent to the

board members, who are volunteers that run the business-end of the AVL, that this calamity offered an opportunity to provide just-in-time resources to help all Alabamians make the transition to online learning. Additionally, several factors were at play that helped them quickly pivot during a pandemic.

By already having trials of numerous online resources set up for the board, it was obvious to some board members that extending access of the trials to all citizens would provide teachers and students with just-in-time resources for virtual learning. For example, EBSCO's PrepStep would provide test materials for students who could not take the ACT and SAT, Kluwers-Wolter's Visible Body would provide a lab setting for students without a lab, and Capstone's PebbleGo would entertain and educate children whose schools or daycare centers had closed. Subsequently, when floating the idea with the business partners or vendors, the members pointed out that by making the resources freely available statewide the partners would get some free publicity, which might result in new sales once the pandemic ended and the economy improved.

Convincing the board to make the trials available statewide was a quick and easy process because of its makeup and governance. The board, which is composed of hard-working and devoted volunteers from K-12, public, and academic libraries, firmly believes in equitable access for all citizens to all resources, so making the trails available to everyone was widely support. Because anyone on the board can volunteer for one of the officer positions and because the board chairmanship rotates between the four user communities, there is also a feeling of equity among the members. Finally, because some work can be charged to committees, such as the database review committee, and some decisions can be discussed and decided on quickly via email, the organization is very nimble.

Another factor has been the good working relationship we have with all our business partners. Periodically, we will ask them for favors, such as giving us complimentary access to their resources for a few weeks or months prior to starting a subscription to a resource. In return, board members may mention the partner in a press release, be a reference for the partner, or respond to an RFP that is for one or more of the partner's

resources. Through honesty, transparency, and continuity, board members have earned the respect and trust of the partners since the AVL's founding in 1999, which has served both parties well.

The good working relationship has also been taped on at least two previous occasions when calamity struck. When the Deepwater Horizon oil spill devastated Alabama's coastal economy, board members reached out to vendors to provide career and science resources, which the AVL posted on a landing page that also had links to numerous other organizations' websites with information about the spill. Similarly, when an International Paper plant closed and laid off over 1,000 employees, the partners were asked and given access to several career resources for an extended period. These precedents helped pave the way for asking and receiving temporary access to 32 databases from the partners previously mentioned and one additional one, Britannica.

Once the resources were made available statewide and access methods were enhanced to accommodate students sheltering at home in another state or country because Alabama's two- and four-year institutions closed down, then board members and staff at the Alabama Supercomputer Authority (ASA,) which the AVL contracts with to run the website, worked rapidly to promote the resources' availability. Both traditional and more contemporary methods were used to broadcast their availability across the state. While ASA staff posted information on the homepage, the Facebook page, and on Twitter, the board members forward information via email to their contacts throughout the state. Also, some of the same of them collaborated with the staff at the Alabama Commission on Higher Education (ACHE) on a press release, which ACHE's Communication Director disseminated to media outlets across the state.

Although temporary access to the additional resources ended in July of 2020, the AVL continues to benefit from the experience. Now, it is aware of an additional way to make its resources available to students of Alabama institutions in other states and countries. Also, by having posted an evaluation form on the website, the board obtained valuable insight as to which temporary databases the public liked and why they liked them; this information may be useful in the future when consider-

ing purchasing additional resources. The suddenness of the shift in the paradigm drove home the importance of maintaining good business relationships with one's partners who you may need to call upon in the future, and it also drove home the need to have a good marketing plan on file that can be easily implemented. In the end, the entire experience was a prime example of how the AVL continues to live up to its founding and guiding principles, which we call the "3 Es": they are equity, economy, and excellent, as in resources.

When the AVL first began receiving offers of free access to additional resources from vendors, we encountered several challenges making those resources available to our users. Those challenges included working with vendors to make the resources accessible on the AVL website, off-site access issues for different types of AVL users, and the ever-present digital divide.

The first challenge involved making the resources readily available on the AVL website. The AVL already had working relationships with some of the vendors who were offering free resources, so working with them was easy; however, we encountered challenges working with vendors who were unfamiliar with how the AVL website operates. One of the first things we had to do was educate those who were unfamiliar with our vendor authentication methods. Vendor authentication on the AVL website is via embedded URLs (sometimes called URL authentication), and some vendors struggled with making their resources available via that method. In the case of one vendor, we never could get their resource to work properly on the AVL website.

Another challenge we faced in trying to make these additional resources available to 4.9 million Alabamians involved access. Like everyone else around the country when the pandemic hit, most of our students went home, yet they all still needed access to complete their coursework. For most college and university students, this did not provide much of a roadblock because they can typically log in to their university portal, which provides them with access. And in the rare cases that they could not do so, the AVL simply provided temporary access so that our students could complete their coursework.

Many K-12 students were not as fortunate as our college and univer-

sity students when it came to access. Fortuitously, the AVL was already working to improve access for our users prior to the pandemic. The reason we were working to improve access at that time involved instances where we had people with a mobile device on a carrier network that was not within our state IP ranges, so they were unable to authenticate. This often happens along the state borders, where someone living in Alabama might have a Georgia, Tennessee, Mississippi, or Florida carrier. The AVL's partner, the Alabama Supercomputer Authority, had already began looking at ways to alleviate this type of problem prior to the pandemic, and had come upon a possible solution.

The idea was to use something similar to API Calling because it determines where a user is located. API Calling is pretty simple to understand if we use a real-world example. If one goes online to order pizza delivery from a large chain, the restaurant's website uses an API Call to MapQuest so they can log their location. This is how the restaurant determines which one of its locations is closest to the person ordering. In essence, an API Call simply logs the user's latitude and longitude. ASA had been coding something very similar called Physical Device Location Technology, which checks to see if a user is physically located in Alabama, and if they are, AVL authenticates them.

Another aspect of access that we had to deal with involved those users who were unable to establish an account on their own. Normally in this type of situation, these people would go to their local library (public or school) to set up an AVL account. But with our libraries shuttered due to the pandemic, we resorted to temporary credentials to enable access. To do so, the AVL Help Desk provided those users with temporary accounts. In fact, when libraries and schools closed down, the AVL Help Desk was the main lifeline for users to obtain an AVL account.

Another challenge the AVL faced providing additional resources is a longstanding one, and that is the digital divide. In terms of poverty, Alabama was ranked the fifth poorest state in the United States in 2020. People are limited by what they can afford, so many families across the state do not have money for Internet access. Furthermore, if a student can only afford a phone with 1GB of access each month they are not

going to have the kind of access necessary to succeed in school. This situation quickly became less of an issue thanks to a project funded by the Alabama Legislature. That project, which began prior to the pandemic and was recently completed, enabled the ASA to set up Wi-Fi hotspots at rural libraries throughout the state.

There were also had a good number of takeaways from this process, including obtaining significant feedback from AVL users, obtaining usage statistics, increased accessibility for users, and the amount of time the AVL was able to provide additional resources.

One of the things the AVL wanted to do during that timeframe was to obtain as much information as possible from users. This was accomplished by utilizing a temporary resource feedback form to solicit user input about all the additional resources being provided. The feedback form was ideal because the AVL was able to collect information such as the specific resource the user was commenting on, the target audience of the resource, the type of user providing feedback (K12 Librarian, University Librarian, Public Librarian, etc.), the user's thoughts about the resource itself, whether the resource was current enough for AVL purposes, would the resource be a good addition to the AVL, and finally, a freeform comments section was included on the form.

Another great takeaway from this process was that we were able to obtain statistics regarding use of the free resources that were added to AVL. Some of the statistics were quite surprising, and there was much discussion about reasons behind some of the statistics. For instance, why was usage so low for some databases when we expected them to have extremely high use? Among the AVL group, there were many conversations about how accurate the usage reports were during that particular time.

Another takeaway involved the question of why we did not see more of an increase in AVL traffic when students went home from school in the middle of March 2020. Anecdotally, we heard from many people that due to the pandemic, schools cut back on the amount of work they required of their students. The key takeaway from this is that it shows how important it is to get the word out about the AVL.

One last takeaway involves how people originally thought the free access to resources would only last for a very short period of time. As it turned out, that was inaccurate, and the access was available far longer than we had hoped for. This was probably a direct result of the excellent working relationship AVL maintains with its vendors.

An Efficient, Thematic Approach to Training a New Collections Librarian

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Abstract

There are typically two phases to learning how to be a collection development librarian: a brief, formal education followed by the on-the-job crash course. In the first phase (usually a class for the MLS degree or just a textbook) we are taught a context-free assemblage of skills, such as writing a collection development policy, reading a license, marketing, and generalized approaches to weeding. A trainee in the critical second phase is often presented with what looks like a to-do list: place an order, browse your stacks, meet your consortia. All of these are important steps toward building knowledge but treating training like a disjoint set of tasks is at best inefficient, and at worst highly discouraging. I propose instead a higher-level approach to thinking about collection development, wherein the necessary knowledge is organized into general categories and training seen simply as a way to fill in the framework. I utilize a theme park metaphor, with "Dataland," "World of Publishers," and more as independent sections that can be built up simultaneously and effectively. I came into my current role as a university collection development librarian with no previous library experience, but what I did have was a good idea of the overall structure of my theme park, the big-picture things that I needed to learn. Having that structure in mind allowed me rapidly to create a strong foun-

dation of knowledge, avoid feeling overwhelmed, and become a contributor to the team in my first months. This presentation is intended for both brand-new librarians and those who are considering hiring them; while the perspective is that of an academic librarian, the concepts are applicable to all.

Keywords

collection development, academic libraries, training, bibliographer, collections librarian, conceptual model, library science education

Introduction

The skills and knowledge needed to be an academic collection development librarian are broad in scope. The role requires competencies in data analysis, negotiation, public relations, and marketing. One must be an expert in copyright law, budgeting, and technology—not to mention the subject(s) for which one collects! Leach (2008) gives a concise summary of these fundamental competencies, based on both the literature and personal experience. How are such skills learned? For most careers, an individual might get a neat-and-tidy idea of a field (perhaps the "what" and "why") from their formal education, but most of the learning (particularly the "how") happens out in the real world. While certainly there is room for formal education to focus more on practice and less on theory, much of the deficiency in education stems from the impossibility to teach to the tools, workflows, policies, and cultures that are unique to an individual workplace.

Collections librarianship is no different from the typical profession in maintaining this two-part training regime, and there are many resources that have been created for trainees in each phase. First, we have the formal course-style resources for use in the collection develop-

ment class that is typical of the master-level librarian degree. (For those librarians who didn't take that class for any reason, their on-the-job training may also start with this type of resource as a broad introduction.) My own favorite was the Johnson (2018) textbook *Fundamentals of Collection Development and Management*. Other options from the ALA include a four-week class also called "Fundamentals of Collection Development and Management" or the book *The Library Liaison's Training Guide to Collection Management* (Armstrong & Dinkle, 2020; *Fundamentals of Collection Development and Management*, 2010). The resources of this style follow a similar structure with sections on writing a collection development policy, tracking budget balances, making weeding decisions, and so forth. While the topics covered are all highly relevant to the practice, their inability to function as true how-to guides (due to the aforementioned variations in workplaces) limits their utility. They can only give a high-level overview. Once on the job, we are still at a loss as to where and how to start.

So we move now to that important second phase: the on-the-job crash course. Practicing collections librarians have put together a few institution-agnostic resources that offer advice to those following in their footsteps. These tend to be informal—usually white papers or websites—and often are formatted as checklists of granular action items, ideas like "knock on doors" and "get to know your databases." One example is Tucker's and Torrence's (2004) "advice from the trenches." Many organizations of special librarians have created necessary supplementary resources specific to their disciplines, such as the ASEE Engineering Librarian Division's "Advice for New Engineering Librarians" (*Advice for New Engineering Librarians*, 2021).

The final component of on-the-job training is the agenda created for the individual in their particular role by their new institution. This program gets to the meat of a collection librarian's day-to-day experience; we finally see our institution's ordering platforms, collections policies, funding schemes, circulation and usage statistics, and all the other details. Components of the program typically include meetings with coworkers, software training sessions, and folders of documents to read. Some institutions have carefully crafted template programs, such as that

described by Forte et al. (2002) at UCSB and available online (*Collection Manager's Manual*, 2021). At other institutions, the program may be more ad hoc.

These three instructional formulae have their own distinct goals, and most collection librarians will take advantage of all of them to a greater or lesser degree. What they have in common though is their focus on functions—the isolated tasks that a collections librarian undertakes. Unfortunately to an incoming, inexperienced collection librarian tackling them all at once, their accumulation can feel like a to-do list that keeps getting longer. To many, it can be overwhelming and paralyzing. At best it is inefficient, requiring the learner to jump from topic to topic instead of allowing new knowledge to build on the old. As stated by Van Kesteren et al. (2018), creating memory happens "through reactivation of old information while learning new information" and building "a consistent knowledge network (or schema) in our brain that in turn serves future learning." Let's step back and take a big-picture view of what it is that we're trying to learn. We need a concept model into which the isolated tasks can fit.

The Knowledge Model

Computer scientists use conceptual modeling to convey the principles and functionality of a system they are building, including the role of each of the components of the final algorithm or software system. One goal of a conceptual model then is to understand the purpose of each of those components or, in other words, why each must be part of the final program and how it fits into the whole. Similarly, a knowledge model will depict how each bit of understanding fits into the universe of desired knowledge, which for us is how to be an effective collections librarian. As we saw earlier, such a model can also make what we learn easier to remember because we add new ideas to a scaffold of preexisting knowledge. Another benefit of a knowledge map is that it can point out what components are still left to be explored. Necessary knowledge is orga-

nized, and training is a way to fill in the framework rather than an endless lineup of activities.

There are a number of shapes this model could take, but what I developed in my onboarding process was a theme park metaphor. Each themed "land" covers a broad but clearly defined area of knowledge, and the standard depiction of a theme park map is apropos to the model. I came into my position with an idea of what the theme areas were, but they were empty. Subsequently, I used my training process to explore my park—to fill in the lands with "attractions" (facts) and determine the connections between them. To take the metaphor one step further, it is critical that each attraction be mastered; one does not ride a roller-coaster halfway around the loop and then get off. In our training, we do this by asking questions until the fact or concept is fully understood. Keeping this structure always in mind even means that progress in more than one area can happen simultaneously. While waiting for an email reply to a question, an attraction in the next land can be tackled. And by keeping track of where I was in each land, I easily could pick my train of thought back up the next day.

I will use the remainder of this chapter to illustrate more closely how the model can serve a training program. Figure 1 shows the basic outline of my theme park. On the left is a whimsical depiction of the overall structure, while on the right is the set of themed areas. I found that a small set of nine areas encompassed my training needs without high overlap. The structure of one's theme park may vary depending on prior library experience and the nature of the role and institution. For each area, I have included a question that gets at the core of the knowledge to be gained.

I have highlighted in Figure 1 three categories that dive into the physical interface between the library and its patrons. In "Library Operations Land," we learn what services our library provides and how. Our collections will need to support those services. In "The World of Reference Systems," we ask questions to understand all the ways that library staff communicate with patrons. That is, which communication method should I use when? Many libraries use shared emails or email lists, refer-

ence desks, online chat tools, newsletters, scheduling services, topic guides, and more.

The crucial point of this knowledge map is that all the collection development tasks that commonly appear on checklists, which might seem left out of this scheme, can indeed be placed within it. For example, many new librarians are advised to join professional societies. Why do we join societies? To learn about publishers and vendors, to hear about trendy faculty interests, and so forth – these *are* represented within our map. By keeping focus on our learning goals, we avoid being bogged down by the task. We will be able strategically and intentionally to choose those societies which provide the best opportunities to advance our understanding in the areas that most need exploration.

Finally, I will focus on three themed lands to illustrate how they get broken down into facts and how bridges are built. A brand-new collections librarian must learn to answer three essential questions: what materials does the library already have, what does the library need to add, and what materials are out there. Figure 2 zooms in on the three relevant lands which cover our knowledge of existing collections, publishers and vendors, and collections data. Knowledge of existing collections and publishers/vendors are the critical areas for answering the three essential questions ("Patron Interests Land" is also an input). The third area here, regarding collections data, is a world of its own requiring knowledge not only of what kinds of data are available but how they might be obtained and used. But collections data (in the center here) is also a primary tool for understanding and building our existing (left) and potential (right) collections. While we might initially learn about collections data in a vacuum by exploring that area of the park on its own, eventually we can synthesize all three areas of knowledge to create decision flows and do our jobs effectively.

Conclusion

In this chapter I have described the three types of resources commonly used by collection development librarians-in-training: formal course

materials, advice lists, and facilitated on-the-job programming. While the ideas and skills these resources cover are typically quite germane to the role, they fall short of creating an efficient, productive, and comprehensive solution for the trainee. By beginning a training program with a conceptual model instead of a to-do list, a trainee can better absorb and track the knowledge they gain as they progress through the program.

The next step in this work is to incorporate the model-based approach into a training program for new collections librarians. Such a training program would start with creating a theme park for an individual trainee. This can be done by the trainee in collaboration with their instructors, managers, and/or peers. The model in this chapter can be used as a starting template, with areas added or subtracted depending on the trainee's knowledge gaps. Then, the trainee can proceed through their training resources while placing (mentally or on paper) each bit of acquired knowledge into the appropriate place in their framework. This systematic construction of knowledge, as opposed to a scattershot approach, will pay dividends in the speed of ramp-up time and set the stage for career-long personal growth.

References

Advice for New Engineering Librarians. (2021). Retrieved from https://sites.asee.org/eld/for-members/advice-for-new-engineering-librarians/

Armstrong, A. M., & Dinkle, L. (2020). *The library liaison's training guide to collection management*. Chicago, IL: ALA Editions.

Collection Manager's Manual. (2021). Retrieved from http://collman.library.ucsb.edu/

Forte, E., Chiu, C., Barnes, S., DeDecker, S., Colmenar, G., Pickett, C., . . . Johns, C. (2002). Developing a training program for collection managers. *Library Collections, Acquisitions, and Technical Services, 26*(3), 299–306.

Fundamentals of Collection Development and Management. (2010, April 30). *Association for library collections & technical services (ALCTS)*. Retrieved from http://www.ala.org/alcts/confevents/upcoming/webcourse/fcdm/ol_templ

Johnson, P. (2018). *Fundamentals of collection development and management* (4th ed.). Chicago, IL: ALA Editions.

Leach, M. R. (2008). Collection development competencies for science and technology libraries. *Science and Technology Libraries, 28*(1–2), 11–22.

Tucker, J. C., & Torrence, M. (2004). Collection development for new librarians: Advice from the trenches. *Library Collections, Acquisitions, and Technical Services, 28*(4), 397–409.

Van Kesteren, M. T. R., Krabbendam, L., & Meeter, M. (2018). Integrating educational knowledge: Reactivation of prior knowledge during educational learning enhances memory integration. *NPJ Science of Learning, 3*(1). Retrieved from https://www.nature.com/articles/s41539-018-0027-8.pdf

Community of Practice (CoP)

The Tie That Binds Purpose Across Operational Boundaries

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Abstract

This article shares the ideas conveyed through a poster presentation and narrated slide deck, presented at the 2020 Charleston Library Conference, which proposed that the structure of community of practice (CoP) could be used to connect library domain expertise across an organization. The presentation explored how situated organizational learning transcends administrative structure to allow for more fluid organizational collaboration. All materials from this poster presentation are available on the Morressier platform (Sill, 2020). Following a library reorganization, members of the Hesburgh Libraries explored the learning structure of CoP as a possible fit to pull together several cross-program operational metadata units and boundary stakeholders to share, learn, and discuss metadata strategy, policy, and practice for the library as a whole. The responsibility to devise a way of reaching this goal fell to a new Metadata Services Program, which is just one of the administrative units in the libraries assigned to operational metadata work. This new program was also charged with addressing organization-wide metadata issues, regardless of operational location. To accomplish this set of responsibilities, principles of CoP were explored

and key stakeholders were consulted on the formation of a new community. At the point this poster and slide deck were presented, preliminary planning had concluded and the new metadata community of practice (MCoP) was ready to launch. The conference presentation focused on the planning process and conceptual model used to put the idea into action.

Keywords

community of practice, metadata, academic libraries, organizational design

Background: Operational versus Organizational Agency

The purpose of the new Metadata Services Program is to insure "the consistency and integrity of the Libraries' structured metadata assets to meet organizational goals" (Hesburgh Libraries, 2019). To fulfill this purpose, the program exercises agency for metadata services on two levels: operational and organizational. On the operational level, the program is responsible for metadata creation, enrichment, transformation, maintenance, and remediation for assigned collection areas, mostly those representing traditional library collections in all formats, as well as rare books and single-item manuscript cataloging for the Rare Books and Special Collections unit. Additionally, the program contributes non-MARC metadata for locally digitized materials and select projects, along with the management of electronic resources and shared print batch remediation and record-loading processes. The Metadata Services Program is a creator of metadata, but it is not the only creator of metadata within the organization. Specialized Collections Services, another program, creates metadata associated with digitization and archival

processing. This program supports the same suite of services as the Metadata Services Program but for different collection areas.

The second level of responsibility for the new program includes analysis and strategy support for organizational metadata assets, meant to address problems that come with siloed operational metadata creation. At this level, the program also must acknowledge, in addition to the operational units creating metadata outside the program, the many metadata consumers within the organization, that is to say, the many stakeholders who rely upon or make use of metadata that is ingested from or exported to external sources or created locally. This group of stakeholders includes members of the Information Technology Program and Digital Services Program, for example. The Hesburgh Libraries also adopts project management principles and has adopted the product owner model for many of its systems. These systems are used to create, store, and display metadata, so agency of product development and development of metadata practice can quickly become intertwined with organizational structure in a way that can cause confusion over who has license to make decisions or drive vision and innovation.

CoP as a Tie That Binds

In order to strengthen the management and direction of the metadata domain for the libraries, a link or tie between operational and organizational agency had to be created that was neutral and fostered cohesive organizational support for metadata asset management, while respecting operational agency and expertise. CoP was pursued as the initial answer to this organizational and administrative problem.

"Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger-Trayner & Wenger-Trayner, 2015). The three main components of the CoP are evident in its very name, with the exception of the first mentioned here. The first component is that of *domain*. In this case, metadata is the domain area, characterized by an

area of expertise that is shared across the organization. While the libraries function within operational silos to exercise metadata expertise, systems, discovery, delivery, and services create a landscape that demands collaboration and strong working relationships to ensure sharing, open communication, and collective decision making. The other two components of CoP are reflected in its very name: community and practice. *Community* is made up of the individuals who have an interest in the domain and strongly desire to learn from one another. Commitment in terms of time and resources is something members are willing to make, and this commitment is what will determine in large part the long-term success of the CoP. The last component area is *practice*, which involves the development of concrete approaches and knowledge, a shared understanding of the domain area, and support for the overall community that is responsible for getting its members together.

MCoP Concept Map Development

Prior to launching the Metadata Community of Practice (MCoP), the Metadata Service Program met with key stakeholders from around the library to discuss the issue of metadata management and the idea of creating a group to encourage cross-organizational conversation and learning in the metadata domain. Because the needs of the Metadata Services Program were well understood, the focus of the stakeholder group was on core operational units performing metadata work in other programs and border stakeholders, meaning those who consume rather than create metadata. From these discussions, a concept map emerged to guide our MCoP development. This concept map is the focus of the conference poster and slide presentation shared during the 2020 Charleston Library Conference and available on the Morressier platform (Sill, 2020). The concept map includes three main areas that define: (1) the topical areas of interest in the domain, (2) the measures of success for the community, and (3) the breadth of stakeholders that could potentially contribute and benefit from the MCoP.

The Structure of the MCoP Concept Map

Articulated within a set of six hexagons forming a circle on the poster are the areas of interest for the domain area as identified through the stakeholder conversations. These include metadata asset management, primarily as it involves metadata storage, industry and professional standards, metadata design, process improvement and metadata enhancement, preservation, technical and rights management, and metadata transformation and use. At the center of the hexagon ring is a seventh hexagon, which acknowledges the resources and energy to be committed to administering the MCoP through communication, program development, and knowledge management. Surrounding this circle of areas of interest are the measures of success or outcomes of the MCoP as identified by stakeholders, including metadata strategy development, learning and sharing, ethical practices and responsibility, metadata stewardship and governance, problem solving and decision making, and network building and role clarification. Finally, flanking both sides of the circles of areas of interest and measure of success are the 20 identified stakeholders who may find interest in the MCoP or see the impact of the community on their work. The stakeholders are grouped into four bubbles and categorized in the following way: metadata producers, strategic leaders, resource and administrative supporters, and infrastructure supporters.

Interpreting the MCoP Concept Map

Metadata underpins the work of nearly every service area of the Hesburgh Libraries of Notre Dame. The core of the MCoP is the areas of interest, which define the scope of the domain and which are organizationally agnostic from an administrative perspective, including metadata creators and consumers. The core areas of interest serve to remind us of those issues causing most concern, those where we need to learn more, and of the rich suite of expertise required to meet the mission to serve our community and support teaching and learning.

The measures of success that encompass the areas of interest could also be seen as defining our cultural norms. Learning, sharing, communication, understanding, thoughtful reflection, and careful management are represented. Due to the siloed nature of metadata management in the libraries to date, having this shared vision for success is in and of itself an accomplishment and recognizing these norms has helped to elevate the importance of the skills metadata professionals and staff have within our organization. At Notre Dame, we often speak of articulating "wild success" within our library strategic planning, and for the MCoP, it would be the integration of these cultural norms to any metadata issue or area of concern that we need to address.

Stakeholder identification is one of the most important steps to be carried out in any project and it is critical in an organizational structure that values both hierarchical functional expertise and cross-sector engagement through teams, product ownership, and now through the use of CoP. Being heard, being given the chance to share, understanding fit across our work requires that all stakeholder voices are in the discussion and part of developing the solution as earlier as possible, and therefore, taking time to be clear on the reach of MCoP was an important reminder of the impact this domain area has on the success of the libraries.

Reflecting the Principles of CoP

The goal of the poster and slide presentation at the 2020 Charleston Library Conference was to share the challenge being faced at the Hesburgh Libraries of the University of Notre Dame in the area of metadata management following a recent organizational redesign. CoP promises to provide a possible way to tie our traditional structure of operational management to organization-wide stewardship of metadata.

Our library fits the definition of a learning organization, meaning that it is "made up of employees skilled at creating, acquiring, and transferring knowledge" (Garvin, Edmondson, & Gino, 2008, p. 9). While our new organizational design facilitates the business of running our

library and highlights the service areas we provide our community, additional structure is required to address cross-sector domain areas, such as metadata strategy and development. Stakeholders come from both the perspective of those creating and those consuming metadata and to achieve broad consensus and understanding in this area, a place is required to allow for learning, sharing, acknowledging, and building the many facets of our metadata work and how it intersects to benefit operational as well as organization-wide exploration, planning, and development of new ideas and approaches. CoP, with its three-pronged definition of domain, community, and practice, has provided the framework that may address our organizational problem, allowing for cross-unit socialization, skill development, relationship development, knowledge management, and ultimately collective support for innovation and metadata strategy development to guide us forward.

Taking time to carefully consider and design a framework, in our case a conceptual map, to guide the startup of this process required active listening of and participation by stakeholders and flexibility to provide an initial structure, which will be further adjusted by community members who will bring an additional layer of richness to discussion and sharing. The success and sustainability of the MCoP at the Hesburgh Libraries of the University of Notre Dame is yet to be seen. We believe, however, that CoP provides a viable framework to meet our goals of connecting siloed operations with the metadata domain area across our organization as a whole.

References

Garvin, D. A., Edmondson, A. C., & Gino, F. (2008). Is yours a learning organization? (Tool Kit). *Harvard Business Review*, *86*(3), 109–116, 134.

Hesburgh Libraries. (2019, December 18). *Broad descriptions of program areas and new functional areas within the Office of the University Librarian* [Library Cabinet Document]. University of Notre Dame.

Sill, L. (2020, October 29) Community of Practice (CoP): The tie that binds purpose across operational boundaries [PowerPoint presentation]. Mor-

ressier website. https://doi.org/10.26226/morressier.5f5a04c62c3338b5c13cd052

Wenger-Trayner, E., & Wenger-Trayner, B. (2015). Introduction to communities of practice. *Wenger-Traynor.com*. Retrieved from https://wenger-trayner.com/introduction-to-communities-of-practice/

Scholarly Communication

What Would It Really Take to Achieve a Full OA Transition?

