Notes on Operations

Motley Crew

Collaboration across an Academic Library to Revive an Orphaned Collection

Amy Jankowski, Anne Schultz, and Laura Soito

It can be difficult to find time and motivation to effectively address collection management for materials in specialized areas that fall outside the primary scope of one's usual responsibilities. The pressure of crowded shelves in the authors' largest library and the associated difficulties of helping users locate materials led a team of faculty librarians and staff to evaluate and consolidate an "orphaned collection" of books in health and medicine call numbers. The authors describe how a project team established a data-informed evaluation and weeding process that minimized affective decision-making and considered the nuances of collection management between disciplines.

In interdisciplinary and general collections for which no subject selectors are assigned primary responsibility for the material, relatively passive and fragmented collection management easily leads to the development of collections with an "orphaned" or secondary status. Management of these collections presents challenges, particularly in the context of space issues. The proliferation of online resources has done little to ease the challenges of maintaining stack space for physical collections as academic libraries continue to acquire new print materials and also develop new user-focused spaces. Space issues are compounded as increased demand for library services and broadening librarian responsibilities divert efforts from collection management activities, which can lead to the abandonment of regular collection evaluation and deselection. When, after a period of passive management, a combination of space issues necessitates aggressive deselection of an orphaned collection to meet competing library needs, it can be difficult to develop a precise assessment of what exactly is in the collection, who should be responsible for its downsizing, and how to develop an efficient and effective plan for collection review.

In late summer 2016, the University of New Mexico Libraries initiated a project to consolidate circulating books within the Library of Congress (LC) Medicine classes, R-RZ, into a single location and reduce the size of this call number range by approximately half. Project PiRate—nicknamed for the R call numbers—provided the opportunity to eliminate overflow shelving in our largest library, deselect outdated volumes, and align the bulk of the science and technology collections in a single physical home, thereby resolving previous access issues caused by overcrowding and physical dispersal. At the project's inception, many of the institution's subject librarians were relatively new and none held primary responsibility for this interdisciplinary area. For this reason, the project was approached collaboratively, drawing upon the interdisciplinary expertise and experiences of employees throughout the libraries.

In undertaking Project PiRate, the project team considered a number of questions to design a process to prioritize necessary collection maintenance and improve collection usability in an interdisciplinary subject area that had become orphaned. These questions include the following:

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- How do we establish a culture for cross-disciplinary and cross-departmental collaboration?
- What data and subject expertise are available, and how can we use these resources to make informed deselection decisions?
- How do we develop and facilitate efficient collection management workflows?

Literature Review

Motivation and Contexts for Weeding

Weeding library materials is often presented as an undesirable but necessary task in collection management.[1] Librarians face conflicts as they calculate the cumulative expense of years of collecting, consider time needed for higher priority activities, worry about removing materials that might be needed in the future, and fear deselection mistakes or faculty disapproval.[2] Stress and aversion associated with making withdrawal decisions have been documented not only in libraries but across other collection-based professions. For example, Greene suggests that archivists may be wary of reappraisal and deaccessioning work because of assumptions that a collection focus cannot be appropriately reevaluated in new context, materials contained within archives are permanent, and people will be upset if things are removed or, more severely, material removal will destroy an archive's reputation.[3] Similarly, in a thesis, Lapos describes "deaccessioning paralysis" for professionals in small museums who may face the inability to find new homes for unneeded collection items, ethical dilemmas, legal restrictions, the daunting need for collection plans, and shame in deaccessioning parts of their collections.[4]

However, a variety of pressures and strategic initiatives prompt librarians to examine their collections and pursue projects to reduce the physical space occupied by information content. As such, there are numerous reports on the motivations and strategies for weeding library collections. Considering recent reports from academic and research libraries, they cite efforts to repurpose space for other use, reduce items to move in preparation for renovations, and reduce general overcrowding due to existing collection policy.[5] These goals are consistent with library and user benefits noted in Ward's book *Rightsizing the Academic Library Collection*. She notes that some libraries, particularly those at research universities, often avoid fully removing access to materials by instead shifting access to a shared print collection or electronic copies of materials.[6]

Considering medical and health information collections more specifically, reports tend to focus on collections within medical libraries, rather than these materials within the context of a general collection. As an exception, Leslie and Martinez describe their process for assessing and weeding an AIDS/HIV collection using a timeline approach to maintain both sources that are current and those that provide historic context.[7] Additionally, Flaherty and Kaplan reviewed consumer health content in North Carolina public libraries and found these materials to often be outdated.[8] It is worth noting that Levin-Clark and Jobe's analysis of book use across fourteen academic libraries place the LC call number R (Medicine) among the most heavily used part of the surveyed collections, suggesting that this is a specialized collection area where libraries might want to consider more focus.[9]

Planning and Collaboration

Library weeding projects can be challenging since they impact a large and diverse stakeholder group, including staff from various library departments and groups external to the library. For these reasons, planning and communication are often cited as essential to project success. Czechowski et al. found weekly meetings and making minutes available to all in the library "invaluable," and Dubicki's suggestions included scheduling meetings with all involved staff, seeking faculty input, and establishing a clear project plan.[10]

These projects can be stressful and seen as a departure from normal workflow, thus it is important to provide motivation and support for coping with change. Jarvis et al. looked beyond standard staff meetings to introduce creative ways to provide support, such as a fun project name and the creation of a project video in which project participants could star.[11] That project and one described by Soma and Sjoberg encouraged librarians to work in supportive teams.[12]

Data and Decision-Making

A key component to any weeding project is identifying which materials to withdraw. Material age and lack of recent circulation are often suggested as fair and objective means to inform these decisions, particularly in disciplines that rely heavily on recent materials, but