An "Open" Take from a Publisher, a Librarian, and a Funder

Stephen Barr, Emeritus Executive, SAGE Publishing

Abstract

The basic point I want to make is that there are two key aspects to shifting the scholarly communications system from historic models based on access-controlled subscriptions into new models based on open access. The first aspect is the obvious one of moving from an environment in which content is normally behind paywalls and accessible only to subscribers to one in which content is normally openly available and accessible to all. The second piece is having in place a set of business models that support and sustain the scholarly communications process in an open access environment, with funds in the right places to pay for whatever costs need to be incurred to maintain the process of publishing peer-reviewed, quality-controlled scholarship. Obviously, these two aspects are fundamentally linked, but they are not identical. We are now at a critical point in the transition from a system based on subscription models to an open access world. We are at slightly different stages on these two aspects of the transition, and there remain critical issues to resolve for the whole system to adapt successfully.

Keywords

open access, transformative agreement, open access

The basic point I want to make is that there are two key aspects to shifting the scholarly communications system from historic models based on access-controlled subscriptions into new models based on open access. The first aspect is the obvious one of moving from an environment in which content is normally behind paywalls and accessible only to subscribers to one in which content is normally openly available and accessible to all. The second piece is having in place a set of business models that support and sustain the scholarly communications process in an open access environment, with funds in the right places to pay for whatever costs need to be incurred to maintain the process of publishing peer-reviewed, quality-controlled scholarship. Obviously, these two aspects are fundamentally linked, but they are not identical. We are now at a critical point in the transition from a system based on subscription models to an open access world. We are at slightly different stages on these two aspects of the transition, and there remain critical issues to resolve for the whole system to adapt successfully.

Aspect 1: Moving to Content Being Available OA

In relation to the first shift—toward content now being available open access—it seems to me that we have made big strides forward in recent years. I expect that many Charleston attendees will have seen the data from the article by Heather Piwowar et al. published in PeerJ in February 2018 (1), which showed the rising proportion of content which could be accessed openly. Overall, they found at that point that there were around 22 million articles available OA, that though only 28% of the entire literature was OA, the proportion of recent content available OA was around 45%, and that around 47% of searches on Unpaywall

could find an OA version. That was in early 2018, and things have moved significantly further in OA directions since that time, with many more transformative and other deals. Though it has taken some time to gain momentum, there is now a fundamental shift taking place in which more and more of the peer-reviewed journals literature is published on a basis in which there is immediate open access in one form or another (and this is not taking into account any access provided through piracy or through means that are clearly in breach of legal agreements or of copyright). Though there is still some way to go, it seems clear that we are now moving into an environment in which the default setting will soon be that at least the journals literature—peer-reviewed scholarly articles—will be made available open access in one form or another, with strong pressures toward open access being immediately on first publication and with one form or another of Creative Commons license.

Aspect 2: Reshaping the Scholarly Communications System to Support OA Publication

Though there is now a strong dynamic pushing through a shift toward the scholarly literature being OA on first publication, that is actually the less complicated of the challenges we face. The bigger challenge has always been to reshape how the scholarly communications system is organized, funded, and supported to enable it to transition successfully into forms that will be sustainable for the long term in an OA environment. So my main focus in this article will be on assessing where we are in this more complicated transition.

In terms of ensuring that we have sustainable models for how the scholarly communications systems will operate within an OA environment, the picture is more mixed. We are moving into a somewhat unstable environment in which the majority of the way the system will still be supported is based ultimately on legacy library subscriptions, even though the content itself will be available in some version of open access. This makes sense as a transitional arrangement for moving quickly to benefits from open access, but there remain challenges ahead in terms of

how to arrive at a sustainable set of models for a long term supporting the scholarly communications system in an open access world.

In terms of the routes for getting to the point at which the content is made OA, there are myriad models; I will comment briefly on four.

Publishing in Gold OA Journals

This is rising fast, it is a sustainable model for OA publication, and in general we can expect that this will be the primary form of publication of academic research as we move into a purely OA environment, whether it is achieved through migrating existing journals from subscriptions into being Gold OA titles or by displacement of existing journals by newborn OA journals.

Though Gold OA publication is definitely a sustainable way of enabling open access publishing, that doesn't mean that it is a panacea, and there are many challenges and problems with this model as the basis for scholarly communications. I won't attempt to give a comprehensive assessment of those issues; for the purpose of this article I want to flag three issues in particular:

1. How to pay for the gold OA fees in disciplines that don't have high levels of research funding—is this model only really sustainable for disciplines which attract major research funding? At SAGE, we have invested strongly in developing Gold OA offerings in both STM and HSS disciplines, including SAGE Open, our social science megajournal. However, so far, the uptake of Gold OA in HSS disciplines has been modest, for understandable reasons relating to the lower amount of research funding available in these fields. The model originally developed by Wellcome in which a small proportion of research funding is dedicated to paying for the costs of communicating the outcomes of the research makes sense in heavily funded research areas such as biomedicine but is problematic in fields such as history and philosophy in which research is frequently not funded in this

way at all. Any long-term answer for how to sustain the scholarly communications system in an OA environment needs to have an answer for how unfunded research will get published.

2. Predatory journal publishing and how to help authors distinguish between genuine peer-reviewed journals and quasi-journals which represent themselves as outlets for rigorous peer-reviewed scholarship but which in practice are not. I don't intend to dwell on this issue; it's just a challenge which will be part of the environment and which needs to be managed.
3. The third key issue around Gold OA is around pricing, in many different respects: what's an acceptable price, double dipping issues in the current transitional market, whether pricing should involve transparency on what costs have been incurred, and whether article processing charge (APC) pricing excludes voices from less wealthy environments. I will come back briefly at the end to some questions of the dynamics of pricing in a pure OA market.

Green OA, Subscribe to Open, Transformative Deals

The other three main forms of migration of the scholarly communications system all in one form or another start from the legacy subscription market and seek to deliver OA. On Green, SAGE has a relatively liberal Green OA policy compared with most major publishers, with author freedom to place the final accepted manuscript on a repository simultaneously with publication in the journal. We have our current liberal policy as part of being good actors, supporting the overall transition to OA and allowing authors the ability to share their work more freely. But we don't believe that this policy is compatible long term with the survival of subscriptions and do not agree that deposit should be mandated, given that there is no business model underpinning the widespread supply of final accepted version of manuscripts. On Subscribe to Open (S2O), we would see this again as having benefits as a transitional model in generating immediate OA with access to the final published

article. While S2O makes sense as a transitional model and may arguably work on a small scale, it poses similar questions of being based essentially on retention of the existing subscription funding model that cannot be the long-term answer to how scholarly communications will be funded in an OA model. It is also difficult to see how the model would work at scale.

With the third transitional form—transformative deals—there is an implicit model of how the migration could work. If all of the funds currently spent on purchasing subscriptions to scholarly journals shifted into payments for the right to publish in scholarly journals on an open access model, effectively the whole system would now be open, using funding which is already in place to support the existing subscription-based system. Once this basic shift has taken place, the system would then evolve within the logic of what makes sense in an OA environment. There is a force in this proposition, and it is likely to be the primary driver of the shift to OA along with the growth of Gold OA titles. There are though significant complications in making that transition, and two basic problems we still need to solve.

1—There will be very differential effects of exiting from the subscription model for different universities. In particular, there is potential for a big increase in costs for research-intensive universities if the system moves from being based on subscriptions to being based on publication output. Basically, at the moment, the subscription model spreads the costs of the whole system across a very wide range of institutions: research-intensive universities, less research-oriented universities, international universities, and some actors outside the academic research system such as government departments, public libraries, and pharmaceutical companies. Shifting the system to models which will be based on paying for publication will concentrate the costs of the system down to the primary sources of research outputs, particularly the research-intensive universities. The resulting increase in costs for those universities will be more than offset for the system as a whole by savings at less research-intensive universities. Those

savings in terms of reduced subscription spending are gains to the higher education system in general, but there is no mechanism for redirecting them to help fill holes in the budgets of the research-intensive universities, resulting from more of the burden of the system falling on them. So there is a big structural challenge of how to ensure that funds are in the right place to support the scholarly communications system as we move into pure OA models. This is true even if there are benefits in terms of the costs of the system as a whole being lower in that model.

2—Secondly, there will be differential effects of moving to an APC-based model for different disciplines. As already mentioned, models based on paying for publication are relatively easy to implement in areas in which research is typically underpinned by large-scale funding but will be much more challenging for humanities and social sciences disciplines where telling the authors to ask their research funder to sponsor the costs of publication will only work in a minority of cases. Even if a large proportion of a journal's content is made available through transformative agreements, it is still very hard to see how you could completely flip the journal to an APC model in a discipline where there are few direct grant funds available to pay for the rest of the content to be made OA, unless the problem indicated earlier has been solved (ensuring that the research universities have funds dedicated to supporting publication of such articles, on a large enough scale).

These two challenges with shifting the system to what works in an OA environment were the background to the pilot SAGE started in 2020 with the University of North Carolina, Chapel Hill (UNC CH) as a test for how to migrate the system to OA in a sustainable way. This deal has been based around trying to draw on funds from research funders to mitigate the potential for an increase in costs to UNC CH as a research-intensive university, while taking funds from UNC CH's subscription payments to support publication of articles that do not have support from a research funder to cover their APC. It's a pilot and an experi-

ment, but it is based on the way we see the funding of publication shifting in an OA environment.

So the future that our deal with UNC CH is intended to help navigate toward is an environment in which ultimately we get to a model in which funding of the scholarly publishing system shifts from being spread across a wide range of libraries and moves to being focused on research funders and research-intensive universities. In that environment as I see it, there would be research which is funded by a major research funder—governmental, charitable or private—where the norm would be that the costs of OA publication would be carried by the funder. And there would be all other research where the norm would be that the costs of OA publishing would be carried by the university. For research-intensive universities, this would be an unsustainable increase in costs if it wasn't for the research funders carrying their portion of the burden. For less research-intensive universities, it's likely to be a significant saving in terms of eliminated subscription costs which can be redirected to their primary educational and academic goals.

What Else Changes with a Shift to OA?

As we move into an environment shaped by publishing in OA models, the fundamentals of how the whole system works will change. In particular, here I want to venture some thoughts on how the costs of publication will be controlled in that future. None of us knows exactly how that the future OA market will evolve. But my view is that it will have more of the attributes of a normal market economy than has been true of the subscription world. Journals will have to compete for authors' submissions, and price will be a factor in that competition. So though quality will remain a critical concern, journals of equivalent quality will need to compete on price to attract author submissions. Even if this is not invariably true, it only needs to be true of a sufficient portion of the market to shape publisher strategies toward mitigating cost in order to maximize throughput. My expectation is that the OA APC market will as a result exert more downward pressure on pricing than has been true

in traditional subscription models. From the point of view of journal publishers, it's going to be a challenging transition to a model which will be significantly less profitable than has been true in the subscription world, but it is a challenge they are going to have to rise to if they are to flourish. For publishers of monographs, databases, and other forms of academic output than journals though, it could be a rebalancing that brings benefits. Over the last 50 years, the subscription model has shifted library spending toward journals. In the research-intensive universities, those subscription funds will I believe need to be redirected to supporting funding the publication of research. But elsewhere, a large proportion of subscription funds will ultimately be freed to be spent on other purposes—which I would hope will include increased library spending on all of the other types of content and services which support teaching, learning and research, and enable the library to contribute effectively to the fundamental purposes of the university.

Reference

Piwowar, H., Priem, J., Larivière, V., Alperin, J. P., Matthias, L., Norlander, B., . . . Haustein, S. (2018). The state of OA: a large-scale analysis of the prevalence and impact of open access articles. Published February 13, 2018.

Launching to the Dark Side of the Moon

Librarian Exploration of Peer-Reviewed Library Journals and "Predatory" Characteristics

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Abstract

In response to both increased scrutiny of open access journals for "predatory" characteristics and the creation of rubrics and evaluation tools by librarian researchers, this presentation explored the intersection of "predatory" journal evaluations and library and information science publications. Utilizing two tools—the open access journal evaluation tool created by Beaubien and Eckard and the Journal Evaluation Rubric designed by Blas, Rele, and Kennedy—this project sampled 49 peer-reviewed library journals with open access components and critically examined the publicly available journal information to determine if Library and Information Sciences (LIS) journals fall prey to the same concerning characteristics that librarians use to caution other researchers. This session presented the preliminary results of the first stage of journal evaluation using Beaubien and Eckard's Open Access Journal Quality Indicators and provided context for the next phases of the project. The results of this study provide both librarians and publishers with specific factors to be addressed when seeking to improve the quality of LIS publishing.

Keywords

journal evaluation, predatory publishing, LIS journals

Introduction

"Launching to the Dark Side of the Moon: Librarian Exploration of Peer-Reviewed Library Journals and 'Predatory' Characteristics" details research results pertaining to a study of currently publishing Library and Information Sciences (LIS) journals when evaluated using predatory publishing rubrics. This study examines LIS journals through this lens in order to measure the quality of LIS publications, examine the

reliability and use of predatory publishing rubrics, and determine areas of improvement for both LIS journal publishers and the creators of predatory publishing rubrics.

The study was conducted by six faculty librarians at Clemson University, a large, R1 land-grant university in South Carolina. The idea for the project began during meetings of the Clemson Libraries' Journal Club, in which libraries employees gather to discuss the content and methodology of LIS publications of interest to the group. After several meetings during which inconsistencies in the publishing practices and copyediting of the articles were discussed, in addition to observations regarding methodological concerns in these articles, the authors of this study decided to evaluate the quality LIS publications.

The decision to evaluate LIS publications coincided with a rise in libraries outreach related to predatory publishing practices, led by two of the coauthors of this study. Predatory publishing, according to the Committee on Publication Ethics (COPE) "Predatory Publishing Discussion Document" (2019), "refers to the systematic for-profit publication of purportedly scholarly content . . . in a deceptive or fraudulent way and without any regard for quality assurance." To simplify, predatory publishers trick authors into publishing in fake open access journals for a fee without providing any peer review, indexing, or sometimes even without publishing the article at all. To help combat this initiative, librarians and publishers have created tools, including evaluation rubrics, to help researchers identify predatory publications to avoid falling prey to these scams. The authors of this study saw a connection between the need to evaluate LIS journals and the creation of predatory publishing evaluation rubrics and decided to combine the topics in one study. The results of the first of the two published rubrics utilized in this project, the "open access journal quality indicators" created by Beaubien and Eckerd (2014), are addressed in this proceedings paper.

The goal of this study was ultimately to utilize predatory publishing rubrics to examine indicators of quality in LIS journals to determine strengths and weaknesses of journals in the field. This study is based upon four research questions pertaining to journal quality, scholarly communications, LIS research practices, and the overall scope of LIS

publishing and predatory publishing outreach. Our four research questions were:

1. How do librarian-created predatory publishing rubrics affirm or negate the quality of LIS publications?
2. What are the implications of the usability of librarian-created predatory publishing rubrics on scholarly communications instruction and outreach?
3. How do the intersections of LIS journals and predatory journals reflect upon the scholarly integrity of librarian researchers and publishers?
4. What improvements can LIS journals and librarians involved in predatory publishing outreach implement in order to increase the usability and reputation of both?

Rubric

Our chosen evaluation tool was a list of journal quality indicators from a 2014 article in the *Journal of Librarianship and Scholarly Communication* by Beaubien and Eckerd. The article includes 13 positive indicators (such as well-defined scope, presence of DOI, and transparency about publishing fees) and 9 negative indicators (such as obtrusive marketing efforts, lack of information about the peer-review process, and incomplete/missing information about the publisher). We converted this into a rubric using Google Forms, and each journal in our list was evaluated by three separate people.

One phenomenon that became apparent is that although the quality indicators (and therefore our rubric) seemed easy to apply to our sample, there was some ambiguity in interpretation. For example, one positive indicator was "editor/editorial board are recognized experts in the field." While one would obviously hope that a journal editor was an expert in their field, this is tough to evaluate if one is not actually familiar with the field in question, and proved difficult to answer with a simple yes or no in certain situations. Another problematic negative indica-

tor that was "publisher direct marketing (i.e. spamming) or other advertising is obtrusive." This indicator makes sense because predatory publishers are known for sending spam-like solicitation emails, but again, if you haven't been targeted, this is tough to know about just from seeing their website. On the other hand, some evaluators also counted large banner ads and other website content as obtrusive, which worked against some journals even though they are largely considered reputable in LIS and come from big-name reputable publishers.

Overall, however, most of these limitations were fairly minor, and we are confident that we were able to apply the rubric fairly and consistently.

Project Sample

Our initial sample of journals were based off of journal lists previously gathered in key articles (Kim, 1991; Nisonger & Davis, 2005; Nixon, 2014). We then expanded our list by searching in Ulrich's Global Serials Directory using specific criteria. The serial must be a journal, the status needs to be active, the content must be academic/scholarly, the language needs to be in English, and the format needs to have an online distribution option. We added additional filters to require the publications to be indexed or abstracted and have an open access component.

Once we created a large serials list, we excluded the following criteria: non-English language, information science, state/province journals, non-peer-reviewed, does not have active status, non-US/Canada/UK published. Our revised list comprises publications that have peer-reviewed stated on the journal website and are active publications. It also contains national- or international-level publications, open access, must be about library science, and are published in the United States, Canada, or the United Kingdom. Our end result was 49 peer-reviewed library science journals with open access components (see Appendix).

Trends in Results

Positive Factors

The mean number of positive factors present per journal was 10.7 out of a possible 13 factors, with a median and mode both of 11 (see Figure 1).

The journals excelled with six positive factors in particular. 100% of journals were registered in UlrichsWeb, had ISSNs assigned, and had articles within their scope that met disciplinary standards. About 98% of journals were written for the primary audience of researchers/practitioners and clearly indicated rights of use/reuse at the article level. About 96% of journals were included in subject databases and/or indices.

Four positive factors were consistently absent from the journals. About 62% of journals were not listed in the Directory of Open Access Journals (DOAJ). About 56% of journals did not have publishers who were members of the Open Access Scholarly Publishers Association. About 45% of journals were not affiliated or sponsored by an established scholarly society or academic institution. About 22% of journals did not have publishing fees or charges easily found on their website and clearly explained.

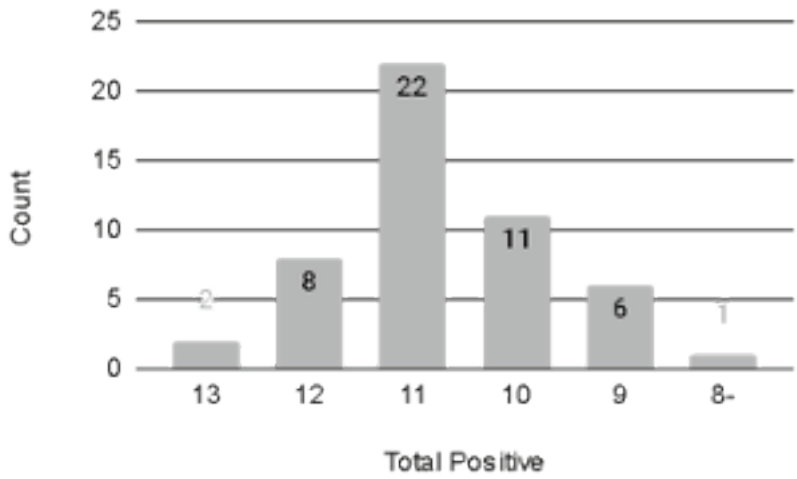

Figure 1. Distribution of positive factors per journal.

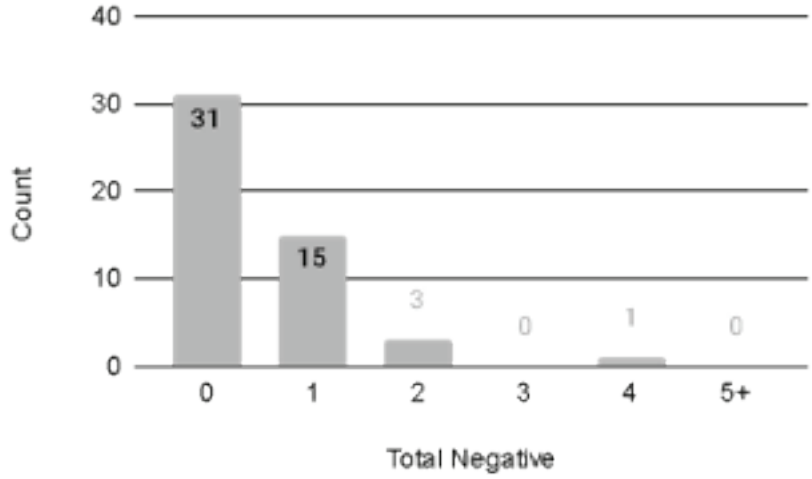

Figure 2. Distribution of negative factors per journal.

Negative Factors

The mean number of negative factors present per journal was 0.5 out of a possible nine negative factors, with a mean and median both of 0 (see Figure 2). The most frequent negative factor present among journals was a lack of publisher "about" information on the journal's website (22% of journals).

In general, there were five negative factors that were extremely uncommon among the journals. Only 4% of journals had websites that were difficult to look up and identify and had publishers with negative reputations. About 2% of journals did not provide instructions for authors and did not provide information on peer review and copyright. None of the journals repeated lead authors within the same issue.

Takeaways

One of the objectives of this study was to determine whether or not library and information science journals meet the high standards that

they help to establish for other disciplinary journals, especially pertaining to characteristics used to identify predatory journals. Many positive trends were observed, which suggests that LIS journals generally perform well against a journal evaluation rubric. It was determined that a single rubric may not provide sufficient evidence to gauge the quality of a set of journals, and further studies are essential not only to recognize fluctuations in journal quality but also to review new journal titles. Because LIS journals can help to set the standard for journal quality in other disciplines, it is important to undergo periodic evaluations and to continually improve the tools used to conduct those reviews.

Next Steps

Our next step is to apply the second set of criteria recently created by Nataly Blas, Shilpa Rele, and Marie Kennedy (2019). We will then analyze how each journal performed and if and how performance differed between the two rubrics. We will use this data to understand whether predatory publishing characteristics exist in the 49 LIS journals and where the strengths and weaknesses lie. We plan to publish the results and more directly address the four research questions in the hope that our findings will encourage LIS journals to practice what librarians preach about predatory publishing and provide a launching point to improve the quality of LIS journals.

Appendix

List of journals in project sample:

1. ASIST Proceedings (Proceedings of the Association for Information Science and Technology)
2. Canadian Health Libraries Association Journal
3. Canadian Journal of Information and Library Science
4. Collection Management

5. College & Research Libraries
6. College & Undergraduate Libraries
7. Communications in Information Literacy
8. Electronic Journal of Knowledge Management
9. Evidence Based Library and Information Practice
10. Health Information and Libraries Journal
11. In the Library with the Lead Pipe
12. Information Technology & Libraries
13. Insights: the UKSG Journal
14. International Information and Library Review
15. International Journal of Digital Curation
16. International Journal of Librarianship
17. Issues in Science and Technology Librarianship
18. Journal of the Association for Information Science and Technology
19. Journal of Academic Librarianship
20. Journal of Agricultural & Food Information
21. Journal of Business & Finance Librarianship
22. Journal of Education for Library and Information Science
23. Journal of eScience Librarianship
24. Journal of Information Literacy
25. Journal of Librarianship and Information Science
26. Journal of Librarianship and Scholarly Communication
27. Journal of the Medical Library Association
28. Law Library Journal
29. Library & Information Science Research
30. Library and Information Research
31. Library Collections, Acquisitions & Technical Services
32. Library Hi Tech
33. Library Quarterly
34. Library Resources & Technical Services
35. Medical Library Association Journal
36. Online Information Review
37. Partnership
38. Portal

39. Reference & User Services Quarterly
40. Reference Services Review
41. School Library Research
42. Serials Review
43. The Code4Lib Journal
44. The Electronic Library: The International Journal for the Application of Technology in Information
45. The Information Society: An International Journal
46. The Serials Librarian
47. Theological Librarianship
48. Urban Library Journal
49. Information Discovery and Delivery

References

Beaubien, S., & Eckard, M. (2014). Addressing faculty publishing concerns with open access journal quality indicators. *Journal of Librarianship and Scholarly Communication, 2*(2), eP1133. http://dx.doi.org/10.7710/2162-3309.1133

Blas, N., Rele, S., & Kennedy, M. R. (2019). The development of the journal evaluation tool to evaluate the credibility of publication venues. *Journal of Librarianship and Scholarly Communication, 7*(1), eP2250. https://doi.org/10.7710/2162-3309.2250

Committee on Publication Ethics Council. (2019). COPE discussion document: Predatory publishing. *COPE*. https://doi.org/10.24318/cope.2019.3.6

Kim, M. T. (1991). Ranking of journals in library and information science: A comparison of perceptual and citation-based measures. *College & Research Libraries, 52*(1), 24–37. https://doi.org/10.5860/crl_52_01_24

Nisonger, T. E., & Davis, C. H. (2005). The perception of library and information science journals by LIS education deans and ARL library directors: A replication of the Kohl-Davis study. *College & Research Libraries, 66*(4), 341–377. https://doi.org/10.5860/crl.66.4.341

Nixon, J. M. (2014). Core journals in library and information science: Developing a methodology for ranking LIS journals. *College & Research Libraries, 75*(1), 66–90. https://doi.org/10.5860/crl12-387

Building Blocks for Real Change in a Post-COVID Landscape

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Abstract

Academic libraries in the United States have choices in how they move forward from the COVID-19 pandemic: those who see the current environment as an uncomfortable bump in the road, and those who see the pandemic as the impetus to radically change business as usual. Our approaches to open access in relation to traditional scholarly publishing and Big Deals must take the latter route, particularly when it comes to an overall collections strategy that combines the library collections budget with outreach efforts and digital initiatives infrastructure. This chapter explores the building blocks for this change as identified in a national survey on OA perceptions and activities. The authors also discuss the results of a live-session survey of 2020 Charleston conference participants to marry pre- and post-COVID attitudes and approaches. Libraries and their stakeholders must recognize that while there is no one-size-fits-all approach to change, we could utilize the best practices, technologies, and tools available to rapidly prototype our next steps in this new landscape.

Keywords

open access, big deals, scholarly communication, collection development strategies

A Pre-COVID Landscape Survey

Many libraries have made great progress (or big headlines) in their support of OA initiatives, agreements, and contracts over the last several years. Transformative agreements, library/publisher divorces, and OA funding models categorize some of the most visible. These did not appear overnight; rather, the libraries engaging with them took strategic, multifaceted steps to achieve their progress to date. Examples include targeted faculty and central administration conversations, strategic Big Deal cancellations/reductions, open research and research data curation initiatives, and library-as-publisher investments. In the fall of 2019, the cumulative weight of these changes across higher education libraries resulted in a more widespread focus on the unsustainability of the then-current academic publishing marketplace. Institutions and consortia were beginning to rethink their negotiations with publishers, pushing for more transformative agreements, and the marketplace started to see the impact of Plan S and similar mandates requiring publicly funded research and publications to be OA. The biggest splash here in the United States at the time was from the University of California System announcing an impasse in their negotiations with Elsevier for a new multi-year contract and the decision to end all their subscriptions with the large for-profit publisher, citing Elsevier's unwillingness to allow more UC system-authored content to be published open access (Fox and Brainard 2019).

The authors, and indeed many others (McKenzie 2019; Schonfeld 2019) wondered if considering the UC/Elsevier divorce, many more libraries might view this as a turning point; an opportunity to push for

change in their own institutional conversations with campus administrations and faculties. From August 29 through September 25, 2019, we conducted a survey that yielded 136 responses from librarians at academic libraries. The questions we asked centered on four areas including: actions or plans for Big Deal cancellations; communication strategies across campus; organizational structures and positions typically involved in this work; and any internal or external partnerships the library cultivated to support its goals. To encourage more responses, we allowed multiple responses from a single institution. Of those who responded, 67.65% were from doctoral institutions, 16.91% from a master's college/university, and 10.29% from baccalaureate colleges, with the remaining 5.15% a combination of respondents from two-year colleges, special focus institutions, and tribal colleges.

Perceptions of the Big Deal

We asked respondents to tell us if they saw the UC/Elsevier breakup as a turning point in the serial's crisis. While 56.62% of respondents answered they felt it was too soon to tell, and 8.09% answered no it was not, 25% of respondents answered that they indeed felt this was a turning point. At the time of our survey, only 4% of respondents reported success in leveraging the UC System decision in their own negotiations with Elsevier or other large publishers, with 48% indicating they had not yet attempted it. About 61% of respondents reported they had already started breaking up big deals, some more dramatically than others, and of the 35.29% of respondents who said they had not acted in support of ending a Big Deal, 67% were from doctoral institutions. For institutions that had already reduced their Big Deal commitments, 53% said it was because they were unable to sustain journal inflation and 23% said it was because of mandated budget reductions imposed by their parent organization. Where academic libraries were able to reallocate funding after breaking up a Big Deal, most reinvested that funding to offset the inflation on other existing subscriptions or to purchase collections they

previously could not afford. Only 17% of our respondents reported that their organization had reallocated funding into OA initiatives.

We were unsurprised to learn that many academic libraries had not yet had the time to leverage the UC/Elsevier divorce in their conversations with campus administrations or faculty. Given that academic libraries have spent decades negotiating Big Deal contracts with journal publishers, and that these kinds of contracts might have been more appealing to doctoral institutions who had more need to collect scholarly resources both broadly and deeply, it is perhaps not so surprising to see that the largest number of the respondents reporting they had not yet taken any action to end their Big Deals were from libraries at doctoral institutions. Because the concept of transformative agreements was fairly new at the time of our survey, (reinforced by our finding that only 4.01% of our respondents reporting their library had negotiated one), it might be the case that many of the libraries which had not yet taken any action to end the Big Deal would be those who later might pursue that as a possible way of repurposing their collection budgets in the interest of advancing open access.

Communication Strategies

We asked our respondents to tell us where communication about Big Deals and Open Access is facilitated within their organizations. Almost 24% of respondents indicated that kind of communication is shared across multiple library units, while 9.73% reported it was centered in a dedicated unit. Of those dedicated units our respondents identified by name, the most frequently listed units were scholarly communications, collections, technical services, and acquisitions. Most respondents (47.71%) indicated that communications about OA and the Big Deal were carried out by library administrators, with 20.23% reporting it was the library dean or director, 10.69% indicating it was the associate dean or assistant university librarian for collections, and 16.79% indicating it was a director or head of collections who led these kinds of communications.

Since we did not limit respondents to only one answer for this question, and instead asked them to check all that applied, we wondered if the same respondents who indicated communications were carried out by library administrators also responded that these were initiatives shared across multiple library units. If correlated, this would indicate communications about the Big Deal and OA advocacy were considered a library-wide priority from the very top of the organization and throughout many other library units. Surprisingly, this was not the case as frequently as expected. For those who answered that these communications were carried out by the library dean or director, only 37.28% also indicated the work was shared across multiple library units. Of those who reported an associate dean or assistant university librarian for collections carrying out the work, 46.43% said it was also shared across multiple library units. Of those who reported this was carried out by a director or head of collections, 47.62% said it was also shared across multiple library units. When we looked again at those who reported this kind of communication originated from a dedicated unit, only 20.83% of those respondents also indicated this work was shared across multiple library units. This led us to conclude that when communications about the Big Deal and OA are centered in a dedicated unit, they are least likely to be shared across multiple units and thus not an organizational priority.

One explanation for the disconnect could be that there is a difference in where and how libraries have targeted communications between OA and the Big Deal externally. When examining the most popular strategies, 23.62% of respondents reported creating a website or web page highlighting resources and facts about copyright and OA, 22.36% reported advocating for OA policies or resolutions at the department and/or campus level, 17.34%worked with university senate or university library councils, and only 8.65% indicated they were inviting campus faculty to participate or lead task groups on OA. For Big Deal communications strategies, 28.74% reported working with university senate or university library councils, with 14.97% creating a website or web page highlighting resources and facts about Big Deals, and 13.77% forming task groups inviting participation and leadership by campus faculty.

Open access communications seem to have coalesced around information sharing and working with university library councils, faculty senates, and individual academic departments, while Big Deal communications are often framed as separate initiatives intended for university library councils and faculty senates, but also involve a combination of inviting faculty to engage and lead change on the issues through task groups as well as engaging directly with campus administrations about the challenges of marketplace sustainability. Advocating for resources with campus administrations and engaging with formal campus governance groups to gain support for change are typically the purview of library administrators.

While the largest number of respondents indicated that Big Deal/OA communications strategies are carried out by library administrators, it seems that may not necessarily signal this work as a library-wide initiative. However, it does appear to be shared more frequently across multiple library units when that administrator is a director/head of collections or an associate dean/assistant university librarian of collections than when it is the dean or director of libraries. It may be the case that communications about sustainability in the academic publishing marketplace and the potential for open access may happen through an administrator's office initially, and then spread throughout the library as those concepts gain traction over time; particularly when they become key components of more public-facing library units engaged in outreach and advocacy.

Organizational Structure

One survey question asked respondents if their library employs any personnel with the following titles: scholarly communications librarian, collection development strategies librarian, copyright librarian, resource analyst, and an option for "other related titles" in which the respondent could write in a response; a question that originated from our desire to determine if a correlation exists between OA initiative progress and movement on Big Deals and dedicated/titled roles to support this work

organizationally. Fifty-four respondents chose to write in a response for a title that was not one of the four prompted responses. However, a little over half (51.85%) of the write-in responses were very similar to our prompted categories and nearly all of them were variations on collections, collection development, or collection management titles. When we normalized the write-in responses that were similar in scope to the originally suggested titles, 36.19% of our respondents indicated their library employed a scholarly communications librarian, 30.95% of respondents indicated their library employed a collection development strategies librarian, 14.29% indicated their library employed a copyright librarian, 4.76% indicated their library employed a resource analyst, and only 1.43% indicated their library employed all four of these categories of personnel. This left 12.38% of the write-in responses that we felt were different enough that they could not easily be folded into our prompted categories. These included personnel titles with some variation of digital scholarship, digital initiatives, electronic resources, open education, subject specialists and liaison librarians, and personnel titles related to work done with research, instruction, and engagement.

The data suggest that there may be different emerging strategies for pairing complementary skills with dedicated roles. Of those respondents who indicated they employ a scholarly communications librarian, 45.33% indicated they also employ a collection development strategies librarian, while 32% indicated they instead employ a copyright librarian, and only 18.67% indicated they employ all three roles in their organization. The differences in relative size across libraries and in terms of resources for hiring additional personnel would certainly explain why not very many respondents indicate they employ all three categories of personnel. However, the fact that respondents report a distinct difference between pairing a scholarly communications librarian with either a collection development strategies librarian or a copyright librarian could be meaningful. This may reflect different strategies with respect to how libraries see working with campus partners to end the big deal in relation to open access initiatives. One strategy might emphasize traditional OA advocacy independent of where collections-related decisions are made, while the other may be deliberately partnering with collection

development roles and units to re-envision the collections budget in relation to OA initiatives, advocacy, and outreach.

When combined with the survey data discussed earlier about communication strategies, the work done in libraries relating to OA, scholarly communication, research and publishing trends, and collections is in flux right now. That said, we know that Big Deal and OA communications are most successful in terms of campus support for change when they are an organization-wide priority shared across multiple library units. When carried out by a library administrator, they are a little less than half as likely to be shared across multiple library units, meaning less people in the organization promoting the same message and potentially meaning less success in garnering wider campus support. We also know that the success in terms of campus support for change is lowest when Big Deal and open access communications are centered in a dedicated unit, such as a scholarly communications unit. Given the differences in where academic libraries negotiate big deals and make commitments for purchasing academic resources (collections-related units) and where libraries have traditionally centered the work done in OA advocacy (scholarly communications and copyright units) (ACRL 2016, Thomas 2013), we believe that a greater degree of structural organization around open access initiatives in relation to collections strategy should exist across the profession in order to move things forward more purposefully. This might mean consolidating scholarly communication and acquisitions units, creating incentive structures or programmatic expectations around collaboration between the two, or even creating directorships or reporting structures to systematically tie both activities together.

Partnerships

For libraries to be successful in both open access advocacy and new ways of doing business, they must invest in partnerships both at home on their own campuses and externally through library consortia and marketplace relationships. Our data suggest that libraries are centering these efforts in

three key areas. First, they are pivoting to focus more on faculty collaboration in terms of on-campus outreach. Second, they are positioning the library as central to new models for facilitating publication opportunities for campus authors. And third, they are rethinking the nature of their consortia partnerships, leveraging the strength of those relationships in the direction of shared infrastructure and advocacy.

We asked our respondents to tell us about campus initiatives supporting both OA and ending or renegotiating Big Deals. When comparing open access initiatives and changing Big Deals, there seemed to be better outcomes in support of OA. To some degree, the explanation of this difference may be the relative investment over time many libraries have made in OA advocacy versus the more recent focus of libraries on communicating with campus administrations and faculty specifically about the challenges of Big Deals and serials inflation. It is likely not surprising that 22.65% of our respondents indicated they had an office either in the library or on campus that supported copyright and OA advocacy. Centering that work in a dedicated unit, whether in the library, the provost's office, or in campus offices of research and innovation should, in theory, have had an impact over time; in terms of both how and where those communications are targeted as well as their successful adoption. Given that communication strategies for libraries between OA and the Big Deal differ, and that libraries have been advocating for OA longer than they have for ending the Big Deal, we would expect to see wider adoption and support of OA initiatives. However, only 18.8% of our respondents indicated they had institutional copyright policies or addendums, only 14.96% reported adopting formal faculty statements in support of OA, and only 10.68% indicated they receive matching funds from other campus units for APC programs. When it came to ending or renegotiating the Big Deal, respondents reported less support in general than for OA-related initiatives. But interestingly, when we compared the responses about campus administration support versus faculty support, 37.5% more respondents indicated support from campus administrations for Big Deal change as opposed to campus faculty. This gap in campus faculty support for ending or changing the Big Deal is likely a major reason why libraries are focusing most of their

efforts into working with university senates or library councils, as well as twice as likely to invite campus faculty to participate in or lead task groups examining the impact of the Big Deal on the campus community.

When it comes to reconnecting the academic library's purpose to campus research and scholarship, most libraries are focusing those efforts on initiatives that involve support for OA in the form of direct author deposit into the institutional repository or a library publishing partnership with a university press. Increasingly, however, they also involve investments in offsetting APCs for institutional authors, as well as community initiatives that directly support open access publishing. The largest number of respondents (39.18%) indicated they support publishing via the library's institutional repository or working with a university press, while 29.39% of our respondents said their institution is now investing in alternative publishing or open access initiatives. We also asked respondents to name the community initiatives in which they were investing. The top answers were Open Textbook Network, Knowledge Unlatched, Open Library of the Humanities, SCOAP3 (Sponsoring Consortium for Open Access Publishing in Particle Physics), TOME (Toward an Open Monograph Ecosystem), SPARC (Scholarly Publishing and Academic Resources Coalition), Open Book Publishers, ArXiv, Reveal Digital, Open Science Foundation, and HathiTrust.

Libraries have long participated in consortia partnerships involving cooperative collection development, electronic resource negotiation and purchasing, and shared print management. Participating in consortia for cooperative collection development was something that 40.72% of respondents reported their institution did to support OA. Since our study, we have seen the rise in initiatives across campuses and across consortia to create shared infrastructure and shared advocacy mechanisms. We have certainly seen the power of library groups play out internationally as more and more libraries have begun to push back on big publishers in terms of journal pricing and negotiation (SPARC 2007) and shift the marketplace such that more publishers are seeing their own future as one that embraces OA through transformative and subscribe to open agreements (Price 2020, McKenzie 2021). This is also reflected

in many library statements endorsing transparency and sustainable pricing in the academic publishing marketplace either as the outcome of intensive work with their own campus faculty (MIT Libraries 2020) or because of a collective desire to endorse change in the marketplace (NERL 2021). We have also seen a rise in library initiatives aimed at developing the cooperative infrastructure that will help libraries to maximize opportunities for resource sharing (Project Reshare) or build collective collections (BTAA 2019). We believe all of these are natural outcomes of the perception that libraries must help shift the marketplace by not only making changes in their organizational structure and collections strategies, but also engaging in those same changes through their consortia and campus partnerships.

Building Blocks for Real Change

There were several big takeaways from our study. We found that libraries who seem to be succeeding in shifting their organizational and operational focus in support of OA engage in the following:

- Long-term OA engagement and advocacy with campus faculty and administrations, shifting now to conversations about sustainability in the academic publishing marketplace.
- Structural changes that accommodate new work, specifically new units and new positions focused on creating and implementing services and initiatives related to scholarly communication, collection development strategies, digital scholarship, and open research initiatives.
- Deliberate strategies to combine the power of the library's collections budget with scholarly communications advocacy, including investments in open science, open education, open data and research initiatives, and publisher agreements that preference open access.
- Centering change and OA as an organizational priority shared library-wide and paired with a multifaceted communication and marketing plan.

- Collaborating with both new and traditional partners in new ways, deliberately promoting core initiatives, collaborating to create new ways of operating, leveraging industry partnerships and vendor relationships for real change.

So where do we go from here? Libraries are pursuing change on multiple fronts. One primary method is the redistribution of funds saved from renegotiating Big Deals. Libraries could re-invest those collections budgets into collaborative initiatives across campus, including library as-publisher or partner publishing with a university press, open research and research data curation initiatives, digital initiatives, and outreach initiatives in the community, especially around cultural heritage collections. All these endeavors resemble research and development in the business world in terms of how the library might create and refine new services for its campus stakeholders. As library budgets continue to stay flat or are forced to reduce, it is highly likely that the funding for research and development efforts around OA will come primarily from reinvestment from traditional collections budgets but also hopefully with shared funding from both campus and consortia partners. There are certainly examples of this happening across the library landscape right now, such as the MIT library partnership with MIT Press to fund an open monograph business model (MIT Press 2021). Academic libraries should be giving serious consideration to restructuring their business models and to integrating and marketing their value across campus. It will be increasingly important for libraries to be seen less as a repository of collections and instead as the developers of new initiatives; the library as an institute, as a think-tank, as a place where open research and open scholarship is generated. Ultimately, success will include making investments in shared infrastructure, leveraging the OA benefits now visible from the pandemic-inspired open science practices, realigning library collections strategies with open initiatives, re-envisioning our spaces and operations, and employing iterative development techniques like rapid prototyping to efficiently respond to the dynamic demands and needs of our stakeholders.

Live Poll Results

During the 2020 Charleston Conference, we determined to compare some of our findings from the survey with the most current ideas and feelings of library professionals engaged with these issues in the form of a live poll during our session on November 4. The live poll was an attempt to surface what impacts the pandemic had and would have on the conversation around OA and Big Deals. We collected 67 responses to the poll. The questions included in the live poll are listed as follows:

- Has your approach to Big Deals changed since the start of the pandemic?
  - Yes, No, Other
- Have you or are you considering negotiating a transformative agreement since the start of the pandemic?
  - Yes, No, Maybe, Other
- Has the pandemic forced your library to:
  - Give up open positions or otherwise reduce the operating budget?
  - Reduce the collections budget?
  - Layoff or furlough employees?
  - Reduce time and/or effort spent on open access initiatives?
- Where are you going from here? What is your library's next step in supporting open access?
  - Altering communication strategies around OA and/or collections?
  - Engaging differently with faculty?
  - Relying more heavily on consortial bargaining?
  - Creating open access policies?

About one-third of respondents (31.8%) indicated their approach to Big Deals had changed since the start of the pandemic. The vast majority, however, 59.1% indicated there had been no change at their institution. One respondent further reported that while their approach had not yet changed, the budgetary impact of the pandemic would likely lead them

down that path. One respondent also notably remarked that their library was dropping Big Deals prior to the pandemic but continuing them currently. Still, another reported having considered a change in approach to Big Deals, but that this was not a result of the pandemic.

The second poll question responses indicated a strong shift toward negotiation of or new consideration for transformative agreements. About 38.8% of respondents indicated they were actively considering or had already negotiated a transformative agreement since the start of the pandemic with an additional 25.4% indicating they might consider one. A handful of respondents also augmented their feedback with reports of transformative agreements being an organizational goal for several years or that work in this direction has started prior to the pandemic.

The third poll question delved deeper into the resource and budgetary impacts of the pandemic. Not surprisingly, 81% of respondents indicated having to give up vacant positions or otherwise reduce their operating budgets. Nearly 76% reported reductions in their collections budgets. Roughly a quarter of respondents (24.1%) reported having to take personnel action in the form of layoffs or furloughs, and perhaps most germane to our survey data, 19% reported reducing the time and/or effort spent on open access initiatives.

The fourth and final poll question was meant to gain a sense of forward directions and next steps regarding open access support. Very much in alignment with our survey data, the most common next steps by those polled at Charleston included altering communication strategies around OA and collections (61.7%), engaging differently with faculty (50%), and creating open access policies (30%). Relying more heavily on consortia bargaining came in fourth with 21.7% of respondents indicating this as their library's next step. Several interesting write-in comments are also worth sharing here, including:

- One librarian position repurposed to focus entirely on OA/OER
- Keeping support for existing OA efforts in tact as much as possible
- Seeking out grants for OER initiatives with faculty
- Funding OA initiatives

The live poll results in aggregate supported our suspicions heading into the conference that many libraries keenly felt the impacts of the pandemic budgetarily and within their organizational structures, some to the point of pausing or rethinking their approaches to OA and the Big Deal. This certainly seems to suggest that more libraries will join those who have already made the decision to step back from Big Deals considering the pandemic (Aiwuyor, 2020). We were pleasantly surprised to learn that altering communication strategies going forward was the number one next step on behalf of the respondent group. This directly aligns with the analysis and findings from the original survey as multiple communications strategies were identified as being related to the adoption of OA initiatives across a campus but those became more targeted toward garnering campus support to change with Big Deal communications. More work and data points are needed to draw finer conclusions and correlations in this space, as well as factoring additional variables currently impacting attitudes and behaviors. The opening of previously paywalled materials during the first several months of the pandemic is likely one such facet to consider in future research, especially if academic libraries leverage the pandemic inspired open-research moment to change faculty and campus administration perceptions about the academic publishing marketplace.

References

Aiwuyor, J. (2020, May 14). More research libraries decline "big deal" subscription contracts with publishers. *ARL News*. Retrieved from https://www.arl.org/news/more-research-libraries-decline-big-deal-subscription-contracts-with-publishers/.

Association of College & Research Libraries (ACRL). (2016 revised). Take action: Ways librarians can engage in scholarly communication. In *ACRL scholarly communication toolkit*. Retrieved from https://acrl.libguides.com/scholcomm/toolkit/engagementideas.

Big Ten Academic Alliance (BTAA). (2019). *The BIG collection introduction*.

Retrieved from https://www.btaa.org/library/big-collection/the-big-collection-introduction.

Fox, A., & Brainard, J. (2019, February 28). University of California boycotts publishing giant Elsevier over journal costs and open access. *Science News*. https://doi.org/10.1126/science.aax1895

McKenzie, L. (2019, March 27). The beginning of the end for the 'big deal'? *Inside Higher Ed*. Retrieved from https://www.insidehighered.com/news/2019/03/27/librarians-prepare-take-harder-line-publishers

McKenzie, L. (2021, April 1). Big read-and-publish push arrives. *Inside Higher Ed*. Retrieved from https://www.insidehighered.com/news/2021/04/01/cambridge-university-press-strikes-deals-open-access

MIT Libraries. (2020, May 19). *MIT framework for publisher contracts*. Retrieved from https://libraries.mit.edu/scholarly/publishing/framework/

MIT Press. (2021). *Direct to open*. Retrieved from https://direct.mit.edu/books/pages/direct-to-open.

NERL. (2021, March 3). *NERL issues a statement demanding a better deal*. Retrieved from http://nerl.org/wp-content/uploads/2021/03/Full-NERL-Statement-concerning-negotiations.pdf.

Price, G. (2020, October 19). Cambridge University Press seeks transformative status by cOAlition S across a majority of its journals. *InfoDocket*. Retrieved from https://www.infodocket.com/2020/10/19/cambridge-university-press-seeks-transformative-status-by-coalition-s-across-a-majority-of-its-journals/

Project ReShare. (2019). *ReShare: The future of library resource sharing*. Retrieved from https://projectreshare.org/.

Schonfeld, R. C. (2019, March 7). Is the value of the big deal in decline? *The Scholarly Kitchen*. Retrieved from https://scholarlykitchen.sspnet.org/2019/03/07/value-big-deal-leakage/.

SPARC. (2007). *Big deal cancellation tracking*. SPARC. Retrieved from https://sparcopen.org/our-work/big-deal-cancellation-tracking/

Thomas, Wm. J. (2013). The structure of scholarly communications within academic libraries. *Serials Review*, *39*(3), 167–171. https://doi.org/10.1016/j.serrev.2013.07.003.

Technology

New Frontiers in Discovery

What We Face and How to Address Equitable Search in Discovery

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Abstract

Discovery has been around for over a decade now, and new, recent advances are making it much smarter. Researchers no longer have to settle for brute force keyword searches that drown them in irrelevant results. Instead, recent leaps in subject and linked data mapping as well as exciting steps forward in natural language comprehension, language recognition, and systems intelligence have led to platforms that can help guide users to their intended search context and can help novice researchers execute expert-level searches.

Keywords

information literacy, EBSCO Concept Map, Enhanced Subject Precision, semantic search in libraries, equitable search in libraries, research instruction

What is exciting about the new mapping capabilities is that it democratizes research. Essentially, no matter your background, no matter your dialect, discovery can understand you. This means that search is now more equitable and opens the world of research to users who previously would be locked out of meaningful research discovery. In addition to these advances in the intelligence of search, great strides have been made in intuitive usability, as discovery platforms borrow a page from the innovations in the visual learning space. This chapter focuses on how two librarians use these new techniques to teach subject search within the library, as well as walking through with a librarian data scientist three steps libraries can take to be more equitable in their search.

Introduction

Since libraries started using discovery tools, novice researchers have struggled, as results can be overwhelming—and at times irrelevant—due to their execution of keyword searches. After years of research and development, novice users can now benefit from the advances in subject and linked data mapping, essentially taking the guesswork out of subject searching by connecting the users' natural language, the words they naturally use in search, to the more structured and controlled subject tags.

Two librarians from Rider University paired up with a library data scientist at EBSCO Information to explore how this new method of search expansion works, how it benefits the user, and how libraries can also start to move in this direction for their own catalogs. One tool that EBSCO presented was called the Concept Map, which sits on top of the

EBSCO Discovery Service to help users discover related subjects to expand their search in a visual and interactive way—think Tony Stark or Star Trek 3D computer interaction. Rider University librarians immediately saw the value of a tool that assists users in subject search and dove into how to teach this to users, as this would be a boon to their comprehension and usage of discovery tools and research databases in general.

Librarians' Instruction Style

While every librarian will teach subject search differently, there are a few themes to this instruction at the university level. Librarians know that controlled vocabulary searching is more effective but that users prefer keywords (Grey & Hurko, 2012). They also have long expected that discovery's features will allow librarians to focus on developing students' information-seeking strategies (Rose-Wiles & Hofmann 2013). The following describes how two librarians from Rider University conduct this instruction and are taking advantage of new search expansion and subject search capabilities to make their instruction more efficient and better understood by the user.

One Rider librarian, a cataloger and volunteer field bibliographer for the *MLA International Bibliography*, teaches information literacy at all levels and stresses the importance of subject indexing for the end user. Librarians often witness how students search, and how badly those searches may go (or, how easily students give up), especially in a single search box. To better help students, Rider librarians start by telling them to use the Advanced Search in their Discovery platform, in this case EBSCO Discovery Service, so they can learn ways to search within a structured database, which ultimately helps them to manage the number of results returned in a discovery tool.

The Advanced Search makes it easy to introduce Boolean searching, which is demonstrated to students immediately in the instruction session to show the power behind this librarian search technique. The goal here is for students to move from keywords in their head, the "Google-like" search that is geared toward the most obvious and high-level mean-

ing of the keyword, to subject terms, which are more tailored to specific knowledge artifacts like scholarly articles and nuanced research topics, to help them adapt to broader, narrower, and related topic discovery and search. Think computational linguistics versus natural language processing (NLP): In this example, NLP is broader than a specific type of NLP called computational linguistics. Broader and narrower—or type/specific type relations—are quite common in library organization. Thesauri add another layer with commonly related topics that are not necessarily types or parts of the broader term but are still significant for searching all aspects of a research topic.

The student learns how their keywords translate to the subject tags and how to compare results with what other terms will yield more results. For example, only certain articles and databases use the term "body positivity," but the concept of "body image" yields many more results they can evaluate for relevancy.

Students might realize the term "body image" equates or produces more useful results than their initial query of "body positivity." How do they find these additional terms? Previously, Rider librarians taught brainstorming keywords before a search, but now they focus more on leveraging the database or discovery tool's interface to harvest terms, emphasizing manual query expansion techniques to identify synonymous or related subject terms, which a data scientist might characterize as "brute force." The "Database Searching Process" diagram (Figure 1) teaches searching as a circular but multidirectional process, showing how users can use terms in the subject field of results (Examine Results) and the subject facet (Database Categories) to feed back into a search.

Table 1. Example of hierarchical subject data.

Natural language processing	Broader
Computational linguistics	Narrower
Sentiment analysis	Related (see also)

Table 2. Example of subject tag distribution and expansion.

Body positivity	Preferred label in database #1
Body image	Preferred label in database #2–5
Body positivity	Search expansion (use for): body image

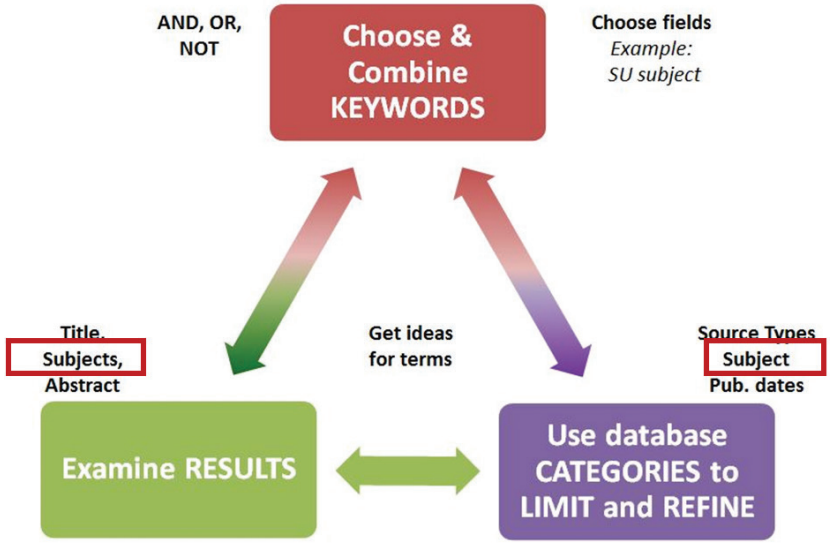

Figure 1. Database Searching Process taught by Rider librarians.

For example, a term like "glass ceiling" is a subject in many databases, so students will see results if they use this common phrase. But what are the broader and related concepts for this topic? A long-standing example Rider librarians modeled to teach Boolean and broadening concepts was the search "discriminat* AND (women OR female) AND (work OR employ* OR job)," using the three Advanced Search boxes (Figure 2).

Now Rider librarians model how to get to a search like this from a user's initial native language query, instead of thinking up terms ahead of time, by using the metadata returned in the search results and database facets.

Rider librarians teach students to look beyond the first three results, which is typically all users look at on Google, and examine several pages to see what may be relevant. Users are advised to note other subject terms, which they can add to the existing search or use to craft new searches. Then the librarians model how to expand a search—either by working from the results or by brainstorming synonyms—and now most recently by using new tools such as the EBSCO Concept Map. Fur-

Figure 2. Example advanced search strategy for "glass ceiling" concept.

ther demonstrations include limiting the search box to the subject field when the user is aware that the keyword is indeed a subject term and exploring the changes in results.

While "glass ceiling" is a subject in some databases, as for the article "Gender Sorting and the Glass Ceiling in High-Tech Firms" from Business Source Premier (Figure 3), other times it is not—the phrase might only be in the title or an abstract, as in the citation for "The Opaque Glass Ceiling" (Figure 4). However, the latter yields new subject terms that could be added to a user's search statement: the words "vocational" and "occupational" can potentially find more relevant items, especially when added to the advanced search example of Figure 2.

While subject searching is a great strategy for limiting results, librarians acknowledge its limitations, especially in a discovery environment. Limiting a users' search term to *only* the subject field will potentially eliminate relevant results that use different subject terms—in the case of Figure 3, "women employees" and "occupational training" are used instead of "glass ceiling." Students are thus instructed to search for words both as a subject and as a keyword to capture such variants. Further, not all items in the discovery tool are indexed with subject terms, depending on the database of origin: for example, the citation from Figure 3, "Gender Sorting and the Glass Ceiling," retrieved from JSTOR journals has no subject indexing (Figure 5). Also, there is the issue of specificity in book-level versus article-level indexing, and thus keywords are essential in retrieving words in the title, summary, and table of contents for items.

With such examples, librarians emphasize the necessity to search in different ways, with different search terms, combinations, and techniques—

Figure 3. "Glass ceiling" as subject term.

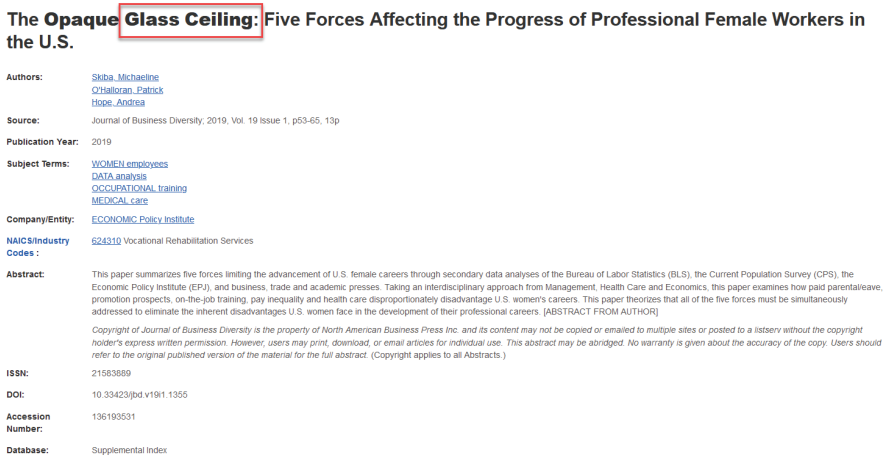

Figure 4. Search result where "glass ceiling" is in the title of the article only.

Figure 5. Citation from database JSTOR journals without subject terms, retrieved in EDS.

and the need to think of broader, narrower, and related concepts. By looking through results and adding more subjects, students can ensure that limiting by subject yields relevant but expansive results.

Even though EBSCO databases have "expanders" that apply related words and equivalent subjects, the equivalency is not necessarily transparent beyond bolded terms. Which terms are being retrieved from the thesauri behind the scenes? Librarians tell the students we don't know exactly what is being matched, so we don't know what's being left out. However, librarians appreciate this feature because it is more or less a failsafe, and students will find more results with simple keyword searches. Yet, even with the value-add of term equivalency there are topics that get more results with explicit OR-ing.

But the million-dollar question always is: will students actually do this "librarian" searching? The entire process taught requires effort and understanding, involving lots of scrolling, patience, and the ability to make quick sense of an entry and render a judgment as to what may be useful. It takes motivation to take notes and try different iterations of a search. That is a tall order for novice scholars, who may not know the forest for the trees and who are often looking for an article that answers their entire research question. The lay of the land—how their topic is named and how it relates to other topics—might be beyond their understanding and interest. Alternatively—and maybe more manageably—the librarian also teaches that using the database's subject facet allows users to see the related subjects in a more concise view. But, because the vocabulary in a discovery tool is being pulled from multiple databases, there is duplication of terms here that the user may not understand. They may not know what to do with such a list in terms of simultaneously limiting and expanding a search. While discovery offers multiple opportunities it also offers these challenges, leading us to ask how searching can be more equitable, taking into account both the rich subject data and diverse user community the library serves.

Subject search is a subset of the larger search instruction at the university, showing students not only how subjects work but also the larger search method for academic research. Here is how these two are combined.

Student Searches

The instruction and emerging technologies librarian works closely with the bibliographic control librarian and admires her teaching style. Her own style is similar, except at times—due to time limits in the classroom and a growing number of learning objectives—her style might have to drop something, and often that is any emphasis on subjects. This librarian has learned the hard way that skipping an important discussion on subjects while trying to cover many learning objectives is not an effective method. Experience proves students sometimes repeat everything too closely without understanding the complexities. Sometimes students miss important steps because of confusion or not recognizing how that step would make a more efficient search. While librarians always have anecdotal evidence of this, Rider University librarians conducted research in 2014 with students verbally annotating their research experiences (Dalal et al., 2015).

Having video data of how students actually search in library databases was very informative to the entire library. One student searched for "l-commerce"—and only "l-commerce"—not thinking of expanding it to "location-based commerce" or adding other keywords, trying broader terms, or understanding that this term is relatively new. Thus at the end of the video, the student declared that there is nothing on this topic "whatsoever" and complained about the professor for assigning it. This was an A+ graduate student with a close relationship with the business librarian, who somehow did not have the instruction or proclivity to expand keywords, broaden searches, or look for subject terms. Information access has so many different entry points that it is no wonder that a student and a librarian will use different methods, to varying degrees of sophistication. Since there is no exact "right way" to search, how can a bridge be created between the various methods and expertise levels so that all users have an equal opportunity to discover what they seek? As can be seen with the example "l-commerce," it was a new term at the time (2014), so the search engine might not have been able to help this student. Now there are 20 results as of 2021 in the Rider databases, which indicates the discovery search engine has gotten "smarter" and

has included more synonyms in the query expansion—thus starting to bridge that gap for the student.

In another video, a student started to search for the coal industry in the discovery tool typing in the search term "coal industry." After a brief glance at the results, the student went directly to advanced search, as advised by librarians, and began to utilize Boolean operators, searching for *coal industry* (as Title) AND *history* (as Subject), AND *failure in business* (as Subject). After that yielded zero results, the student persisted, and tried to limit the results to peer reviewed, with no change. Next, this student changed the Boolean operators to "OR": thus, the search statement became *coal industry* (as Title) OR *history* (as Subject), OR *failure in business* (as Subject). The Boolean operator "OR" would return articles with any of these terms, thus these results would be extremely difficult to filter through. While reviewing these results and noticing the history topics and the dated age of the publications, the student did not suspect the Boolean operator was the issue; instead, the student kept changing the search phrase, first removing the *failure in business* from the search phrase. The new search phrase then became *coal industry* (as Title) OR *history* (as Subject). Then the student tried the coal *industry* (as Title) OR *present* (as Subject), with a final change to *success in business* (as Title) OR *"coal industry"* (as Subject). After time spent reviewing pages and pages of results, the student finally lamented, "Why don't I see anything related to coal?"

Thus, this student began in the correct way, but then it fell apart. Although it is admirable the student persistently looked through the results, the false confidence that the search, subjects, and keywords were correct was troublesome; it was as if this student believed this was how discovery tools and library research worked. The student ended up leaving discouraged and likely found another way to complete the research assignment that was not captured on camera. This very video changed this librarian's pedagogy to have fewer learning objectives and make sure the students practice as soon as possible. The student could have used training in coming up with keywords to learn that "present" would not work, but this is a challenging concept to understand. EBSCO has been paying attention to how users use the database with natural lan-

guage to make searching more intuitive and a better equitable experience for all users.

Natural Language: Supplementing "Preferred Label"

The title of this presentation is equitable search, the definition of which is making that bridge between education/information literacy and how the average, everyday person actually does their search. This bridge, available in the EBSCO Discovery Service (EDS), is called Enhanced Subject Precision (ESP). EBSCO has had ESP for at least 10 years, acknowledging very early on the problem of regular users not knowing the subject headings across different databases. EBSCO mapped these subject terms together, so researchers hopping from one database to another did not have to relearn the subject terminology for that database. As of 2020, EBSCO now uses the user's natural language, defined as the words used within discourse or the natural way we discuss and label things when speaking; see Hobbs and Agar (1982) on discourse analysis. Adding users' natural language also breaks down barriers to those that may not know the "right" or preferred word that is tagged to content, as well as helping to mend the gap between terminology not yet adopted or updated in subject headings; see Drabinski (2013), Knowlton (2005), Moulaison Sandy & Bossaller (2017), Bak (2012), and Olson (2000). With this in mind, EBSCO has taken the existing subject mappings and added natural language terminology, gathered through card sorts, search logs, subject matter experts, and full text, as equivalents to the subjects, so both the natural language and the controlled subjects retrieve relevant content.

To illustrate how EBSCO bridges the gap between the subjects and users' natural language, Figure 6 shows content subject tags as "Magnetic levitation" (IEEE vocabulary) mapped to "Electromagnetic suspension" (LCSH vocabulary), to "High-speed train" (high-volume natural language term), and "Maglev" (typed in the search bar). In EBSCOHost and EBSCO Discovery Service, this is called the EBSCO Enhanced Subject Precision, which is used in every search in these tools

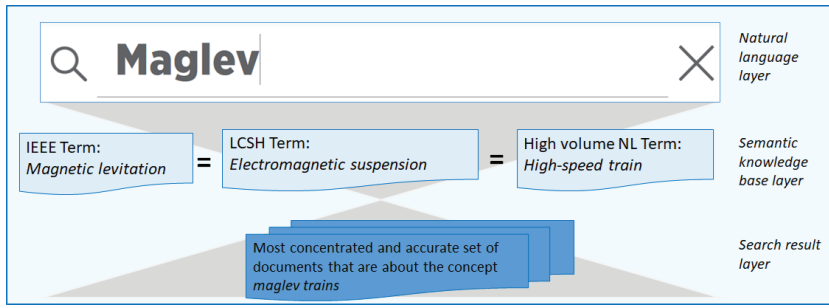

Figure 6. IEEE and LCSH vocabulary terms mapped to natural language to return the most concentrated and accurate documents about the concept *maglev trains*.

and can be seen when a subject in search results is highlighted in bold. This mapping also helps librarians to teach subject search without having to teach every database's vocabulary to researchers, and it helps end users feel more comfortable with search without sacrificing the precision of subject indexing.

Being able to use one's own language, no matter who they are, where they come from, or what their background is, has been shown to make a more satisfying search experience that is both relevant and equitable. When EBSCO saw this, they realized the similarity with how librarians teach subject searching on different platforms; EBSCO thus took ESP a step further by making the mappings interactive via a new visual subject search called Concept Map on EBSCO Discovery Service.

This mapping technique, which uses linked data and semantic methods, can also be accomplished with librarians' own catalog data. Enhancing the library catalog to be more equitable will not be solved overnight, but here are the steps to get started on that journey.

Top Three Steps for Building Equitable Search into Your Catalog

The first step is gathering users' natural language. Traditionally in library science and user research studies, card sorts have been used to gather the terminology end users would use to search for a research topic. An

open card sort is best for gathering users' natural language, where users have a set of index cards with preferred labels on them, and they write their own terminology on blank index cards and place them on the preferred labels. This can be done digitally with tools like Optimal Workshop's Treejack or survey tools like Qualtrics and Survey Monkey. Alternative ways to gather these terms are from ethnographic interviews with library patrons, mining search log terminology, or reputable linked open data sources from the linked data cloud (https://lod-cloud.net/). These terms can then be used in the next step, which is mapping the synonyms, other vocabularies (if you are mapping more than one), and natural language to one another.

A distinction to be made here: Natural language is not a keyword. Keywords are folksonomic tags, similar to Twitter tags, or author-assigned keywords in scholarly publishing. These are different from natural language terms because natural language is not derived from *assignment* of a tag but rather the words researchers use in discourse with one another. The act of assignment is a very different practice than describing something to a colleague; for example, a librarian may describe information literacy as a way to help students learn how to harness the wealth of library resources for their research as well as knowing how to identify trustworthy materials and cite them within the literature. Whereas when indexing, a librarian will assign the topic "information literacy" from reading the material and synthesizing what it is about to determine what it is or is not.

The second step is mapping all of the synonyms together. If fewer than three vocabularies or data sources are being mapped, a one-to-one mapping via a crosswalk is manageable. If there are more than that, the vocabularies quickly become unmanageable, so a form of linked data is used to map the vocabularies to a node, or hub, that represents a unique ID for all the synonyms mapped for a topic. The red dot in Figure 7 is a concept to represent the universal concept of something: whether it is *gato*, or *cat*, or *feline*, these are mapped together into the red dot. This is essentially what users get when conducting a search in EDS.

The third step is to understand how each subject or node is related to one another. Each node represents all the datasets, vocabularies, or syn-

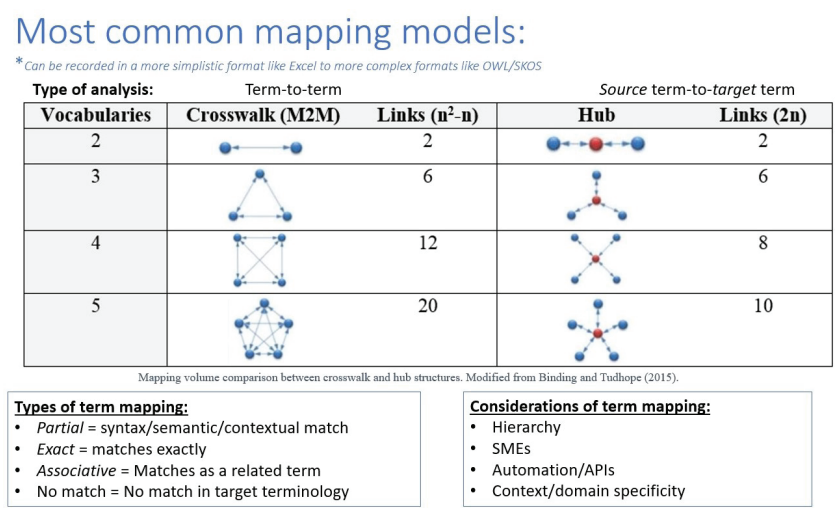

Figure 7. Mapping natural language terms to the controlled vocabulary terms as the "hub" (red dot) creates a bridge for users' natural language and the subject indexing on resources.

onyms you have mapped to it, so taking this a step further by expressing *how each subject is related to another* adds more semantics. To identify relations between two subjects, one may look at how different subjects are related to each other in the vocabulary structure (i.e., *broader* and *narrower*). *Broader* and *narrower* are usually taxonomic relations and thesaurus connections are usually *see also* connections. Additionally, more explicit human knowledge and understanding relations, such as can be seen in Table 3, can also be added via ethnographic interviews or mining from search logs.

Once the relationship types are determined, one can use a linked data model called a knowledge graph to connect each subject with relationships. This additional context, making the relations between sub-

Table 3. Example of traditional controlled vocabulary relations, "Preferred label" and "see also," in addition to more explicit semantic relations like "made from."

Preferred label, or concept	Coffee
See also, or related to	Cafe
Made from	Arabica beans

jects explicit, can connect the subjects in a more cognitive pattern to help users connect with their search at a deeper level, while also showing how knowledge on a topic can be modeled to help researchers find additional fields of inquiry for their search topic that go beyond just synonyms or basic relations like "Coffee" *related to* "Cafe." These strings of connections—one thing related to another thing—are called triples; each triple defines a specific type of relationship between two subjects: this is basically what Tim Berners-Lee (the father of the internet) and—more specific to libraries—what Dublin Core (DC) and Metadata Authority Description Schema (MADS) have been working toward for quite some time.

A second point of clarification: Linked data is often used synonymously with knowledge graphs; however, while they are often used together, they are not the same thing. As can be seen in Figure 8, linked data is the URI/URL-enabled data, whereas a knowledge graph is more about the explicit relations between the data, or nodes, and what can be derived or inferred from a combination of these relations, such as Suzy Cameron may know J. J. Abrams, as can be seen in the example in Figure 8.

Let's dive into how implicit relations can be expressed as more explicit relationships within your subject vocabulary. An example relevant to our student researchers would be lung cancer is a *typeOf* cancer. Students can also look for medications that are associated with lung

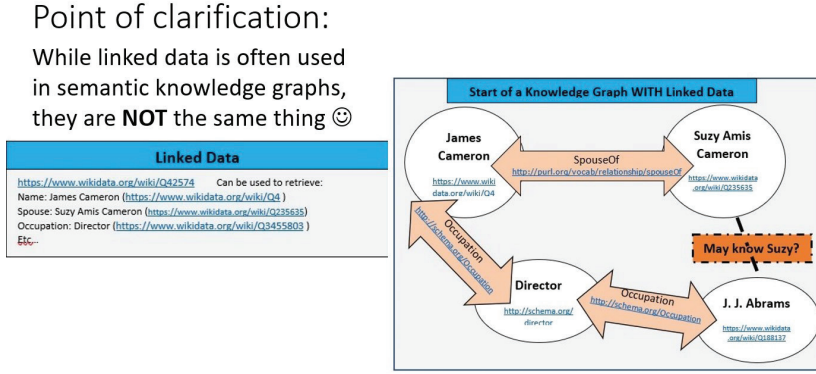

Figure 8. Showing the distinction between linked data and knowledge graph for linking subject data.

Table 4. Examples of triples

Subject 1	Relationship	Subject 2
Catalytic converter	partOf	The exhaust system
Lung cancer	typeOf	Cancer
John C. Doe	isCoauthorWith	Sam B. Smith
Queen Elizabeth II	monarchOf	Canada
Hair loss	symptomOf	Andriol
Baby Yoda	starsIn	Mandalorian

cancer (see Table 4 for examples of triples). Finding related subjects semantically—for instance, being able to find all symptoms of a drug with one click—is also an information literacy tool. All of this searching can be done in a visual way once these connections are made, as can be seen with the EBSCO Concept Map on EDS.

Visualizing subjects is not novel. Hierarchies have been used for taxonomies, and thesauri browsing has existed for some time. Visualizing semantic connections (because of their graphical structure) is often depicted in web-like visuals as can be seen by Six Degrees of Sir Francis Bacon—the "hairball" visual (Figure 9), Itinera—the "halo" visual (Figure 10), and the Marvel Social Network—the "web" visual, which is the most popular (Figure 11).

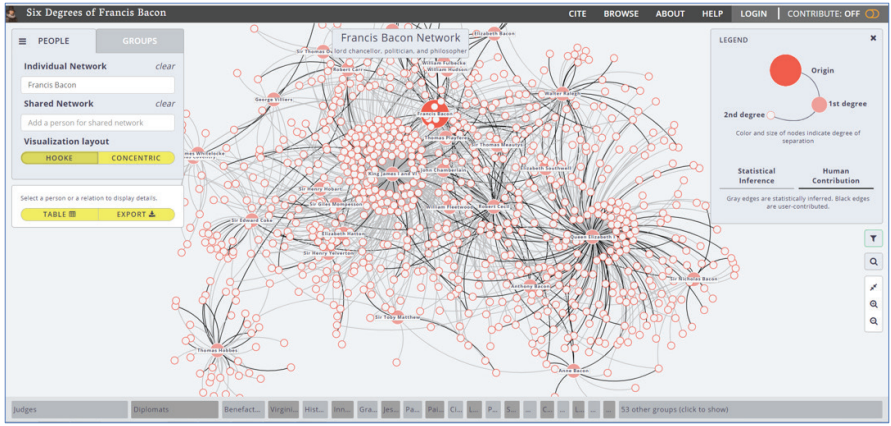

Figure 9. Sphere of social influence created to shed light on whether Sir Francis Bacon wrote some of Shakespeare's plays. The relations are derived from archival records. http://www.sixdegreesoffrancisbacon.com/?ids=10000473&min_confidence=60&type=network.

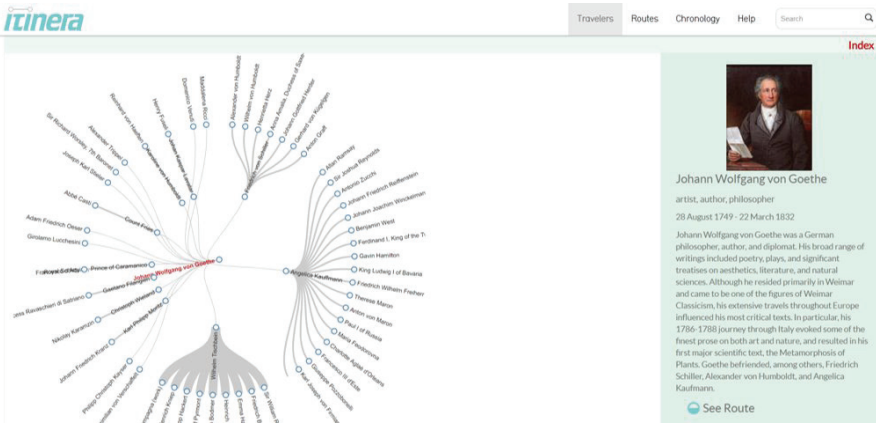

Figure 10. Itinera maps artists and their art across geographic locations and primary documents. https://itinera.pitt.edu/index.php/Travelers/Index.

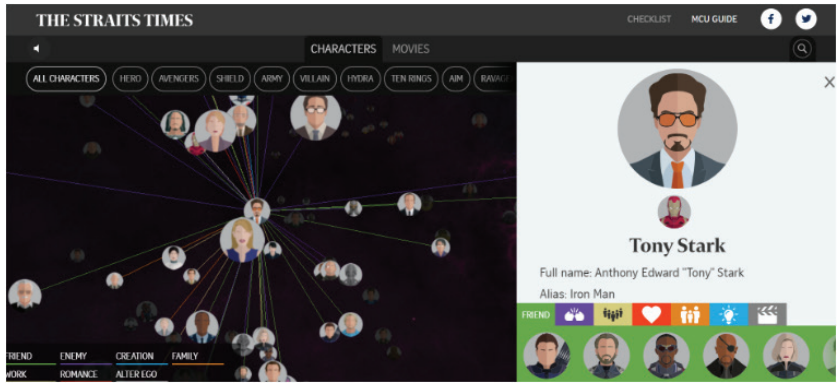

Figure 11. Marvel Social Graph shows relations between characters, their relationship types, and fun metadata to explore how each character is related or interacts with another. Relations derived from linked open data, content metadata, and streaming services. https://graphics.straitstimes.com/STI/STIMEDIA/Interactives/2018/04/marvel-cinematic-universe-whos-who-interactive/index.html.

In Practice: EBSCO Discovery Service Concept Map

After learning about the EDS Concept Map, the Rider librarians who chose to focus on keywords and not subject terms saw an immediate use for it in their teaching. If the student searching for "l-commerce" (above) was instructed to first use the Concept Map and think about subjects at the beginning of the search, the student would have seen the term not listed and be forced to think of broader terms such as "mobile commerce" or "m-commerce." For many students, the Concept Map would provide a better searching experience, with the visualization being the best way to show them how to search by *browsing around first* in an interface that makes connections.

To return to the "glass ceiling" example, EDS provides a visual representation of related concepts. Clicking on the node "glass ceiling" gives a definition of the concept and domain. It also gathers the related terms, but the equivalency of subject terms is still invisible because of databases' proprietary data. However, this Concept Map has the potential to help students explore and broaden or narrow their topics. From "glass ceiling" (Figure 12), users can click on the node, or concept "Women in the Workforce," reading a short definition about the concept and learning about its relationship to "glass ceiling." Users can then add this term to their search—it is ANDed automatically. By clicking the operator, one can change the AND to an OR. They can then preview results with "Content Preview" or see the results in EDS by clicking "See Full Results."

Another example is from a research instruction session for Research Writing (part of Rider University's Writing Composition Program). The librarian wanted to see how the Concept Map would work alongside the traditional way she teaches. The assignment was to find out if the student's assigned person plagiarized or not. She taught the basic formula of the person's name AND "plagiarism." Such a search for a person who was a musician, such as Robin Thicke, with the term of "plagiarism" yielded only six results. One of those results included the subject heading "music plagiarism." The usual way this librarian would proceed would be to tell the students to examine the terms found in the results and try a new search. Here, the new term "music plagiarism" AND

Figure 12. EDS Concept Map search for "glass ceiling."

"Robin Thicke" yielded only seven results. In the results of the latter search, "intellectual property" and "copyright infringement" were subject terms that could be plugged into a new search. A combination of these terms ("plagiarism OR copyright OR intellectual property") AND (Robin Thicke) yielded 238 results and 85 when limited to subject—a process modeled for the class. The results from "music plagiarism" . . . (6) and "plagiarism" (7) AND "Robin Thicke" reveal that behind the scenes there is no thesaurus equivalency between "music plagiarism" and the other subjects commonly used to describe it—which makes sense because "copyright" and "intellectual property" are related concepts, not equivalencies. But it is interesting that "music plagiarism" is not a widely used subject term across databases, even if it is a concept, one that is represented in the Concept Map.

What is the experience like using the Concept Map instead? To explore how the Concept Map would represent the relationships between the more prevalent subject terms identified, the librarian started with "music plagiarism" (Figure 12). One of the nodes off of "music plagiarism" is "copyright infringement." The term "copyright infringement" does not have the term "intellectual property" connected directly; one would have to click on the related term "copyright" to get to "intellectual property" (Figure 13). Clicking on "copyright infringe-

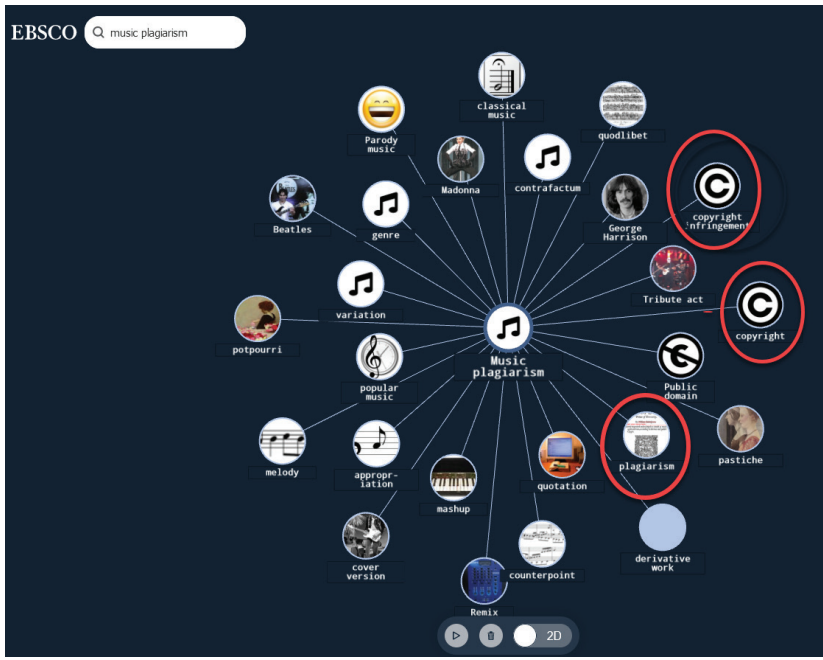

Figure 13. Concept Map for "music plagiarism," showing some subject terms from results lists in EDS.

ment" shows its direct relationship to "plagiarism" but indirect connection to "music plagiarism" in this mapping (Figure 14).

These subjects, also found in the results of a discovery search, are available here for students to explore in greater depth, along with many others that may be helpful in shaping their understanding of this topic. While users may not know which concepts are potentially subject terms (or what subject term equivalencies EBSCO has mapped to each concept), researchers can gain an idea of broader and related concepts in a visually appealing way that also yields definitions, the domains of the concept, and its specific relations to other concepts. Being able to browse concepts, preview results, and construct complex search statements right from the Concept Map tool is a definite benefit equalizing the experience for novice researchers. The librarians can envision incorporating the Concept Map into their formal instruction and general research assistance. Whether exploring the Concept Map versus scan-

Figure 14. Moving from "music plagiarism" to "copyright" to "intellectual property."

ning a list of subject headings in a result list is more or less efficient or preferred mode may be up to individual searchers, but it is another tool in the belt for teaching higher-level concepts of the research process. There is a lot of thoughtful design behind the Concept Map, demonstrating to the librarians that the developers are user- and librarian-focused. This collaboration with EBSCO has provided the librarians an opportunity to share more frontline librarian insight with a data scientist who understands librarian-jargon, essential feedback while this tool is still further developed.

Conclusion

The way in which librarians teach and utilize subject indexing is changing—just as the art of tagging content with subject tags, as well as

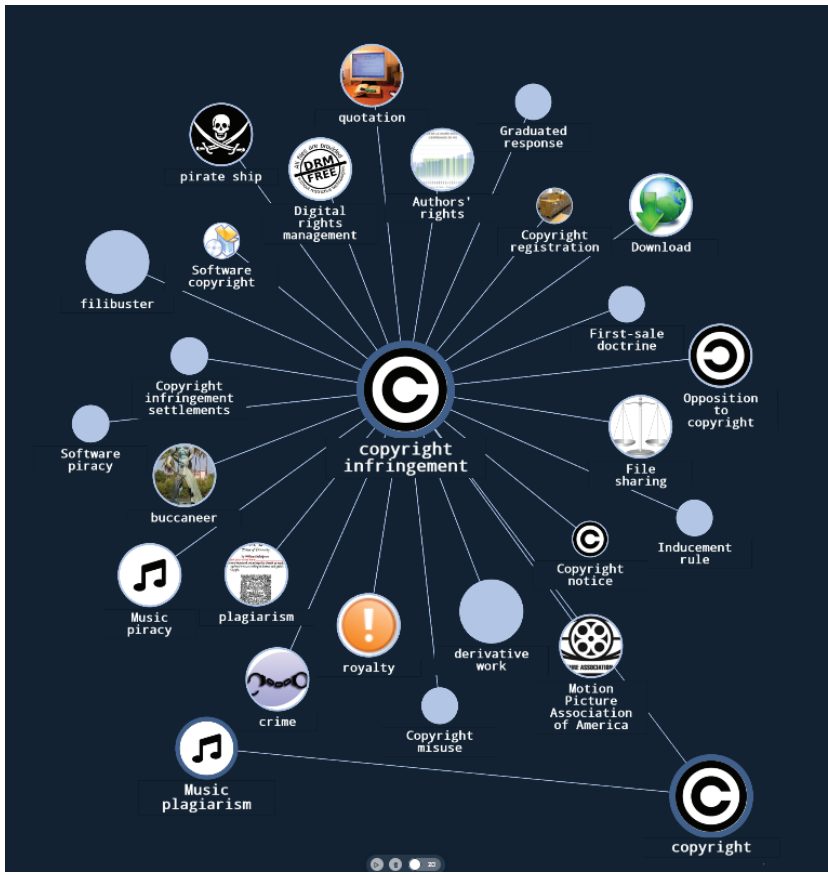

Figure 15. Nodes off of "copyright infringement" also showing the indirection connection to the original query of "music plagiarism."

the way in which that data is used within the search engine, is changing. It is our hope that this article inspires others to start including more natural language terminology into their own indexing and cataloging work, as well as finding innovative ways to teach subject search within the university. The examples here, ranging from academic projects to the EBSCO Enhanced Subject Precision mapping, show that mapping terminology is continuously growing. Gathering users' natural language and additional subject vocabularies and mapping them into the search expansion has been a trademark of EBSCO search for years, which gives

the Rider librarians more confidence in the experiences students have using the discovery tool. Introducing more visually dynamic ways to interact with subjects only adds to the ways librarians can meet the needs of and engaging all learning types and make the process more fun. The Concept Map is already live as a no-cost feature of EBSCO Discovery Service, being used by librarians to help teach subject indexing. A few comments noted by end users: one user described it as making them "feel like Tony Stark" (how he can search in 3D space), making the user feel "very futuristic"; another stated that "EBSCO is doing this novel work and advancing technology in a new field." The Concept Map has also been used to teach Girl Scouts about STEM topics to get them engaged and interested in information science. Outside of this practical experience, more and more librarians are looking toward including more natural terminology into their cataloging and indexing, aiming to be more inclusive in the ways and words librarians use to search. And at the end of the day, every step in the right direction helps and encourages others to start their own journey into equitable search.

References

Bak, G. (2012). Continuous classification: capturing dynamic relationships among information resources. *Archival Science, 12*(3), 287–318.

Dalal, H. A., Kimura, A. K., & Hofmann, M. A. (2015). Searching in the wild: observing information-seeking behavior in a discovery tool. *Proceedings of the ACRL*, 668–675.

Drabinski, E. (2013). Queering the catalog: Queer theory and the politics of correction. *The Library Quarterly, 83*(2), 94–111.

Grey, A., & Hurko, C. R. (2012). So you think you're an expert: Keyword searching vs. controlled subject headings. *Codex: the Journal of the Louisiana Chapter of the ACRL, 1*(4), 15–26.

Hobbs, J., & Agar, M. (1982) Interpreting discourse: Coherence and the analysis of ethnographic interviews. *Discourse Processes, 5*(1), 1–32.

Knowlton, S. A. (2005). Three decades since prejudices and antipathies: a study of changes in the library of congress subject headings. *Cataloging & Classification Quarterly, 4*0(2), 123–145.

Moulaison Sandy, H., & Bossaller, J. (2017). Providing cognitively just subject access to Indigenous knowledge through knowledge organization systems. *Cataloging & Classification Quarterly, 55*(3), 129–152.

Olson, H. A. (2002). Difference, culture and change: The untapped potential of LCSH. *Cataloging & Classification Quarterly, 29*(1–2), 53–71.

Rose-Wiles, L. M., & Hofmann, M. A. (2013). Still desperately seeking citations: Undergraduate research in the age of web-scale discovery. *Journal of Library Administration*, *53*(2–3), 147–166.

Lights, Camera, Action

Tips and Tricks for Librarian Videographers and Video Managers

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Abstract

As librarians, we are often asked to fill roles outside of our areas of expertise, and that is particularly true now when we are trying to find innovative ways to engage with our users. While my institution has created library videos in the past, there is certainly an increased demand now to create and also manage our video collection. This chapter will provide practical advice and tips for librarians who find themselves serving as videographers, producers, or video administrators. We will explore the different types of instructional video options as well as the benefits and challenges of each type. Then we will discuss pedagogical and technical strategies for planning and then producing videos. Lastly, we will look at best practices for sharing, saving, and archiving videos.

Keywords

library instruction videos, video production, video editing

Introduction

With the shift to remote instruction due to the pandemic, many libraries are looking for new ways to engage with their uses online (Temiz & Salelkar, 2020). Videos offer one way for libraries to provide library instruction as well as market their services (Dalal et al., 2017). However, the amount of information and resources available about video creation can be overwhelming for librarians looking for specific advice on best practices. This chapter is intended to provide practical tips and resources for librarians interested in learning more about producing, editing, and maintaining a collection of videos for their library. Creating effective and engaging videos does not have to be expensive or require extensive technical expertise, but it does require careful planning and a willingness to learn about best practices. Indeed, videos are only effective if they are well planned and produced (Guo et al., 2014). One effective way to organize this discussion of tips and resources is to follow video industry standards and break down the process into three main stages: preproduction, production, and postproduction (Diefenbach & Slatton, 2019).

Preproduction

Before diving into creating a video, research into best practices, the necessary equipment, and the available video creation and editing programs is key. Indeed preproduction is one of the most important phases of the process (Diefenbach & Slatton, 2019), and it constitutes the longest section in this chapter for a reason. Careful planning saves precious time and resources. A survey of library literature reveals several articles providing lists of best practices for videos (Bowles-Terry et al., 2010; Martin & Martin, 2015; Bennett, 2016; Weeks & Putnam Davis, 2017; Paolo et al., 2017). In addition, many educational software companies, like Panopto, Vyond, and TechSmith, provide their own tips for video creation (Panopto, 2019; Vyond Team, 2021; Brunner, 2018).

One of the first steps, discussed in many these sources, is to identify

the audience and learning objectives (Weeks & Putnam Davis, 2017). Doing so will help determine whether video is indeed the best medium for the content (Dalal et al., 2017). Since creating videos can be time consuming, it also is beneficial to ask whether it is necessary to create something new. YouTube, Vimeo, library vendor websites, and other sources provide a variety of high-quality content. One option is to use vendor-created videos to demonstrate databases, programs, or other resources that are frequently updated or changed rather than creating library-specific videos. The benefit of doing so is that it saves the library the time and effort of having to make a new video every time an interface changes. EBSCO and ProQuest both have YouTube channels with training videos and tutorials.

The next step is to decide what type of video would work best for the content and objectives. This can be a difficult process because, as Chorianopoulos (2018) notes, there is no universal taxonomy of instructional video formats. Discussions of types of instruction videos vary widely from article to article and website to website. Martin and Martin (2015) identify five categories, while Paolo et al. (2017) discuss four types of videos. Brunner (2018), writing for TechSmith, lists five types of videos, while Panopto (2019) distinguishes four common types. Vyond's "How to make an instructional video: 25 essential tips" provides the most straightforward discussion of video types, breaking it down into three: screencasts, live action, and animation (Vyond Team, 2021). Screencasts are often popular with libraries (Martin & Martin, 2015). This makes sense since they are helpful for tutorials and step-by-step demonstrations of resources, require only a basic screen casting program, and are quick and easy to create. One downside of a screencast is that, unlike live-action videos, they lack a human face to engage viewers. Live-action videos, on the other hand, work well for tours of physical spaces, introductions to staff or services, and testimonials. However, live-action videos do require more technical expertise and equipment than screen casts to create. They can also be more time-consuming in terms of working with the on-screen talent. Lastly, animated videos often work well for explaining complex or abstract concepts, but they require specific programs to create and the knowledge of how to use those programs. As

Weeks et al. (2017) claim, it is often good practice to research program or software costs prior to creating a video to explore what options fit within the library budget. Penn State's Instructional Video Guide, available at https://instructionalvideoguide.psu.edu/guide/, is a valuable resource when deciding which type of instruction video to create (PennState, 2021).

In addition to exploring various video creation programs, Martin and Martin (2015) recommend thinking about hosting options for the final video in this planning stage. This will help to determine the technical specifications for the particular type of video. A basic understanding of concepts like the aspect ratio, resolution, and frame rate ensures that the final video can be posted on platforms like YouTube or Vimeo. The aspect ratio refers to the relationship between the width and height of the frame, resolution is the number of pixels displayed by width and height, and the frame rate is the speed at which individual frames or images are shown, typically measured per second (Diefenbach & Slatton, 2019). High-definition (HD) video with an aspect ratio of 16:9 and a resolution of 1920 p. × 1080 p. is standard for many video hosting platforms, like Vimeo and YouTube. Some common frame rates are 24 (23.976), 30 (29.97), and 60 (59.94) frames per second (fps), and both Vimeo and YouTube accept videos with a wide range of frame rates.

After determining the best type of video to create based on the audience and learning objectives and considering the technical specifications, it is time to start designing the video. When designing any learning object, make sure to follow sound instructional design principles. Brame (2015), from Vanderbilt University's Center for Teaching, provides tips stemming from the Cognitive Theory of Multimedia Learning. She identifies four effective practices—signaling, segmenting, weeding, and matching modality—to reduce extraneous cognitive load and promote effective learning. In addition, the guide offers practical suggestions for designing engaging videos: keeping videos short, using a conversational style, speaking with enthusiasm, using guiding questions, and using chapters to give viewers control (Brame, 2015). This advice to keep videos short is echoed in several sources (Bowles-Terry et al., 2010; Guo et al., 2014; Martin & Martin, 2015; Weeks & Putnam

Davis, 2017). In addition to these instructional design considerations, it is also vital to design with accessibility in mind, paying attention to areas like contrast ratios and text readability (Guo et al., 2014; Martin & Martin, 2015). Writing a script or creating a storyboard is another strategy that helps not only with planning a well-organized video but also with creating captions later in the process. The type of video dictates how detailed and complex the script and storyboard need to be. For example, when shooting live-action video, a shot list is often created to block out the movements of the actors in relation to the camera (Dalal et al., 2017). On the other hand, a screencast may only need a script for a voice-over with notes about transitions and timings.

Production

In the production stage, the equipment, the recording conditions, and the time constraints need to be considered. A good rule of thumb is to use the best quality video and audio equipment that fit within one's budget to produce the best quality video. While some aspects of a video may be improved in the editing process, unless someone is an experienced sound or video editor, major issues with the audio or video quality will be difficult, time-consuming, and sometimes impossible to correct in postproduction. Luckily, today's smartphones can produce good-quality videos, so one no longer has to invest in an expensive video camera to make a professional-looking video. When using a cellphone camera to record live-action video, be sure to shoot in landscape rather than portrait mode to optimize the viewing experience on a variety of devices. Another option is to use a good-quality DSLR camera to record video. In terms of microphones, there is a wide range of options at a wide range of price points. According to Dalal et al. (2017), amateur video makers often don't recognize the importance of good sound quality to the final product. In general, when recording a screencast, it is best to avoid using a computer's built-in microphone, since it is generally not the best quality for recording. If one is recording a live-action video, lighting is another consideration. Rather than purchasing this recording equip-

ment, it may also be possible to rent or borrow gear from another department at your institution (Dalal et al., 2017). For screen casting, there are many software and programs available, ranging from simple and free programs like Loom.com, to mid-priced options, like Camtasia that also provide editing capabilities, to more expensive programs like Articulate 360 Storyline, which include extensive interactive capabilities. Some programs, like Screen-cast-o-matic, offer different features and plans based on price. As with screen casting programs, there is also a wide range of animation programs available, and many programs offer different options at various price points. PowToons and Vyond are two well-known animation programs.

Regardless of which camera, computer, or microphone is used to record, consistency is vital. Whenever possible, it is best practice to use the same recording equipment and record in the same conditions when creating a video to minimize inconsistencies in background noise or lighting that will be difficult to correct in postproduction. Consistency in terms of your recording settings is also important. This means that it's important to check the camera settings for live-action videos and the program settings for screencasts and animated movies before recording the videos, paying attention to those technical specifications like aspect ratio, resolution, and frame rate.

Since most librarians creating live-action videos will not be working with a professional crew of videographers or actors, be sure to leave ample time to record and record several takes to create enough footage to work with. Everything does not have to be perfect in one take. If someone makes a mistake, just pause and ask them to go back to a natural stopping point and start from there. There is no need to go back to the beginning and rerecord the whole video. The best takes can be selected and the rest deleted in the editing process. While getting into the details of shoot preparation and directing is beyond the scope of this chapter, one useful guide for this type of information targeted toward librarians is the production chapter in Dalal et al.'s (2017) *Video Marketing for Libraries: A Practical Guide for Librarians*.

One main difference between creating an instructional video versus other types of learning objects (like presentation slides) is the size of the

files. Video files are very large, often several gigabytes. When recording multiple takes in a single setting or over the course of a few days or weeks, a system to organize and store media is key so that the needed files can be located during the editing process. Storing these files on a desktop can fill up a computer's hard drive and slow down the computer's performance. Instead, it is often best to store video files on an external hard drive.

Postproduction

After the video is shot, it will need to be polished into its final form. The editing process includes not only selecting the best footage but also adding graphics, transitions, titles, music, and sound effects. Editing is indeed one of the most time-consuming parts of the process (Bennett, 2016). As when selecting a program or the equipment to record a video, one also needs to research editing programs to select the best one to meet the needs of the project. There are a wide range of programs available from free versions of programs, like DaVinci Resolve, to subscriptions, like Adobe Premier Rush and Premier Pro, and paid programs, like Final Cut Pro. Some screen recording programs, like Camtasia and Adobe Captivate, have built-in editing programs as well. The learning curve of these programs also varies widely. It can take considerable time and effort to learn how to use some editing programs, and they may contain advanced features that most basic users will never use for their projects. LinkedIn Learning, which many libraries subscribe to, is a useful source of information about specific editing programs. Browsing tutorials on various editing programs can indicate how complex or involved a particular program might be.

When selecting an editing program, it is also important to consider the export options provided by that program and where the final video will be hosted. The export settings will depend on where the video will be hosted. The most common video format is mp4, H.264, but some editing programs have specific export presets for common video platforms, like YouTube or Vimeo. These two most common hosting plat-

forms each have their own benefits and drawbacks. While YouTube's viewing community is larger than Vimeo's, Vimeo does provide the ability to replace outdated videos while still maintaining the same URL and analytics, and it lacks advertisements. The choice of which platform will depend on the needs of the specific library. Videos hosted on either platform can be embedded in a variety of learning objects, like online modules in a learning management system (LMS) or LibGuides. What is most important is making sure to host all your videos in one location to keep everything consistent and organized (Guo et al., 2014).

Postproduction is also a time to work on making sure that your video content is accessible. The University of Washington's (2021) page on creating accessible videos, https://www.washington.edu/accessibility/videos/, offers helpful advice for captioning, selecting an accessible media player, and more. The script that was created in the preproduction phrase can be used to create captions. While some universities do provide in-house captioning services, for those that do not, there are free options available using programs like Otter.ai to generate transcriptions and then Amara.org to create captions, or using YouTube, which autogenerates captions that can be edited afterward. The University of Washington (2021) site also provides information on different types of captions, audio description, and criteria for selecting an accessible media player.

Once the videos are organized on a hosting platform, it will also be necessary to maintain that video collection. As a library video collection begins to grow, a library may need to form a team to manage the collection rather than assigning that task to an individual. The group could create a set of guidelines for videos, including technical specifications, best practices for recording, accessibility requirements, and branding information. As Dalal et al. (2017) claim, the library's branding should be an integral part of the final video product. Regular reviews of the video collection will also be necessary to ensure that the content is up-to-date and still relevant. The group could also consider creating a review checklist to evaluate the content, quality, and accessibility of each video to maintain consistent standards across the collection. Such a checklist will help streamline the review process. Once the videos that

are outdated or no longer used are identified, the team will also need to determine a policy for what to do with those videos, whether to delete them or archive them. One place to consider archiving videos that have historical value to the library is the institutional repository.

Conclusion

As libraries are exploring ways to engage with users during and after the pandemic, videos will also continue to be an important part of library outreach and instruction efforts. Embarking on creating, editing, and publishing a screen cast, animated, or live-action video may seem daunting to anyone without formal training in video production. However, there are practical resources and tools available to librarians who want to learn about best practices. Careful planning before creating or shooting a video is worth the time and effort and will pay off in terms of creating an effective and quality product. In addition, regular maintenance of the video collection is needed to ensure that videos stay up-to-date and relevant.

References

Bennett, J. L. (2016). Creating library videos. *Journal of Electronic Resources Librarianship*, *28*(2), 111–114. https://doi.org/10.1080/19411 26X.2016.1167530

Bowles-Terry, M., Hensley, M., & Hinchliffe, L. J. (2010). Best practices for online video tutorials: A study of student preferences and understanding. *Communications in Information Literacy*, *4*(1), 17–28. https://doi.org/10.15760/comminfolit.2010.4.1.86

Brame, C. J. (2015). *Effective educational videos*. Vanderbilt University Center for Teaching. Retrieved from https://cft.vanderbilt.edu/guides-sub-pages/effective-educational-videos/

Brunner, D. (2018). *Five types of instructional videos and when to use them*. TechSmith. Retrieved from https://www.techsmith.com/blog/types-of-instructional-videos/

Chorianopoulos, K. (2018). A taxonomy of asynchronous instructional video styles. *International Review of Research in Open and Distributed Learning*, *19*(1), 294–311. Retrieved from http://www.irrodl.org

Dalal, H., O'Hanlon, R., & Yacobucci, K. L. (2017). *Video marketing for libraries: A practical guide for librarians*. Lanham, MD: Rowman & Littlefield.

Diefenbach, D. L., & Slatton, A. E. (2019). *Video production techniques: Theory and practice from concept to screen*. London: Routledge.

Guo, P. J., Kim, J., & Rubin, R. (2014). How video production affects student engagement: An empirical study of MOOC videos. *Proceedings of the first ACM conference on Learning @ Scale*. https://doi.org/10.1145/2556325.2566239

Martin, N. A., & Martin, R. (2015). Would you watch it? Creating effective and engaging video tutorials. *Journal of Library & Information Services in Distance Learning*, *9*(1–2), 40–56. http://dx.doi.org/10.1080/15332 90X.2014.946345

Panopto. (2019). *Four types of videos for more engaged eLearning*. Retrieved from https://www.panopto.com/blog/4-types-of-videos-for-more-engaged-e-learning/

Paolo, T. D., Wakefield, J. S., Mills, L. A., & Baker, L. (2017). Lights, camera, action: Facilitating the design and production of effective instructional videos. *TechTrends: For Leaders in Education & Training*, *61*(5), 452. https://doi.org/10.1007/s11528-017-0206-0

PennState. (2021). *Instructional video guide: Best practices for creating pedagogically appropriate video*. Retrieved from https://instructionalvideoguide.psu.edu/guide/

Temiz, S., & Salelkar, L. P. (2020). Innovation during crisis: Exploring reaction of Swedish university libraries to COVID-19. *Digital Library Perspectives*, *36*(4), 365–375. https://doi.org/10.1108/DLP-05-2020-0029

University of Washington. (2021). *Creating accessible videos*. Retrieved from https://www.washington.edu/accessibility/videos/

Vyond Team. (2021). *How to make an instructional video: 25 essential tips*. Vyond.com. Retrieved from https://www.vyond.com/resources/25-tips-create-engaging-instructional-videos/

Weeks, T., & Putnam Davis, J. (2017). Evaluating best practices for video tutorials: A case study. *Journal of Library & Information Services in Distance Learning*, *11*(1–2), 183–195. http://dx.doi.org/10.1080/15332 90X.2016.1232048

Seamless Access

Delivering a Simpler, Privacy-Preserving Access Experience

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Abstract

Managing access to subscribed services in an era of abundance is a major challenge for libraries. Users have come to expect a seamless, personalized experience on their mobile devices, but traditional approaches to access management force librarians to choose between the anonymous ease of on-site IP authentication or the access friction experienced by users authenticating via a proxy server or across multiple resources with Single Sign-On. Building on the work of the RA21 initiative,[1] a recent NISO Recommended Practice on Improved Access to Institutionally Provided Information Resources, Seamless Access charts a way forward. It will enable libraries to provide seamless, privacy-preserving, and one-click access to subscribed content from any device, any location, and from any starting point in the research process. Seamless Access builds on both RA21 and the NISO Recommended Practice and is currently in a beta phase implementation. But how is user and data privacy protected, how is access simpli-

fied, and how is Seamless Access helping libraries implement this service? This chapter discusses how these concerns are being addressed by a consortium of industry partners including librarians, access providers, publishers, and standards organizations. It also discusses how Seamless Access will manage this service for publishers and libraries while continuing to improve this user experience, provide governance on data policy and privacy issues, and maintain core web services specific to this initiative.

Keywords

seamless access, authentication, user privacy

What Is Seamless Access?

Seamless Access is the operational successor to the Resource Access in the 21st-century project (RA21), and is a community-driven effort to enable seamless access to information resources, scholarly collaboration tools, and shared research infrastructures. To date, this initiative has four founding organizations: the National Information Standards Organization (NISO), GÉANT, Internet2, and the International Association of STM Publishers, and features a full-time implementation team that includes an experienced library technologist dedicated to library outreach. There's a governance committee with representatives from across stakeholder groups, an outreach committee that includes six institutional participants, and two cross-industry working groups. The Attribute Release Working Group is developing standards for attribute release in the context of library resources, and the Contract Language Working Group is tasked with developing contract language templates to give libraries a mechanism to ensure attribute release compliance.

Why Do We Need Seamless Access?

Consider that the entire IP filtering model is constructed on the assumption that an IP address reliably indicates a user's physical location. With proxy servers and VPN clients, this is simply no longer the case. IP recognition has been around since the 1970s, and library use of IP recognition was developed when off-site access to electronic resources was in its infancy and has changed very little since then. In fact, libraries are one of the few organizations that still use IP filtering. To compound this issue, the location-based access model assumes that a physical location can be relied on to indicate a legitimate, authorized user which is utterly false. IP filtering has been obsolete for quite some time because it is concerned with *where* an anonymous user is located, instead of *who* the user is.

Seamless Access seeks to improve remote access scenarios and create a better user experience because IP authentication is very counterintuitive to the current user research experience. It forces researchers to begin their research from, or at some point to navigate through, the university portal to locate the proxy-prefixed URL necessary for remote access. This simply is not how researchers conduct their research. Current obstacles to access include forcing the user to perform numerous clicks to access content behind a paywall, and users typically have credentials scattered over a multitude of platforms that are difficult to manage. If an institution provides numerous solutions for content access (e.g., VPN, EZproxy, Shibboleth) then users can become overwhelmed with complicated instructions regarding which protocol to select, and how to implement these on their local devices. By providing such complicated procedures for navigating beyond a paywall, libraries may be inadvertently pushing fully entitled end users to turn to alternative resources such as SciHub or ResearchGate to obtain easily accessible content.

IP filtering has also proven to be time-consuming and expensive to manage. The connection details of every provider of licensed content must be registered in the proxy server's control file and maintained over time. If the subscribing institution's IP address range changes, these changes must be coordinated with potentially hundreds of providers.

Lastly, IP access is indiscriminate. If a user engages in downloading behavior that breaches the provider's license agreement, the proxy server connection will be blocked, cutting off access for ALL users.

User Experience

Because the overall user authentication experience is currently inconsistent, confusing, and replete with jargon, Seamless Access is implementing a standard for federated authentication based on a single sign on through the user's home institution. Regardless of where the end user begins their research, they will encounter consistent imagery, language, and login placement, along with a standardized identity provider discovery flow.

Once authenticated using their preferred sign-in credentials, the end user will not be required to sign in again across all Seamless Access-enabled sites.

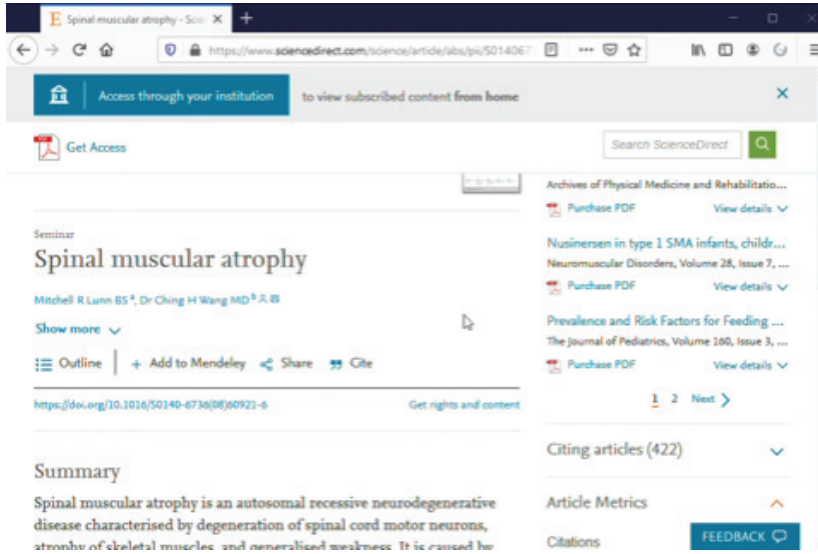

Figure 1. Consistent imagery, language, and placement.

Ensuring User Privacy

Privacy is all about balancing security and accessibility. While it's possible to configure access that is entirely anonymous or entirely transparent (to use examples from each end of the scale), the vast majority of users and organizations opt for various shades of gray. In other words, a user may choose to give up some privacy in return for something valuable such as a level of personalization that makes use of a resource more efficient and more engaging. How this plays out in the library world is that each library makes decisions based on institutional and library policies and can also depend on the nature of the resources.

For example, libraries may license resources where access should always be anonymous due to the sensitive nature of the material. But most users value some level of personalization, even if that's simply to retain topics of interest so that they don't have to be rediscovered every time a platform is used. There are also some valid reasons why personal data needs to be shared for some resources, such as when a patron is doing online training and needs to have their learning personally accredited to them. Therefore, the ideal access solution is one that gives libraries control over what shade of gray is appropriate for their organization and their various types of resources.

Federated Authentication puts libraries in control of privacy. The institution decides what user data (or attributes), if any, are shared with a vendor, and attribute release only occurs after a user is authenticated which gives libraries important control over access, costs, and risks.

Data Privacy and Attributes

In federated identity management, attributes is the term used to describe data about an authenticated user and attribute release is the process by which that data is shared as part of the authentication process by an Identity Provider (IdP), such as an institution, with a Service Provider (SP), such as a publisher. The format an attribute takes depends on the underlying technology. For example, Security Assertion Markup Lan-

guage (SAML) is the technology that underpins Shibboleth and OpenAthens, but there are other technologies that support federated authentication such as OpenID Connect, which is used by consumer-focused services like Facebook and Google.

It's important to note that personally identifiable attributes are not required as part of federated authentication. An identity provider can simply assert that a user is an authorized member of their organization and do nothing more. In this case, the identity provider would provide an anonymous assertion identifier that would be associated by the service provider; e.g.: *d71a3a8e9fcc45c9e9d248ef7049393fc8f04e5f75*. Since this identifier is uniquely generated for each authentication and contains no personally identifiable information, it ensures that user privacy is preserved.

Here are some examples of the types of attributes that can be passed as a result of a successful user authentication:

- **Affiliation attributes** define the organizational association between the user and their home institution, by means of employment, membership, enrollment in an educational program, etc.
- **Entitlement attributes** confirm the user's right to access a given resource based on criteria previously agreed with the service provider.
- A **pseudonymous identifier** is unique to each person and for each service provider, so it masks their true identity but it does enable that user to be identified by the same service provider the next time that they visit. However, it's important to note that this identifier can't be used to build a pattern of usage across service providers. It can also be used to personalize a user's experience.
- There are also **personally identifiable attributes**, such as name and email address.

Attributes are important because they give both sides of the authentication transaction greater control.

Affiliation	Define the user's association with their home institution e.g. faculty
Entitlements	Confirm the user's rights to access a resource e.g. URL for licensing contract
Pseudonymous	Unique ID for every person & SP Real identity unknown (pseudonymous) Personalization possible
Personal	Name, email address

Figure 2. Attribute types.

This control can be valuable in a variety of different ways. For example:

- **Access control**: a library can choose to make a resource available only to users who are full-time staff and students, preventing, say, alumni or contractors from access.
- **Cost control**: a library can limit resource access to users with a certain role or from a certain department.
- **Risk control**: pseudonymous IDs allow users to benefit from personalization without exposing them to the risks and inconvenience of separately registering yet another username and password. The service provider can recognize a returning pseudonymous ID and personalize that user's experience accordingly without receiving any personally identifiable data, without needing to store their email address, and without asking for a password.

Attribute release only occurs after a user is authenticated—a service provider can't pull attributes. They only receive what the identity provider chooses to send. It is configured by the identity provider for each category of the service provider since different levels of privacy may be appropriate in different situations. Library resource access is only one of

a number of valuable use cases for federated authentication. For example, research collaborations involving researchers across different institutions would typically share some personal data, such as a name and email address. Also, institutional workflows that require users to confirm their institutional affiliation with third parties may involve scenarios where it is appropriate to share a much broader range of user data, such as authorizing the use of institutional funds for open access publishing fees. Because the identity provider is in control, any special needs for attributes need to be agreed upon in advance so that attribute release can be configured appropriately.

But libraries face a challenge when it comes to configuring access. To avoid organizations having to manually configure exactly which attributes to send to each service provider, the configuration is managed through entity categories. An entity category is a metadata tag used to group entities like service providers or libraries so that a standard set of attributes can be built and applied at the group level rather than the individual entity level. The most well-known entity category in use today is the REFEDS Research & Scholarship (or R&S) entity category.[2] REFEDS is the Research and Education FEDerations group, which represents the global research and education identity federations. This entity category only applies to service providers that are "operated for the purpose of supporting research and scholarship interaction, collaboration or management" It cannot be used for access to licensed online resources. This means that there are currently no standards for how organizations should release attributes for the many use cases that fall outside of the R&S entity category—such as library access to licensed resources.

Seamless Access Working Groups

To address this problem, Seamless Access is developing standards for attribute release in the context of library resources. Its goals are to:

- Set broadly understood expectations about user privacy for Federated Authentication for library resources
- Standardize the set of attributes released in typical resource-access use cases
- Simplify configuration for institutions (and avoid mistakes)

To this end, Seamless Access created two cross-industry working groups in order to develop best practice recommendations. The first is the Attribute Release Working Group, which has more than 20 members from across industry stakeholders including service providers, libraries, federations, and consultants. Based on the recommendations of the Attribute Release working group, Seamless Access proposed new entity categories and associated attribute bundles that would create attribute release standards for access to library resources:

- The **Anonymous Authorization** category would be used by a service provider who needs to filter access based on a user's affiliation and/or entitlements.
- The **Pseudonymous Authorization** category would be used by a service provider who needs to personalize their service, and would also allow for additional entitlement and affiliation data that could provide more control over access, such as a user's role.

These categories were recently approved by REFEDS, the Research and Education Federation community organization, who will become the custodians for these entity categories and NISO will endorse them. Also, note that libraries and their vendors can still agree to release additional attributes via bilateral agreements, but it should be a conversation rather than an assumption.

The second working group is the Contract Language Working Group. Its task is to develop contract language templates for library use based on these proposed entity categories, which will give libraries a mechanism to ensure attribute release compliance. This working group recently started their work.

Privacy Policies

To reinforce its commitment to privacy, Seamless Access is requiring that service providers follow the GÉANT Data Protection Code of Conduct[3] for use of the service. This document provides specific guidance to service providers on how they should handle personal data in the context of federated authentication and covers four fundamental principles: purpose limitation, data minimization, deviating purposes, and data retention. This means that service providers should only use attributes necessary for access, use as little data as possible wherever possible, only use this data to provide access, and delete or anonymize this data when it's no longer needed. It also aligns very closely with the American Library Association's library privacy guidelines found in its Code of Ethics.[4]

How Do Libraries Participate?

As vendors and publishers across the industry increasingly adopt federated access and SeamlessAccess, libraries can participate in a number of ways. Firstly, plan for the transition and find out if federated access is already supported at the institution. Consider what privacy policies should be adopted in relation to attribute release (the process by which user data can be shared with Service Providers), which will likely be guided by policy at both the institutional and library levels. If they haven't already done so, librarians should get to know their IT department and be prepared to help them understand the library's needs.

Vended solutions that support library federated access should be evaluated. The underlying technologies are complex and it may not be something the institution's IT department wants to add to its list of responsibilities. And lastly, librarians should get involved if they are interested. A monthly newsletter can be subscribed to on the Seamless Access website, and librarians can consider joining one or more of Seamless Access working groups that are shaping policy and best practices in this area.

Notes

1. https://ra21.org/.
2. https://refeds.org/category/research-and-scholarship.
3. https://wiki.geant.org/display/eduGAIN/Data+Protection+Code+of+Conduct+Cookbook.
4. http://www.ala.org/united/sites/ala.org.united/files/content/trustees/orgtools/policies/ALA-code-of-ethics.pdf.

Facilitate Information Access via Digital Avenues During Pandemic

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Abstract

The COVID-19 pandemic has created an unprecedented crisis worldwide. With colleges and universities shutting down their campuses and switching to virtual learning to slow the pandemic, academic librarians are being forced to help students and faculty navigate the transition to virtual learning while telecommuting. Many academic libraries have already implemented new services and technologies. This chapter aims to describe the tech-driven practices and offer potential solutions about adopting different types of digital tools and integrating them into the Learning Management System (LMS) to assist online learning, teaching, and research in the time of coronavirus.

Keywords

COVID-19 pandemic, technology, digital tool, online teaching and learning

Introduction

Academic libraries have traditionally delivered services to patrons on campus. The outbreak of COVID-19 has impacted every angle of daily life and led to a quick rush to "remote work" to slow the spread of the pandemic. The concept of a library as a physical place has long been challenged by the increasing popularity of digital services; a long-lasting trend has been now accelerated (Pokorná, 2020) in an unprecedented time. Many libraries have a hybrid module: Limited staff open the library and others work telecommute and this has raised investment in digital resources and services. The chat sessions in our library are up, and we have more access for our digital resources. In this lockdown period, the patrons are unable to reach the libraries, librarians have to adopt new technologies to provide a variety of services to their user community in order to bridge the gap between library and patrons. Majority courses have switched to online; this has forced everyone to use the virtual platforms. Librarians have been collaborating with other units to embed library resources into virtual courses to bring students together and enhance the educational experience. The use of technology has brought some radical shifts in the learning dynamics (Tsekea & Chigwada, 2020). It changes the way students access resources, and the avenue library offers services. It is posited that libraries must develop emerging technologies to match up with the needs. As a result of the advances, libraries have strived to offer innovative solutions and encourage teams to explore, investigate and learn. Library culture has really changed to support remote work.

Literature Review

While there is a significant body of literature about remote work in non-library settings. Telecommuting was discussed and is not new in academic libraries. However, the literature does not yet reflect the large-scale transition to remote work in libraries and how departments, institutions, and individuals have handled this unprecedented situation

(Craft, 2020). There is a term that specifically defines remote teaching during disaster which is called Emergency remote teaching (ERT). ERT is a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated. The primary objective in these circumstances is not to recreate a robust educational ecosystem but rather to provide temporary access to instruction and instructional supports in a manner that is quick to set up and is reliably available during an emergency or crisis (Hodges et al., 2020). The technology offers students and academics a significant promise and advantage: to be able to undertake their studies or deliver instruction from the comfort of their own home, office, or hotel and in virtually any spot on the globe. In general, these studies indicate that there are no significant differences in achievement and the satisfaction of students in distance education classes, when compared to the more traditional modes of delivery (Hirschheim et al., 2002). According to a World Bank report in May 2020, over 190 countries closed the school. 1.57 billion children and youth were affected. It turns out that academic libraries speed explore and make use of the digital tool in remote environments; however, there are not many scholarly literatures that have been published in this field.

Digital Tools Used in Remote Environment

Public health crisis has shifted the module from face-to-face to telecommuting. Libraries play an important role as they provide access points needed for teaching and learning processes. Various digital tools have emerged and are prominent in engaging students and enhancing library services. To meet up with the needs of patron, librarians have kicked into high gear to get themselves up and running with technology for remote work. Sudden lockdown increases this motivation. Libraries

have to integrate and expose their services and content into e-learning management systems (Tsekea & Chigwada, 2020).

Virtual Reference Tool

Many students are facing new challenges and pressures in an off-campus environment. This makes teaching and learning even more difficult. Academic libraries have experienced an immediate and significant increase in demand for remote research support (Walsh and Rana, 2020). Librarians feel overwhelmed sometimes to assist emerging remote services during this crisis. Everyone quickly had to pivot during the pandemic. While our reference service moved to online, we used LibAnswer to provide virtual reference service in real time when librarians are available. Online tool allows librarians to create a bond with patrons and improve their efficiency through provision of a 24/7 reference and information service (Okike, 2020). Zoom is web conferencing tool and has become most popular selected by virtual meeting. Zoom allows both host and participant share the screen, which can display presentation slide, video, and image. Zoom has live transcript feature which enables speech-to-text transcription in Zoom meeting. Zoom has the password protection and the option to record the session when need. We integrated Zoom into LibAnwer which offered options for patrons to chat with librarians via text, voice, and video, students can see our librarian when they ask questions. This makes the conversation more interactive and engaged. Reference consultations and information literature courses have been conducted through tools such as Zoom or Teams. We have used LibAnswer to handle our ticket. We have created different queues for different service areas. Each ticket is assigned to a queue.

Our university implemented Teams calling migration. Patrons can reach out to librarians via Teams calling function when they are not in their office. LibCal allows patrons to schedule consultation appointments. Zoom has been integrated into our LMS and faculty can directly schedule Zoom meetings within LMS.

Social Media Tool

Social media is a computer-based technology that facilitates the sharing of ideas, thoughts, and information through the building of virtual networks and communities (Dollarhide, 2021). Social media may allow more agile use of information in support of operations (Mayfield, T. D. M, 2011). Socialization has been compromised because of COVID-19. The crisis has impacted mental health and it can be tough to connect with students. It is important to promote and make time for socialization. Social media can help immensely with connecting with patrons as well as colleagues. Latest data show that there are 4.33 billion social media users around the world at the start of 2021, equating to more than 55% of the total global population. Social media user numbers have surged in the past 12 months with 521 million new users joining social media in the year to April 2021 (Our, 2021). Library renders services to its patron, however pandemic restricted patrons to access the physical building, library services are affected. Social media quickly becomes one of the efficient ways to share library information, help decrease social isolation and enhance connection with the community. Libraries have been innovative in social media hubs such as Facebook, Twitter, LinkedIn, Plaxo (Hawn 2009), Google Meet, and Remind to respond to each other and provide services during times of disasters. Libraries embed these social media tools into LMS and share news, promote library products, advertise library resources and services and network among librarians. These social media tools make libraries stay in touch with their patrons and staff feel more valued and part of the team.

Screen Recorder Tool

Keeping the attention of students in an online environment is a challenging proposition. Librarians used to answer questions via phone, email, or in person. Students can get help from a reference desk and instruction course. Now we transit online. To combat this, we need not only embrace online tools that perk the interest of their students but also

keep them engaged. One effective multimedia tool is Screencast-O-Matic. Screencast-O-Matic offers a free version as well as a proprietary version. We use Screencast-O-Matic to create, edit video alongside course lecture or advertised materials, then use it to promote library services, provide course orientation, search resources, and describe the problem, especially for technical issues. Screen recorder tool is also a great way to create a portfolio for educational purposes. An assessment portfolio is an evidence of a task performed by the student along with reflection on it. It can be used to assess skills of the students through online submission of recorded videos of the tasks performed by them (Khan & Jawaid, 2020). The portfolio can be used to create an educational dataset for students. Students can use Screencast-O-Matic to grab an image or recording from on-screen activity such as a presentation, meeting, and activities; edit the video; and then embed it into an LMS or social media.

Video Discussion Tool

Many students struggle with remote learning and feel isolated and disconnected. Instructors must adapt their approach to keep students motivated, so students are more involved in the online learning. Some of the new and creative attempts to make virtual environments feel more comfortable. We use the video discussion tool Flipgrid to create videos, then embed them into LMS. It helps build trust in online classes, engage students, and incorporate active learning strategies. For example, we use Flipgrid to post discussion prompts text, voice, or video and interact with students to begin learning how to connect with each other virtually. The tool can also provide feedback and score for students. Flipgrid can also be used to offer online course orientation. Flipgrid is generally created to support education communication; however, it can be tailored to different purposes. We have used it to host virtual retirement parties for our staff. Zoom breakout feature allows students to work in small groups during sessions and it is another tool to host a discussion and one-to-one research help.

Instant Audience Feedback Tool

One of the challenges in virtual learning is student engagement. Students can easily get distracted due to issues like poor connection, low-quality video, use of technology for reasons not related to class. A great way to overcome this is to add a real-time response tool such as Poll Everyone, Microsoft Form, Wufoo, Kahoot, Zoom Polling to your course. Adding live audience response activities to presentations or discussions can measure student understanding, collect feedback, and ice breaker.

Interactive Whiteboard Tool

During COVID-19 pandemic abruptly transited the library instruction course from face-to-face to online, Joamboard is one of the digital tools to increase interaction and collaboration in a virtual environment. It is a digital whiteboard and can be used to share ideas in real-time. Everyone can have free access with any Google account, you can use Sticky Notes to brainstorm, and the Drawing function to draw images directly. In addition, you can upload maps, and send out the link to students for their work after the class.

Conclusion

There are many challenges and uncertainties at this time. Increasing online delivery raises concerns about copyright, cyber security, and privacy when students access library resources and services remotely. Especially some students outside the United States, regarding digital rights management (DRM) issues, students serving overseas can't access library resources due to restricted licenses. Another issue is unrealizable technology, lack of Internet connection, and built-in webcam at home, not enough expertise on using digital libraries. With a tight budget, librarians can't get related training to support virtual services. On the

other hand, telecommuting has indeed provided flexibility, improved library staff morale, and inspired libraries to discover a new way to collaborate and re-envisioning the new normal.

While the libraries have traditionally been more concerned with offering services for the on-campus users, there is a strong need for supporting equal services to the off-campus learners as exacerbated by the lockdown. It was also discovered that libraries should ensure that they are prepared to always offer their services despite the closure of physical buildings because of the pandemic (Tsekea & Chigwada, 2020). The technology needs to stay accessible and current. Staff members need support. The services must be up to date (Nye and Schipper, 2021). The shift to more online work will lead to significant innovation. There are some discussions that in 2025, there will be more people working from home, reconfigured workspaces, more virtual services than in 2020 (Anderson et al., 2021). As academic libraries move forward, they have a renewed mission to help learners in the online space to become information rich and digitally competent (Martzoukou, 2020). Digital tools have become crucial for the remote environment. Public health crises have caused librarians to reassess their service, it has provided us with an opportunity to pave the way for exploring and implementing these tools. Looking ahead, academic libraries will continue to evolve and improve their services in remote environments. The pandemic response has accelerated academic libraries to adopt certain technologies.

References

Anderson, J. A., Rainie, L. R., & Vogels, E. Y. A. V. (2021). *Experts say the 'New normal' in 2025 will be far more tech-driven, presenting more big challenges*. Pew Research Center. Retrieved from https://www.pewresearch.org/internet/2021/02/18/emerging-change/

Craft, A. R. C. (2020). Remote work in library technical services: Connecting historical perspectives to realities of the developing COVID-19 pandemic. *Serials Review*, *46*(3), 227–231. https://doi.org/10.1080/00987913.2020.1806658

Dollarhide, M. E. D. (2021). *Social media*. Investopedia. Retrieved from https://www.investopedia.com/terms/s/social-media.asp

Global Social Media Stats (2021). Data Reportal. Retrieved from https://datareportal.com/social-media-users

Hawn, C. H. (2009). Take two aspirin and tweet me in the morning: How Twitter, Facebook, and other social media are reshaping health care. *Health Affairs*, *28*(2), 361–368. https://doi.org/10.1377/hlthaff.28.2.361

Hirschheim, R. H., Dick, G. D., & Hanna, M. H. (2002). Teaching On-line: Two tales of telecommuting academics. *Association for Information Systems*, 1–10. Retrieved from https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1178&context=acis2002

Hodges, C. H., Moore, S. M., Lockee, B. L., Trust, T. T., & Bond, A. B. (2020b). The difference between emergency remote teaching and online learning. *Educause Review*. Retrieved from https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Khan, R. A., & Jawaid, M. (2020). Technology enhanced assessment (TEA) in COVID 19 pandemic. *Pakistan Journal of Medical Sciences*, *36*(COVID19-S4), S108–S110. https://doi.org/10.12669/pjms.36.COVID19-S4.2795

Martzoukou, K. (2020). Academic libraries in COVID-19: a renewed mission for digital literacy. *Library Management*. https://doi.org/10.1108/LM-09-2020-0131

Mayfield, T. D. M. (2011). *A commander's strategy for social media*. The NDU Press. Retrieved from https://indianstrategicknowledgeonline.com/web/mayfield_strat_for_soc_media.pdf

Nye, V., & Schipper, C. S. (2021). *Long live the library*. Inside Higher ED. Retrieved from https://www.insidehighered.com/views/2021/01/28/libraries-have-been-crucial-during-pandemic-and-need-more-support-opinion

Okike, B. I. (2020). Information dissemination in an era of a pandemic (COVID-19): Librarians' role. *Library Hi Tech News, 37*(9), 1–4. https://doi.org/10.1108/LHTN-04-2020-0040

Pokorná, L., Indrák, M., German, M., Stepanovsky, F., & Smetánková, M. (2020). Silver lining of the COVID-19 crisis for digital libraries in terms of remote access. *Digital Library Perspectives* (ahead-of-print). https://doi.org/10.1108/dlp-05-2020-0026

Tsekea, S., & Chigwada, J. P. (2020). COVID-19: Strategies for positioning the university library in support of e-learning. *Digital Library Perspectives*, *37*(1), 54–64. doi:10.1108/dlp-06-2020-0058

Walsh, B. W., & Rana, H. R. (2020). Continuity of academic library services during the pandemic The University of Toronto libraries' response. *Journal of Scholarly Publishing*, *51*(4), 237–245. https://doi.org/10.3138/jsp.51.4.04

Less Searching, More Reading

How AI-Enhanced Discovery Tools Can Help Researchers Stay Current

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Abstract

Artificial intelligence (AI) is the backbone of many current technologies, and the power of machine learning is beginning to impact sophisticated information retrieval needs, such as currency awareness tools. Refined methods for staying current in specific areas of research while combating information overload are essential for faculty, researchers, and graduate students. Machine learning offers great promise of customizing the awareness algorithm to individualized needs. The purpose of this study is to evaluate Scitrus, a recently launched, AI-enhanced research discovery tool for all disciplines to help researchers stay current. Our investigation looked at Scitrus to evaluate the currency, quality, and diversity of the content feed and how it evolves with user interaction. Our design included an intervention feed on a targeted topic and a control for comparison purposes. We then compared Scitrus with other currency awareness tools. Our findings include insight into the set-up of topics within content feeds and the comparative variation in content across types of currency awareness

tools. Our next steps include promoting this to our user campus user groups and gathering user feedback for further investigation.

Keywords

research discovery tools, currency awareness tools, artificial intelligence, machine learning, information overload

Introduction

This research was originally presented as a poster (Figure 1). The following article addresses complex elements of this study in more depth and elaborates on the process and findings of our poster.

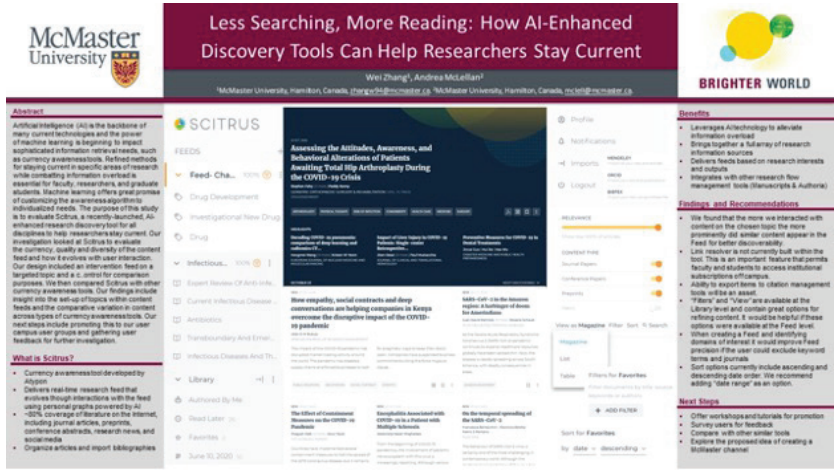

Figure 1. Thumbnail of the poster presented at the Charleston Conference, November 4, 2020.

Information Overload, Artificial Intelligence, and Machine Learning

Researchers today are facing a fundamental challenge: navigating the deluge of scientific literature to keep up with the development in a field. Recent bibliometric data indicates that the number of published articles has been increasing by 8–9% annually over the past decades (Landhuis., 2016). In 2018 alone, more than 2.5 million articles were published worldwide in fields of science and engineering (National Science Board, National Science Foundation, 2019). Furthermore, the information that researchers need is scattered across scientific news outlets, publisher/society websites, social media platforms, videos, podcasts, blogs, and conferences.

Information overload is a well-documented issue, and one that directly impacts the work of researchers and professionals. Artificial intelligence (AI), the backbone of many current and emerging technologies, offers a way to harness the deluge of information by creating customized feeds to fit individual needs. They do this by using machine learning and personal knowledge graphs. In machine learning, computer systems learn from data to perform tasks rather than relying on programming (IBM, N.D.). Personal knowledge graphs, which exist under the umbrella of machine learning, can be conceived as "a source of structured knowledge about entities and the relation between them, where the entities and the relations between them are of personal, rather than general, importance" (Balog & Kenter, 2019). New tools are leveraging the power of these technologies to create services that meet the demand of sophisticated information retrieval needs, such as currency awareness. Machine learning, through personal knowledge graph technology, offers the promise of customizing the awareness algorithm to individualized needs. This is important because refined methods for staying current in specific areas of research while combatting information overload is essential for faculty, researchers, and graduate students.

Scitrus Content Discovery Service

One recently released tool that leverages the power of AI and machine learning is Scitrus, which is owned by Atypon, a provider of online publishing platform and web development tools. Scitrus is freely available to registered users and claims to deliver real-time research feeds that evolve through user interactions with the feed and its content. Behind the scenes, Scitrus uses personal knowledge graphs powered by AI. The tool covers approximately 80% of the literature on the Internet, bringing together a full array of research information sources journal articles, preprints, conference abstracts, research news, and social media posts.

The platform is designed for customized content discovery. Personalized feeds can be created by one or a combination of the following methods: selecting research interests, linking to ORCID, or importing existing bibliographies. The latest research content is delivered as a visually pleasing magazine-style feed, with the most relevant content highlighted. The algorithm constantly improves with user interaction, including clicking to view the full abstract, viewing the original paper, organizing in Library, and sharing. It is also capable of integrating with other tools in the Connect suite (Manuscripts & Authoria), which is Atypon solution for a fuller research flow management experience.

Methodology

The goal of this project was to assess and evaluate the functionality and user experience for the Scitrus tool. The investigation was framed as a case study using the following area of research area: coronavirus disease 19, known as COVID-19 (Centers for Disease Control and Prevention, 2020), and emerging drug treatments. The National Library of Medicine's PubMed database My NCBI alert was used to compare the process of creating a currency awareness alert. The My NCBI alert was selected as a comparator because it is a free tool that many researchers use for keeping up to date with emerging research.

The team extracted key terms from the PubMed search strategy and created two identical Scitrus feeds: an Experimental and a Control. Both members of the team interacted with the experimental feed content each day for a period of one month using a predefined set of criteria. Interaction with content occurred when the following criteria were met:

1. Mention of the coronavirus disease 19 in the title or abstract in any form of permutation (e.g., COVID-19, SARS-CoV-2, etc.).
2. Mention of a drug in the title or abstract.

Upon meeting the selection criteria, an entry received some type of interaction, which included any combination of the following: flag the entry, add to the feed's Library, view the abstract, link through to the full text. The feed was assessed on elements of the user experience and the contents of the feed was compared against the Control as the month progressed. As can be seen in Figures 2 and 3, the same article "Host transcriptome-guided drug repurposing for COVID-19 treatment: a meta-analysis based approach" appears more prominently on the Experimental feed, which received user interaction on drug articles. The investigators compiled observations and themes were identified and summarized.

Findings and Recommendations

We immediately observed increased efficiencies in creating a Scitrus feed over creating a search strategy in My NCBI. A librarian with expertise in advanced database searching techniques spent more than 10 hours developing a comprehensive search on the topic while the initial Scitrus account and feed were created in less than one hour. We also noted that due to the newness of this topic, the My NCBI strategy would be updated frequently to keep up with emerging terms and drug names.

When we compared the Experimental feed to the Control, we noted that our interactions made a positive impact. We found that the more we interacted with content on the chosen topic the more prominently

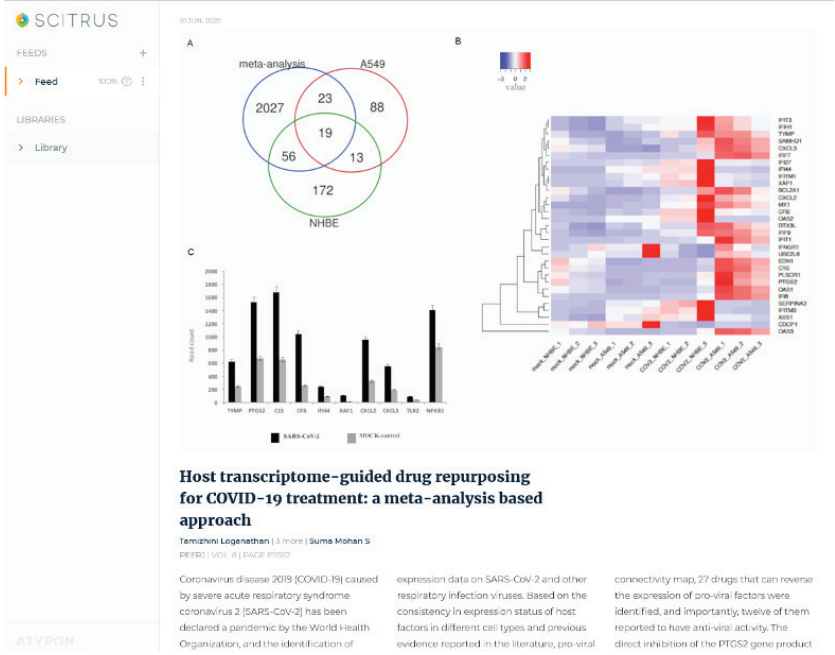

Figure 2. Screenshot of a drug article in the Experimental feed, captured on June 10, 2020.

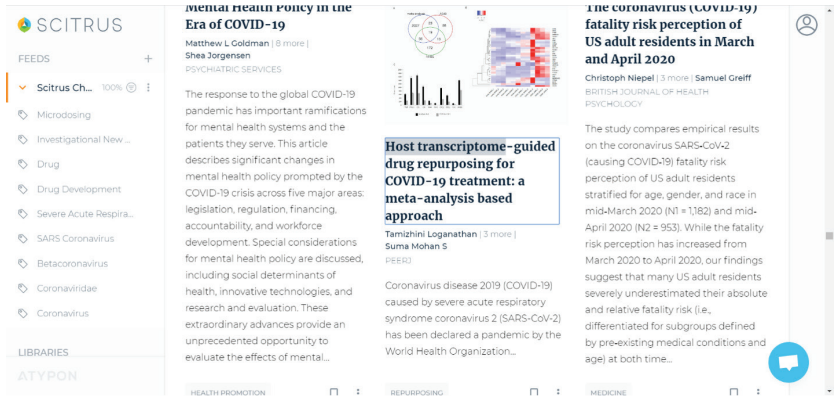

Figure 3. Screenshot of the Control feed, captured on June 10, 2020.

did similar content appear in the Feed for better discoverability. We noted that "Filters" and "View" were available at the Library level and contained useful options for refining content. We noted that it would be helpful for these options to be available at the Feed level. Several other recommendations were conveyed to Scitrus developers:

- Link resolver is not currently built within the tool. This is an important feature that permits faculty and students to access institutional subscriptions off-campus.
- Ability to export items to citation management tools would be an asset.
- When creating a Feed and identifying domains of interest it would improve Feed precision if the user could exclude keyword terms and journals.
- Sort options currently include ascending and descending date order. We recommended adding "date range" as an option.

Next Steps

This research provided a starting point for further investigations into the role of AI in information provision to our user communities. Our approach will be to educate users on emerging tools through promotion, workshops, and tutorials and gauge their satisfaction through surveys. If Scitrus continues to develop as expected, we will explore the idea of creating a McMaster channel to showcase institutional research in real time. Our intention is to continue our exploration of AI-enhanced content awareness tools and services that can improve the link between users and their specialized information needs.

References

Balog, K., & Kenter, T. (2019, September). Personal knowledge graphs: A research agenda. *ICTIR'19: Proceedings of the 2019 ACM SIGIR Interna-*

tional Conference on Theory of Information Retrieval, pp. 217–220. https://doi.org/10.1145/3341981.3344241

Centers for Disease Control and Prevention. (2020, September 1). *About COVID-19*. Centers for Disease Control and Prevention. Retrieved from https://www.cdc.gov/coronavirus/2019-ncov/cdcresponse/about-COVID-19.html#:~:text=On%20February%2011%2C%202020%2C%20the,and%20'D'%20for%20disease.

IBM. (n.d.). *Machine learning*. Retrieved from https://www.ibm.com/analytics/machine-learning?p1=Search&p4=43700050436828068&p5=b&gclid=Cj0KCQjwppSEBhCGARIsANIs4p52efaFxAB0kDPww2FvgXoOTA-hutH2LWoZnPnZGO-hLnZR0UMg_cAAaAo8_EALw_wcB&gclsrc=aw.ds.

Landhuis, E. (2016). Scientific literature: Information overload. *Nature*, *535*(7612), 457–458. https://doi.org/10.1038/nj7612-457a

National Science Board, National Science Foundation. (2019). *Publication output: U.S. trends and international comparisons*. Science and Engineering Indicators 2020. NSB-2020–6. Retrieved April 26, 2021, from https://ncses.nsf.gov/pubs/nsb20206/publication-output-by-region-country-or-economy

Misreported Research

Learning from the Past with Text and Data Mining

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Abstract

The replication crisis and concerns of reproducibility and valid research continue to bring heightened attention to methods and practices in psychology. Scholars both across the discipline and across academia continue to debate whether replication and reproducibility are needed, and to what degree, while little research has been done to reveal trends of research practices to better contextualize this conversation. Aimed to quantify the issues within the replication crisis, the present research set out to investigate how p-values are reported within the past few decades in six prominent psychology journals. Additional analysis was conducted to recalculate p-values from reported research statistics to identify anomalies. This research provides a framework to cross-check statistics reported in manuscripts, thereby mitigating erroneous reporting of statistics prior to submission. It also sets the foundation for future research to continue the investigation on replication and reproducibility issues, empowered by text and data mining methods and large corpora of data.

Keywords

misreported research, text and data mining, reproducibility, replication crisis, psychology research

Author Notes

This project was preregistered with the Open Science Framework (https://osf.io/b32vu/?view_only=a96c3c51a89a4b14b7be0a3ef150baaf). All files, noncopyrighted data, and script pertaining to this project are open access and made available at the author's GitHub repository (https://github.com/yuyang-zhong/project-psyched) and are licensed under a Creative Commons BY-NC-SA 4.0 International License.

It is very common across disciplines of research like psychology, biology, and other sciences to use statistical significance to indicate the effectiveness of its models. Statistical significance is represented by a simple number called "p-value." Widely accepted as a statistical convention, a p-value greater than 0.05 means the relationship related to such value is not statistically significant. Conversely, a p-value less than 0.05 reflects a statistically significant relationship. p-Value relates to "the probability something happens by chance"—a very small p-value means the more likely something did not happen by chance.

Literature Review

From its inception by Sir Ronald Fisher in the early 1920s, this simple diagnostic calculation became the center of scientific research. Researchers increasingly used *p*-value as the gold standard of finding "true" results. Statistical significance has, in many occasions, taken over real scientific finding, and this is deeply problematic and concerning. Over the past two decades, the field of psychology became increasingly aware of bad research being published, with some challenging the existing statistical framework (Ioannidis, 2005) and others failing to replicate a

large number of studies across the various psychology domains (Open Science Collaboration, 2015). Moreover, self-reports from thousands of researchers reveal troubling confessions of bad and unethical research practices, ranging from *p*-hacking (i.e., manipulating methods/variables to reach the desirable *p*-value), to modifying hypotheses to fit significant results, to falsifying data (John, Loewenstein, & Prelec, 2012). Collectively, the field has arrived at a point of inflection, with mounting pressure to address the crisis of replication.

Methods

To this date, there remains debates on how serious the replication crisis is and how exactly researchers can circumvent the pitfall of bad science. No previous work, however, had been dedicated to quantify the magnitude of the issues by looking at how statistics were reported. This project does exactly that.

With the support of our wonderful library staff at UC Berkeley and the American Psychological Association (APA), I secured special permission—on a pilot basis—to access a corpus of full-text research articles from six prominent academic journals[1] across psychology domains, ranging from 1985 to 2020, as well as pilot access to ProQuest's text and data mining (TDM) resource, TDM Studio. With the power of TDM techniques, this project set out to capture trends of how results are reported, with an emphasis on *p*-values. Part 1 of this project explored the time trend in the usage of specific *p*-value thresholds (e.g., $p < 0.001$, $p < 0.01$, $p < 0.05$). Part 2 of this project captured actual test statistics reported in addition to *p*-values, which allowed me to compare the reported *p*-values to ones recalculated from test statistics in order to identify the prominence of misreported results.

Feature Extraction

A Python-based script was set up to extract useful metadata tags from each of the article files in the corpus. Using Regular Expression (RegEx),

a common tool used in text pattern matching and data cleaning, I extracted *p*-values as well as test statistics (i.e., F-statistic and t-score, commonly used in statistical models in psychology research) reported in each article.

For part 1 of this project, I extracted a total of 192,896 *p*-values from 6,048 articles in the Journal of Personality and Social Psychology (JPSP), in which 166,041 were filtered out and used in analysis (i.e., only those with "<" or "=" signs, ≤0.1). For part 2 of this project, I extracted a total of 212,589 F-test and t-test statistics from 13,220 articles across six journals. Since I was only interested in values reported significant with non-significant recalculation, I filtered out 167,261 *p*-values for analysis.

Results

p-Value Reporting Trends

Part 1 of this project revealed some interesting trends in how *p*-values are reported. Prior to the publication of the Open Science Framework paper in 2015, we can see visibly in Figure 1 the use of specific thresholds in the blue curve—the distribution of all *p*-values reported from 1985 to 2015—with visible bumps at each multiple of 0.01. The orange curve, which shows the distribution of *p*-values after 2016, is much smoother, though still showing a smaller, but apparent, bump at 0.05. It speaks to the trend that the field has moved toward using equality over inequality, allowing reporting of *p*-values as accurately as possible.

Recalculating *p*-Values

The second part of this project concerns the validity of *p*-values reported in journal articles. The recalculation of *p*-values showed expected but surprising results, as shown in Figure 2. Putting the sporadic scatter of points aside, we can see that the majority of reported *p*-values can be validated via recalculation from their generating test statistic. However, if we zoom into the region on the bottom left corner, we can see a decent

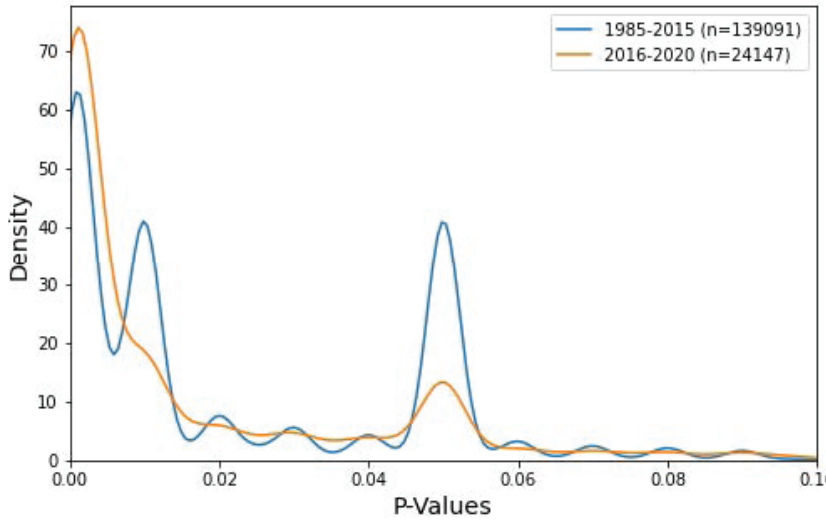

Figure 1. Kernel Density Estimation (smoothed estimate of the distribution) of *p*-values, segregated by prior to and after 2015.
Note. Visible smoothing over time is shown, speaking to the change in how *p*-value was reported.

number of points showing a significant reported value but nonsignificant recalculation (i.e., on the top quadrant of the identity line).

From that perspective, I filtered out only reported *p*-values that are significant ($p < 0.05$) and specifically looked at the ones with nonsignificant recalculations. I found 2,800 values meeting these criteria, which means that about 1.67% of significant *p*-values captured in this process were actually invalid and false. Journal-wise calculation also showed similar results, with averages over all the years falling between 1% and 2%. Even though these numbers seem small, it is an alarming amount that signals falsification of statistical significance in peer-reviewed publications. Another concerning aspect seen in this plot is the scatter of points away from the line on the diagonal, which signifies even more misreporting when the results are nonsignificant in the first place.

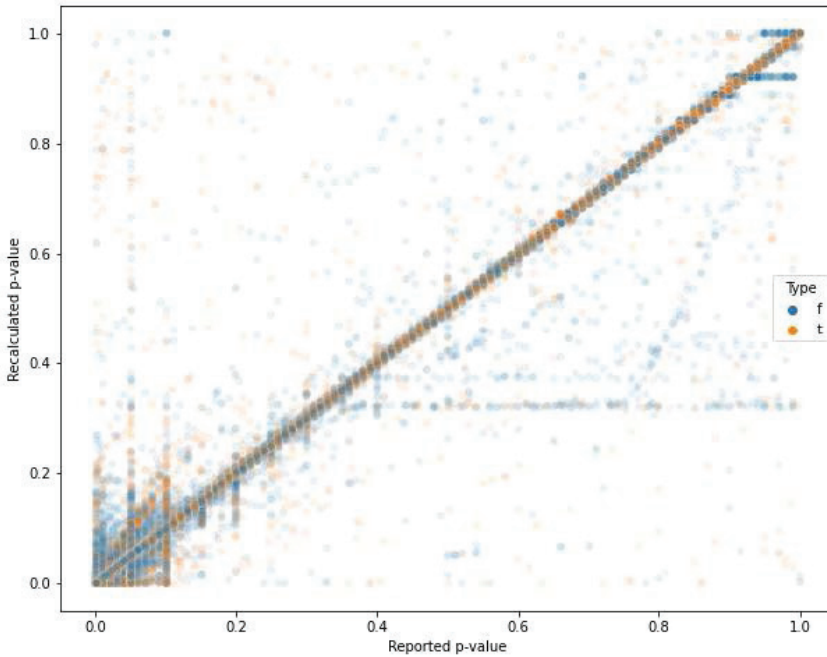

Figure 2. Scatter plot of pairs of recalculated versus reported *p*-values, capturing only those of F-test and t-test.

Note. In a perfect world, we would expect all points to fall on or around the identity line on the diagonal. However, this plot clearly shows abnormalities around both significant and nonsignificant areas.

Discussion

With the help of TDM Studio, I was able to quantify a small but significant amount of misreporting research statistics. These range from calculation errors to rounding errors to blatant falsification of results. These results confirm the seriousness of the collective concerns of replication and reproducibility, which remains a crisis facing psychology and many other scientific disciplines.

This is not to mention that facts and science are constantly under attack throughout the COVID-19 pandemic, and there seems to be a loss of the "objective truth." Consequently, this project and its finding

posits the field to take a small step toward finding and restoring that objectivity in what we do.

This project would not been possible without the power of text data mining. One can only imagine the granularity of the work required should this project be conducted by a human, manually reviewing each article. The use of text mining tools like RegEx allowed for speedy and efficient extraction and analysis for a huge corpus of text data. TDM Studio provides a streamline access for projects similar in scope, allowing researchers like me to delve into historical text data in ways that would have been otherwise impossible.

References

Ioannidis, J. P. A. (2005). Why most published research findings are false. *PLOS Medicine*, *2*(8), e124. https://doi.org/10.1371/journal.pmed.0020124

John, L. K., Loewenstein, G., & Prelec, D. (2012). Measuring the prevalence of questionable research practices with incentives for truth telling. *Psychological Science*, *23*(5), 524–532. https://doi.org/10.1177/0956797611430953

Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, *349*(6251). https://doi.org/10.1126/science.aac4716

Note

1. The six journals used for this project are: *Journal of Personality and Social Psychology*, *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *Developmental Psychology*, *Journal of Abnormal Psychology*, *Journal of Applied Psychology*, and *American Psychologist*.

From "A"-ll (of the problems) to "Z"-ilch (problems)

Promoting Enhanced User Productivity Through Library Databases A-Z Cleanup Efforts

Denise M. Branch, Timothy J. Siegel, & Kathryn Cuff

Abstract

Librarians seek to provide researchers access to e-resources with optimized discovery experiences. This is more critical than ever, as these unprecedented times have shifted universities to an online-only format, necessitating enhanced productivity, while simultaneously reducing resource expenditures. Straightforward? Unfortunately, no! What is needed to support this ever-evolving workflow? A variety of things, from cleanly designed, thought-out discovery systems, to timely and accurate content, streamlined workflows, and collaborative efforts from libraries, vendors, and content providers. This paper summarizes Virginia Commonwealth University Libraries' (VCUL) experience in providing its users with access to vital information through its numerous databases and the challenges encountered. While many of the databases are accessible through its discovery system, researchers may encounter duplicate results, or even worse, broken links or a lack of results. This experience, wasted time and effort, leading to frustration and confusion, is not what we wish to offer to researchers. What are some of the contributing factors? For one, VCUL relies on a locally-developed database maintenance platform that has been in place, with

little in the way of maintenance, for almost 10 years. Unfortunately, this, combined with Integrated Library System (ILS) and discovery platform migrations and shifting departmental responsibilities, has led to many inefficiencies in resource management workflows. Change, however, is on the way! While still a work in progress, cross-departmental collaboration is now taking place, seeking to develop strategies to eliminate workflow inefficiencies.

Introduction

Serving a population of over 31,000 students and 2,500 faculty and staff, Virginia Commonwealth University is a public research university located in the capital city of Richmond, Virginia. The Virginia Commonwealth University Libraries (VCUL) provides its users access to over 3 million physical volumes, 1.7 million electronic titles, and over 500 databases.

Students and researchers want seamless and discoverable access to global information resources. Electronic databases play a significant role as information sources for these users. They are widely accepted because of several factors such as: rapid discovery, quick and easy use, organized and logical information storage, and abundant and reliable scholarly content. Databases can be accessed from anywhere, at any time, from one's computer, smart phone, or tablet.

VCUL has seen demand for these resources growing every day, especially over the past five years. The onset of COVID-19 in early March 2020 had our library quickly responding by modifying operations and procedures to better provide services virtually. Users are now tapping into databases more frequently as they sit safely at home on their computers.

VCUL has operated a locally-developed electronic Databases A-Z (DBAZ) list for over ten years. Multiple back-end upgrades, codebase transitions, staff turnovers, and workflow modifications have introduced challenges related to the creation, maintenance, and

updating processes used by this system. Likewise, it creates access barriers for our users.

Over the past several years, numerous departments have collaborated to identify inefficiencies and rethink the database curation process, leading to an in-process/long-term migration from our existing DBAZ to one that better utilizes the capabilities of our Library Services Platform (LSP) (Ex Libris Alma) and Discovery Service (Ex Libris Primo). VCUL initiated a clean-up project with stated goals of identifying inefficiencies, cleaning up existing problems, and creating an ideal workflow. Interviews with internal stakeholders were conducted to learn about the history of VCUL's databases and to gather information about DBAZ workflows and any associated challenges.

This paper will discuss the current practices for managing databases, including challenges faced, an idealized workflow, and future goals. Readers will learn what stakeholders are tackling as part of cleanup efforts. Ex Libris will weigh in on how they can assist libraries in their efforts to address inefficiencies.

Current Workflows

Like most academic libraries, VCUL has rapidly been acquiring new full-text databases and making them accessible to their users since the 1990s. In 1996, there were 71 databases listed in VCUL's DBAZ. By 2000, this number increased to 208, and to 430 by 2014. At the time of this publication in 2020, there were 510 databases listed in VCUL's DBAZ.

Procedures were implemented for managing and maintaining the DBAZ when VCUL first began acquiring e-resources (ER). Originally, paper forms were used to initiate the process. In 2004, two electronic applications were created, replacing the paper forms to better address the frequently changing ER environment, for adding new databases and tracking workflows. The applications allowed for both the addition of new databases by request and editing of existing entries on the DBAZ. As databases move through their lifecycle, library staff can make title,

content, description, subject heading, cancellation, URL, and platform or vendor changes, as needed.

Multiple staff and steps are required to successfully move new databases through the creation process. Involved stakeholders come from the following departments: Licensing & Acquisitions, Electronic & Continuing Resources, Collection Analysis & Investment, Digital Engagement, Enterprise Systems & Desktop Support, and Metadata & Discovery. Through cross-departmental collaboration, the departments were able to assess the current workflows for additions and revisions to the DBAZ.

The workflow for adding a new ER begins with a new database request being submitted by library staff through the electronic Database Requests form for approval. The form allows for the inputting of a database name, URL, publisher/vendor, associated subject headings, and description for display on the public interface of the DBAZ. Once approved by the first department, it proceeds by department until it reaches the end of the workflow. Along this process, library staff create an Alma order and cataloging is performed. The database is activated and suppressed from discovery until the content provider turns on access. The appropriate configurations are added to the proxy server. At the end of the process, a library staff receives a link that is used to get the database on the public DBAZ. These records are "piped" into Primo and become visible after the nightly indexing process is completed. Once a database appears in the list, its name, URL, subject headings, and description can be edited.

This current workflow has been found to be unsustainable due to numerous challenges and pain points that exist along the databases' journey to the DBAZ list, as well as the large increase in the number of databases that need to be maintained, current staffing levels, and a discovered technological breakdown in the electronic forms.

What We Learned

To address noted concerns with the DBAZ, VCUL has sought

improvements to these workflows and technical solutions. Individuals from both the Digital Engagement and Enterprise Systems & Desktop Support teams have led charges to work with key stakeholders in order to determine the best way to move forward with bringing the DBAZ into alignment with our current web and discovery strategies. This process began in earnest with the decision to undergo a full redesign of our public web interface, as well as an evaluation of the various locally-developed and hosted platforms, in an effort to streamline systems. Several options were proposed, such as, making modifications to the existing system and associated forms, or even migrating the list to an external provider. Discussions ultimately led to the decision to migrate away from the current system and to utilize the newly released Database Search (DB Search) functionality within Primo. After several meetings with stakeholders, a proof of concept was developed and displayed for review. It was determined that the out of the box configurations would not provide a sufficient one-to-one replacement, so additional development was undertaken to modify the display of the associated metadata within the DB Search interface. It was also determined that deploying this interface would most likely take greater than one year to complete, as it would require a complete ingestion of the current list, alongside any resource and access troubleshooting, and would need to align with a break in University operations, such as during the Summer or Winter breaks, to ensure that users were not caught off guard by a massive redesign of the DBAZ. Work had begun on this ingestion process until COVID-19 forced an unexpected halt, leading to a shift in focus toward more immediate, pressing needs. Additionally, several months earlier, VCUL made the decision to migrate to Ex Libris' Primo VE environment, which also required a different process for ingesting and displaying record metadata. It was determined that halting additional development during this migration would be necessary.

Seeking to make the most of the pause in development, during the summer of 2020, several interviews were held with key stakeholders involved with the current process to see if there were additional things

that could be accomplished during this migration, other than simply recreating an identical workflow and display using a different back-end.

Several questions were asked of these participants:

- Were the DBAZ forms updated when you were working with them, and if so, why?
- What was the original purpose of the forms, and what workflow issues did they seek to resolve?
- How many staff/departments were involved in the workflow?
- Were the forms useful?
- Are there any things that we can keep in mind, or lessons we can learn from your experience with the forms, as we build new workflows?

The participants of these interviews represented a variety of departments, and offered a wide range of institutional knowledge and experience. Through these interviews, we were able to learn historical details, such as why the backend workflow exists in the manner that they do (as discussed earlier), why the current workflow and forms are perceived as difficult to use and why they are so difficult to modify. Beyond this, we learned information about the design, composition, operation, and disbandment of a committee that had been previously tasked with making determinations about what goes on the DBAZ, with what subject areas a database was to be listed, and when changes were deemed necessary.

These interviews were also used to expose a number of "pain points" that are experienced by different stakeholders, such as:

- the lack of standardized operating procedures, including there being no dedicated individuals appointed to oversee the lifecycle of databases, or to assign roles in the maintenance process, or that can make training available,
- staff felt like they were "all just kind of expected to know what to do,"
- how new databases could fall through the cracks until

someone mentioned their lack of inclusion on the DBAZ,

- how the process was not transparent, meaning that each person involved in the process could only see the relevant information associated with their own step, leading to confusion about where something was being held up, or leaving it possibly "stuck" with an individual that is out either temporarily or permanently,
- why the workflow had to be maintained by an external application, when the current LSP has supporting functionality for these types of workflows,
- certain stakeholders being left off of the listservs used to communicate various steps in the workflow, leaving them unaware that things are requiring their attention, or
- how the databases being listed are not always reflective of those actually being purchased. They may have different names, or appear to come from different vendors than they do, leading to confusion about when they should be added/removed/modified.

Idealized Workflow

How does one create a workflow that will perfectly suit the needs of the library and its users by successfully managing databases? The internal stakeholders reviewed and evaluated the efficiency of the existing workflow within their departments, in order to better understand where productivity could increase and what could benefit from a workflow redesign. It was admitted that the current workflow is not very efficient. The workflow has not been altered over time to incorporate elements from the changing environment and technologies that have become available. After detailing the major pain points, the stakeholders conducted numerous meetings to scrutinize current workflows and discuss optimizing processes to increase productivity. One specific meeting was devoted to designing an idealized workflow

for the DBAZ. The stakeholders created a new workflow they believed would lead to increased efficiencies, optimal discovery, and improve access to databases. The idealized workflow would also be sustainable during the database lifecycle and reflect the changing environment.

The idealized workflow would include the following steps:

- Request database record from Ex Libris' Community Zone
- Create Alma order
- Use Alma E-Resource Activation Task List to route for cataloging/metadata
- Add the URL to the proxy
- Activate in Alma

What Ex Libris Can Do

At Ex Libris, our mission is to allow institutions to create, manage, and share research. We know that better metadata leads to better discovery, so our Content Operations team of librarians and analysts works with thousands of content providers to ingest and curate the metadata that powers Ex Libris library management, discovery, and research solutions.

The Content Operations team works with clients, such as VCUL, to understand which content is important to their patrons' needs. When the requests are raised to the Operations team, we work with the content providers to ingest their metadata into the Ex Libris library management, discovery, and research solutions. This requires reviewing samples for metadata quality and robustness, building link syntaxes, mapping to the Discovery and knowledgebase schemas, and maintaining updates or currency. After ingesting the content, we also will continue to work with the providers to keep their content fresh and accurate so librarians do not need to maintain it themselves.

Many clients like VCUL are focused on the workflow around maintaining the purchase and activation of databases. Databases can be managed locally or globally. There are two types of collections: full text

or zero title databases. For the global collection, activation is a simple step, which includes the ability to enable it for discovery via Primo.

A valuable resource we make available to our customers is the Ex Libris Knowledge Center. It contains maintains extensive written documentation and videos in the Knowledge Center to help guide librarians who are unfamiliar with workflow steps and processes within Ex Libris products. This can help institutions going through staffing changes or just need a refresh on the steps.

Our Goal

Beyond simply migrating from one system to another, VCUL desires to improve the overall discoverability of resources, as well make realizable efficiency improvements for both internal and external users. This will ensure that resources are added to the DBAZ in a timely manner, so that the maximum potential of resources can be extracted by users during the licensed period. We also seek to accomplish this by minimizing the number of systems that are necessary in this process, as detailed in the idealized workflow section, and using the algorithmic improvements facilitated by the switch to a Primo-based system rather than having to rely on our own locally-developed resources. Likewise, we desire to modernize the aesthetics of the DBAZ, bringing it into alignment with the best in web accessibility principles, and to make it more inviting and easier to use and maintain. Our idealized workflows have yet to be realized, but we believe that the information that we gleaned through the stakeholder interviews will provide us with the details necessary to get most of the way there. In addition, as we begin work in earnest, we believe that we will find areas for improvement, and that before the process is completed, these idealized workflows will reach an optimal state.

Current Progress

Even with delays in our original goal and timeline to complete

development and begin migration to a new DBAZ workflow by Spring 2020, we were able to make good headway. A clean-up project was initiated in May 2019, and was completed that November. The Collection Analysis & Investment Department reviewed all of the databases found in the DBAZ. While we began with over 600 entries, the clean-up involved updating URLs, categories, and descriptions, as well as verifying cessations and cancellations, upon completion of the project, the number of active databases went down to 510.

A working proof of concept for the DB Search was deployed in the library's sandbox for the Alma/Primo environments, which included normalization rules allowing for the customization of the database names, descriptions, and subjects. An implementation plan was roughed out for using the Alma E-Resource Activation Task List to generate effective cross-departmental workflows and handoffs. This was a quick and effective way for the team to evaluate, test, and share feedback to make improvements.

A Google spreadsheet was created to keep track of new database acquisitions and change the data that impacts access so that the key stakeholders have timely access to not only newly acquired databases, but also, change data, such as title modifications and migrations to new platforms. The spreadsheet will be used until the workflow can be effectively implemented in Alma.

In September 2019, a brand new department was created called Electronic and Continuing Resources (ECR). Staff positions in this department have been dedicated to maintaining databases, along with the Licensing & Acquisitions Department that also has a dedicated staff member. Staff goals have been expanded to encompass assisting with database management. Various training sessions are taking place to teach staff about the lifecycle and processes associated with management of databases. Staff are learning to successfully coordinate the workflow between departments.

The team has made significant progress in database clean-up and creating effective workflows. Plans are to continue this work in earnest in early 2021.

Thoughts For The Future

During the interviews that were conducted in the Summer of 2020, several concepts arose that we believe should be considered as we move forward with this process. These showcase the diversity of thought that can be found within the various departments of the library. One individual pointed out their belief that an alphabetical listing is the only truly unbiased way to display resources, as the addition of subjects or the filtering thereof can inadvertently limit one's understanding of the various resources available to them at any given time. Yet another believed that considerations need to be made regarding how individuals use discovery to locate appropriate resources, as very few browse to see if a particular database is available, but rather they search for a particular piece of content without regard to its source, potentially negating the need for focused development of a true DBAZ. Likewise, as we shift more of our focus towards open access resources, is it possible that are we limiting one's research efforts by emphasizing paid resources over free ones by making certain exclusions from the DBAZ? Lastly, another emphasized the importance of ensuring that there is an equal emphasis placed on the interfaces that are used by internal users. Often this aspect is not focused on as much as it is for external users, leaving those that have to use the tools with an experience that could lead to less overall efficiency.

We believe that all of these concepts can be consolidated and synthesized in a way that will bring their messages to fruition.

Conclusion

What initially started as a simple request to resolve some long-standing issues with a nearly ten-year-old workflow led to a complete re-imagining of the DBAZ workflow and implementation. While this has taken, and will continue to take, multiple years to complete, we believe that it will streamline and improve our processes and workflows, by utilizing emerging technology, confronting past decisions and

assumptions, and incorporating opinions from others that are not normally heard in the decision-making processes. We believe that by elevating these, we can build a system that will provide the basis for one that will last the next 20 years. We are pleased so far with what we have been able to accomplish, even though elements beyond our control have led to a slowdown in progress. We believe that others can incorporate these lessons learned so far as they seek to improve their own systems and workflows.

Non Loqui Sed Facere. Not Talk, but Action Engages Students in Library Instruction Using an Immersive Game to Introduce Web of Science and Citation Networks

Jared Seay & Geoff Timms

Abstract

In recent years, active, engaged, and immersive learning pedagogies have been shown to improve student engagement across academic levels and disciplines. Escape rooms have been used in K-12 education, college, and even in the corporate world. These hands-on experiences are a form of immersive scenario game in which problem solving, teamwork, and a simulated fear of doom engage participants intensely.

We created a disaster-scenario escape-style game in which Freshman students play the part of researchers at an Arctic laboratory and collaborate to survive a nuclear reactor meltdown set into motion by a rogue scientist. Students navigate the *Web of Science* database to answer questions about articles and also engage with citations and citation networks to gain basic skills in using this database, as well as an appreciation of the cumulative development of scientific research. We synthesized our core learning objectives with engaging riddles and ciphers, physical props, and a digital interface to provide an engaging immersive learning experience. While feedback from students was positive, a major change in teaching and learning styles due to the COVID-19 pandemic, caused us to refocus our efforts on a totally digital version of the game for use in online and hybrid classes.

Introduction

In the summer of 2019 we applied for and received an Innovative Teaching and Learning grant from the Liberal Arts and Sciences Small Grants program at the College of Charleston. These grants are aimed at supporting innovative teaching at the College of Charleston. The aspiration of this project was to increase student retention of information literacy concepts and skills by increasing students' level of involvement and engagement with the material as well as increasing their motivation to learn it in the first place. We proposed to do this by increasing student engagement in the learning and application of information literacy skills by creating and deploying an immersive scenario game.

Initial Concept

We intended to place students into this interactive, themed scenario where the students would apply information literacy skills by using

initiative, problem-solving skills, social interaction, and collaboration to solve puzzles and challenges as they worked to achieve a common goal. The literature refers to such active learning experiences variously as student centered learning, problem based learning (PBL), experiential learning, engaged learning, and interactive learning and suggests that such a problem-based, themed activity ensures a high-impact learning experience (Amin et al., 2020; Duncan, 2020; Kardoyo et al., 2020; Schrier, 2016; Tawfik et al., 2020). Students gain knowledge, not because it has been given to them in a typical "chalk and talk" lecture, but because they experience it.

Learning & Game Goals

Information literacy was the goal of the project, and we decided to approach this by teaching the basic skills necessary to search a specific database. This allowed us to concentrate on two of the six concepts of six in the ACRL Framework for Information Literacy (Association of College and Research Libraries, 2016).

By searching in a research database platform, reading the metadata, and engaging with the search fields, the students would be tying into the framework concept of *Searching as Strategic Exploration.* We utilized the framework concept *Scholarship as Conversation* by developing the mechanics of our game to involve citation structure and citation mapping among various articles.

We wanted our project to address two things. First, we wanted to engage students more effectively in information literacy by problem solving and collaboration. Second, we wanted to make this happen by putting our students into a scenario in which they had to problem solve their way to success and survival using database skills.

We also developed five design guidelines to which we wanted the game to adhere:

- It would be able to be used in a single classroom.
- It would be able to be deployed in a 50 min class.

- It would have both cooperative and competitive mechanics.
- It would involve all students at a high level of buy-in / immersion.
- Originally, other than the database itself, the scenario would be fully analog.

Theme & Motivation

As we were originally conspiring to make this happen, we determined that our engaging teaching event should be some form of escape room. The use of escape rooms, mostly in the form of "breakout boxes," (BreakoutEDU, 2020) have become ubiquitous in K-12 education and are making significant inroads into undergraduate and graduate level education. (Brown et al., 2019; Duggins, 2019) Since neither one of us had experienced an escape room in the wild, we spent some of our grant money to research/experience a few local escape rooms. After sampling the local establishments, we began formulating our own scenario.

Indeed, "scenario" is the term we employed from the beginning, for the scenario is the core of any immersive scenario game. We define an "immersive scenario game" as "an interactive activity that involves putting a group of players directly into a problem or scenario, often within a simulated physical environment or derivative "world," while providing a mechanic to allow the players to interact cooperatively to resolve the problem or experience the scenario." (Seay, 2020) We wanted to put our students into a situation in which they had to problem solve their way to success and safety (and survival) using database skills.

We wanted to make this a true application of objective database searching skills. It was not necessary that the students learn the content of the articles they found, but rather were applying their searching skills to effectively navigate and utilize the *Web of Science* database.

This focused students on article metadata and citation information as objects to be searched and interpreted. To fully synthesize database searching activities with the game's scenario, we chose nuclear science, specifically the complicated science of nuclear reactors, as a search topic.

Thus, our scenario theme was as follows: An evil scientist, Dr. Sonya Nielsen, at an Arctic research station, sets the station's nuclear core into meltdown. The players, who represent the remaining scientists, must shut down the nuclear reactor core before it melts down and dooms them all. Since Nielsen is the sole holder of the shutdown codes, the students must try to "hack" their way through the station's mainframe computer database, which looks remarkably like the *Web of Science* database. This diabolical villain has left tantalizing clues and puzzles to these shutdown codes, which the students find in locked boxes and canisters as they hack their way through several highly secured levels to reach the nuclear core and shut it down in time.

Integration with Database

Now that we had our motivation, we needed a game system to integrate this fear of sim-death into a practical classroom experience. We wanted our game to have both digital and real world aspects. The physical part was the breakout box concept of putting clues and puzzles in locked boxes which contained items, puzzles, and ciphers.
The digital was in two parts.

First, we used the quiz function in Springshare's LibWizard as our core interface that guided the students through the game. Then we used the exploration of the *Web of Science* database to resolve puzzles generated by this interface to advance through escape boxes in the classroom. The interface guides students through the database where they are taught how to search and filter for specific information or record fields. Basically, they are given a tutorial on how to use parts of the database, and, via clues generated by the puzzles and the information found in the boxes, the students are guided to search for

and find specific articles in the database. Within these articles they are directed to identify specific parts of the record or the article such as authors, publication dates, subject headings, details in the article abstract or document types.

Interaction

One of our design guidelines was that we wanted both cooperative and competitive mechanics, so we put students into five teams of three to five. Each team member had to cooperate within the team to find clues, solve puzzles and apply their database skills and knowledge. But even though each team competes to shut down *their* section of the core first, *all* of the core sectors *must* be shut down in time – or *everyone* is doomed. So, cooperation is very necessary, especially near the end.

Interface and Puzzles

The game was envisaged as an escape room using a combination online and analog breakout box format (BreakoutEDU, 2020). In a normal breakout box game, students follow clues and puzzles to open a series of locked boxes. Each box contains objects and additional clues and puzzles that allow advancement to other locked boxes to solve the final mystery of the game. Our game mechanics required the students to use the *Web of Science* database to solve the puzzles found in the boxes themselves as they were taunted by the villain and guided from one breakout box to another with LibWizard.

The clues generated in the game consisted of relatively simple inquiries about database functions as well as more complicated puzzles that required more cooperative problem solving. Some of the more direct database inquiries included forming an effective search with author or topic, refining the results, and identifying particular fields in an article record. More complication was added by puzzles such as the citation mapping quandary and the citation cipher. In the mapping quandary puzzle, the student team was required to place a series of

articles in the right "cited order." They then use a coded clue along with a cipher to solve a critical problem. This puzzle reinforced the idea of "scholarship as an academic conversation" by illustrating the interrelatedness of articles. Since it was best solved by inter-team communication, it also rewarded those teams who could cooperate effectively in solving it. The citation cypher required the interpretation of a "pig cypher "that could only be translated properly after a coded citation was formatted properly.

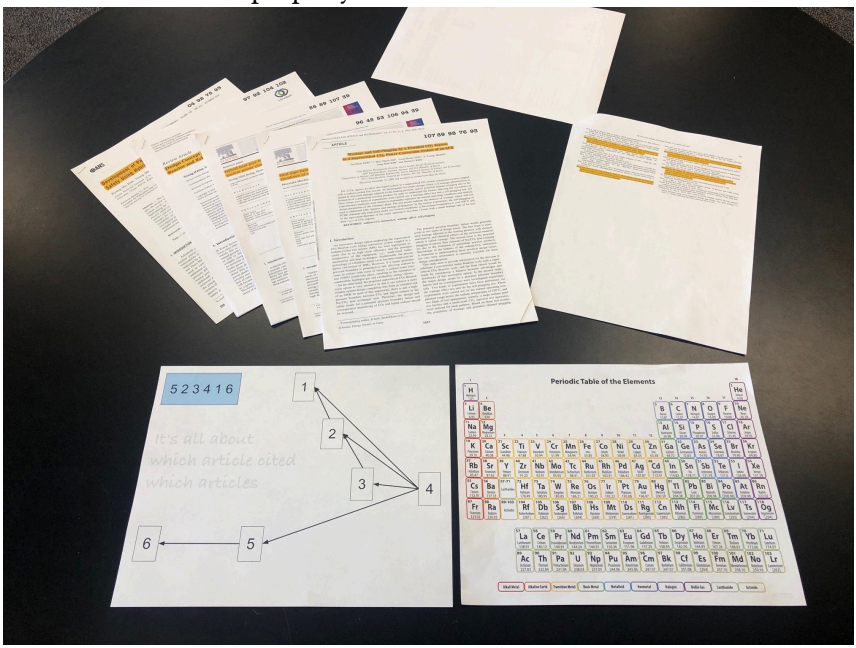

Figure 1: Citation map puzzle includes 6 articles, a citation "map" guide and the periodic table clue used to solve the problem.

The answers to these clues and puzzles allowed the students to determine the code that opened the combinations to the locks on the analog boxes in the classroom. Some of our analog boxes consisted of plastic boxes we obtained from Breakout Edu (www.breakoutedu.com) as well as metal boxes purchased online.

The final puzzle required the students to re-assemble into three cooperative teams in order to shut down the runaway reactor. The teams were obliged to interact directly with the "nuclear core" itself

consisting of three mock "fuel cell clusters" constructed from 30-inch tall, multiple pvc pipe constructions adorned with working lights in the center of the room. This constituted the most physical puzzle of the game and the single greatest piece of eye candy.

Figure 2: The three central nuclear pylons of the final puzzle.

We developed a dynamic web page which was projected at the front of the classroom. This progress screen displayed t he t eam progress, countdown time, the rising temperature of the core, and the status of the various fuel cells, including the moment they were shut down. This served as a leaderboard that allowed everyone to see the progress of all teams as they moved from level to level.

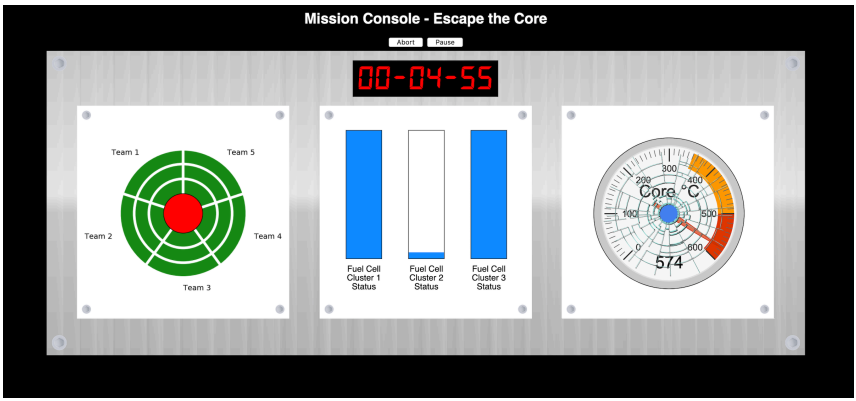

Figure 3: Dynamic interface tracker and status projected on classroom screen.

The ability to use feedback from LibWizard to track and display each team's progress through the game involved a tremendous amount of coding and spreadsheet interaction. Indeed, this effort to make the game more technologically interactive, beyond the traditional social interaction between students in the room, became a significant amount of the work and time put into the game.

Beta Testing and Adjustments

We had the game operational and ready for testing at the end of 2019. We beta tested the game in early January of 2020 with four librarian colleagues. The feedback was generally positive, and we used the feedback from this test to adjust some of the challenges. That same month we beta tested again with four student volunteers. Using the feedback from this test we discovered and corrected some important game flow issues as well, mostly concerning the explanation of certain puzzles and the wording of some questions. The feedback was very positive, and we were particularly encouraged by the comments of the one graduate student who noted that, though he was a regular user of the *Web of Science*, he learned a few things about the database that he had not known before.

Deploying the Game with Freshman Students

In February 2020, we were given the opportunity to debut our game in a 75-minute one-shot library instruction session to introduce 17 Freshman students to the *Web of Science* database. We spent two hours preparing the room and resolving technical issues with classroom audio/video technology. As students arrived, they were assigned to one of five teams and guided to the tables where each team would work. Once all teams were settled, we provided a very brief introduction to the activity and initiated the immersion by welcoming them as research scientists of *ArcoPhys Arctic Research* to a crisis meeting at the research

station conference room. We then played a video newsflash on the main screen, in which students were informed about the situation and what they must achieve to ensure survival. Once the newsflash was completed, a sound of strong wind, occasional howling wolves, and a frequent alarm noise played throughout the duration of the game. With 70 minutes on the clock, we instructed students to begin working with the laptops and envelopes located at their tables and to follow the instructions provided.

Students embraced working in teams differently. In several cases, teams began talking right away, identified the first task, and started discussing it. Members of one team, however, required a lot of coaxing to start talking and looking at what lay before them on the tables. It appeared that teams made up of students who were already familiar with each other were at an advantage over teams where members were not familiar or comfortable with each other. The latter teams lost valuable time in getting started.

As students read instructions and initial information, we observed different interpretations by different people. This highlighted a need for explicit detail by some learners, whereas others are adept at more abstract thinking. Interestingly, some students didn't pay attention to the task description or information provided at all. This was a particular problem with teams in which members communicated the least. We intervened with coaching to help students recognize the important information being offered and associating it with the current task.
We had designed the database searching activities to include similar repetition, so that students could both learn and practice searching on the *Web of Science* platform. We were surprised to see that some students did not associate and apply their successful strategies from each search experience to subsequent search challenges.

Despite having had no college-level training with citation linkage or mapping, several teams surprised us with their ability to understand and solve the citation mapping puzzle. While the challenge itself was focused on the interrelatedness of six articles by their mutual citations, it ultimately required logic to deduce the correct pattern of the articles.

It was very apparent that many students in the room had mastered the art of applying logic to problems before.

Teams progressed at quite different rates, and as the first two teams completed all their challenges, we permitted them to disperse and assist the remaining teams to complete their challenges. Ultimately, the class completed the game with two minutes to spare, having taken 68 minutes to shut down the runaway nuclear reactor. As a congratulatory newspaper message lauding their success appeared on the main screen, the level of excitement and satisfaction that we observed among students was unlike any other library instruction session either of us had ever experienced.

Student Feedback

While our own observations of students playing the game informed us of opportunities to refine game flow and specific mechanics, we wanted students to tell us about their experience. We distributed a brief survey, which students completed before leaving the room. The survey included both ranking and free text answers to specific questions.

Ranking

Using a Likert scale, 15 students identified their level of agreement with each of the following statements:

Q1 The initial organization/orientation efficiently placed me on a team

Q2 The instructions on the laptops clearly described what we were to do

Q3 I found the theme/storyline of the game engaging

Q4 My engagement/interest was maintained throughout the game

Q5 My skills at using *Web of Science* were increased

Q6 My understanding of citations has increased

Q7 I had a positive team experience

Q8 I would recommend playing this game as a learning experience to my peers

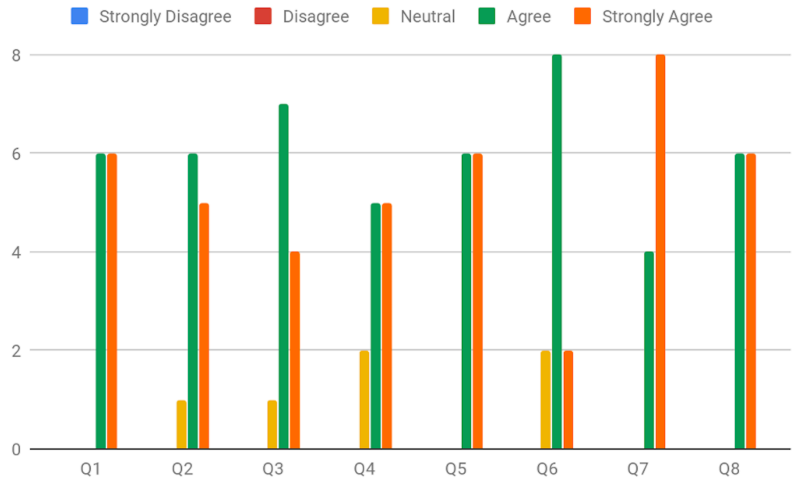

Figure 4: Likert scale ranking feedback.

Our overall perception of student responses was positive, with no disagreement or strong disagreement indicated for any of the eight statements. We identified maintaining engagement and improving the searching skills outcome as areas on which to focus our efforts to improve the game.

Free Text Questions

Responses to the following free text questions were categorized:

- 1) What did you learn from playing the game? (15 responses)
    1. a) Effective database searching (13)
    2. b) About citations (1)
    3. c) What an action escape room is like (1)

We were pleased that student answers were significantly focused on our primary learning objective which was learning how to use the *Web*

of Science database, a skill which is replicable to numerous academic database platforms.

- 2) What was most memorable? (15 responses)

    1. a) Ciphers/codes/puzzles (7)
    2. b) Theme/sound effects (4)
    3. c) Winning (2)
    4. d) Teamwork (1)
    5. e) Solving hard questions (1)

It was not especially surprising that students identified the elements of the game that were most different from their normal learning experiences as that which they found most memorable. This gives us some confidence that we successfully immersed our class in the scenario while trying to teach them some library competencies.

- 3) How could we improve the experience and/or the game itself? (12 responses)

    1. a) Deeper immersion/engaging storyline (3)
    2. b) Clearer instructions (2)
    3. c) More variety in learning tasks (2)
    4. d) Nothing (2)
    5. e) Prizes (candy) (1)
    6. f) Smaller teams – 3 max (1)
    7. g) More scenarios (1)

The diverse responses about how the game could be improved suggests that there is no major problem perceived by students. We recognized that instructions needed to be more explicit. How well students feel immersed is subject to competing immersive experiences.

We cannot realistically compete with 21st century video gaming. Two students desired more variety in learning tasks. We intentionally included some repetition to encourage development of competency. We also recognize that using an immersive scenario game takes some time away from purely academic learning. That is, less learning ground is covered but hopefully it is better retained than in traditional library instruction.

Adapting to an Online Game

As we transitioned our teaching and learning roles to the significant changes imposed by the COVID-19 pandemic, we were asked by several library colleagues – who had already expressed an interest in using the game as a teaching tool – to consider creating a completely online version of the game. We quickly committed to adapt our existing game to a fully online game, in which immersion would be experienced through the computer screen and audio, collaboration between team members would be synchronous using Zoom, and classes delivered either synchronously or asynchronously could experience the game.

The online game places players in a perspective different from the original game. They are no longer traversing through the research station themselves; rather they are coordinating teams of non-player scientist characters who are working within the research station and reporting back to the players on the information they discover through a communications system. The players must use the information and clues provided to solve the puzzles, while interacting with the research station computer to achieve access to deeper levels of the research station for their non-player team, culminating at the nuclear reactor to shut it down.

Recognizing the inflexibility of the original game to handle varying class sizes, the online game is no longer dependent on having five teams. The current online game can accommodate approximately 35 teams, and we anticipate discovering the optimum team size for both

effective communication and gameplay as we test it. The game can be run over any time period, although 60-75 minutes is ideal for a synchronous class. With asynchronous classes, a period of a week to ten days is suggested. Regardless of the synchronicity of the overall game, members of a team will *have* to work synchronously, although different teams can work on their tasks whenever all their team members can meet together online.

Perhaps the largest amount of work in making this transition was the transformation of the web-based game progression interface from the original game into the primary interface for the online game. The new interface replaces LibWizard as the interface through which game flow and much of the interaction occurs and presents all of the tangible objects, information, and clues with digital equivalents. Importantly game progress is saved when a team successfully solves puzzles, thereby enabling resumption of gameplay at a different time.

Figure 5: Escape the Core online game interface

The game interface has two primary areas. The left and right columns present infographics that indicate the progression of the scenario. As in the original game, a countdown timer and temperature gauge indicate the time remaining until core meltdown and convey a sense of urgency

to players. The Team Progress indicator continues to show the progress of each team through the multiple levels of gameplay. The updated Fuel Cell Status indicator now shows the status of up to 37 fuel cell clusters, representing the final challenge faced by each participating team – the shutdown of the fuel cell cluster for which they are responsible.

The middle area of the interface consists of three sections. In the top section, colored icons of several types represent the items (articles, clues, and ciphers) found during the course of the game by the non-player team characters. Upon clicking these, a digital representation of the item is provided in a new browser tab. The colors convey the interrelatedness of clues for a given puzzle, whereas the icon type indicates the type of information that is available. The center section is where all communications are provided to players. These come in the form of taunting messages from the nemesis character, Sonja Nielsen; secure communication messages sent by the non-player characters within the research station, and system messages seeking answers or codes to achieve progress. The bottom section is where teams can provide their answers to questions or puzzles.

One of our concerns about the effectiveness of team collaboration through the Zoom platform is if all players will have a positive immersive experience, achieve the desired learning outcomes, and participate effectively in problem solving. To mitigate this, we decided to define player roles within each team. Arguably the most important role is that of the team captain, who will coordinate the screen sharing of players so that all team members are engaged with the appropriate view (game interface or *Web of Science* database) at the right time. The communications officer will log into the game interface, and that screen will be shared with the rest of the team much of the time. The will type team responses to challenges into the interface. Finally, one or more players will be designated research officers. They will enter search terms into the *Web of Science* and their screens will be shared as needed so that all can engage with what is happening in the database.

Since the pandemic struck, several conversations with instructional librarians at other institutions have allayed some of our concerns.

Students have adapted well to collaborating using technology, mainly because they are already the most experienced at communication using various online platforms. Remote collaborative database searching activities have also been reported to have been positive, although success hinges on teams communicating and coordinating screen sharing.

Aspirations

Despite experiencing delays in applying our game with classes of students, we recognize the great potential of engaging students in learning through immersive gaming experiences. We want to expand our scenarios to include both local history and culture, as well as broader areas of interest. For example, a scenario in which players are members of the French underground resistance in World War Two. However, we have learned firsthand just how much time and effort it takes to create and deploy an engaging educational game.

We ultimately want instructors, both librarians and teaching faculty, to be able to independently use our games, particularly to be able to incorporate any learning content from any discipline. To that end, our future plans include separating the management of the immersive scenario platform and the learning content. We anticipate developing a platform containing a variety of immersive scenarios, but not maintaining actual learning content. Our intention is that learning content will be maintained separately by anyone on any platform that suits their purposes – e.g. Google Drive, LibWizard, the college Learning Management System, etc. In this way, we can simultaneously develop a repository of learning activities that can be used with any scenario or, if necessary, be used without using the game scenarios at all.

To connect learning activities with an immersive scenario, instructors will determine the correct answers, according to their learning content, that will permit student teams to progress within the

game. We will modify the instructor interface so that an instructor can choose a scenario, provide questions and the correct answers for that scenario, and select the number of teams and start/end times/dates.

Conclusion

Global pandemic notwithstanding, the development and deployment of our initial game demonstrated its potential for engaging students in information literacy instruction. *Escape the Core* synthesizes learning, application, collaboration, and fun into a memorable themed experience. While a time-consuming endeavour to create, and adapt to an online-only environment, the feedback from students and library instructors encourages us to continue pursuing immersive learning games as a method to inspire and engage students in their education.

References

Amin, S., Utaya, S., Bachri, S., Sumarmi, & Susilo, S. (2020). Effect of problem-based learning on critical thinking skill and environmental attitude. *Online Submission* 8(2), 743–755.

Association of College and Research Libraries. (2016, Jan. 11). *Framework for literacy for higher education.* http://www.ala.org/acrl/standards/ilframework

BreakoutEDU. (n.d.). Retrieved Dec. 7, 2020, from https://www.breakoutedu.com/

Brown, N., Darby, W., & Coronel, H. (2019). An escape room as a simulation teaching strategy. *Clinical Simulation in Nursing*, *30*, 1–6. https://doi.org/10.1016/j.ecns.2019.02.002

Duggins, R. (2019). Innovation and problem solving teaching case: The breakout box — A desktop escape room. *Journal of Organizational Psychology*, *19*(4), 73–77. https://doi.org/10.33423/jop.v19i4.2294

Duncan, K. J. (2020). Examining the effects of immersive game-based

learning on student engagement and the development of collaboration, communication, creativity and critical thinking. *TechTrends: Linking Research and Practice to Improve Learning*, *64*(3), 514–524.

Kardoyo**,** Nurkhin, A., Muhsin, & Pramusinto, H. (2020). Problem-based learning strategy: Its impact on students' critical and creative thinking skills. *European Journal of Educational Research*, *9*(3), 1141–1150.

Schrier, K. (2016). Knowledge games: How playing games can solve problems, create insight, and make change. In *Knowledge games*. Johns Hopkins University Press.

Seay, Jared. (2020, April 26). *Active learning scenario games in teaching and learning: Immersive games.* Addlestone Library. College of Charleston. Retrieved December 6, 2020, from https://libguides.library.cofc.edu/immersivescenariogames

Tawfik, A. A., Hung, W., & Giabbanelli, P. J. (2020). Comparing how different inquiry-based approaches impact learning outcomes. *Interdisciplinary Journal of Problem-Based Learning*, *14*(1). https://doi.org/10.14434/ijpbl.v14i1.28624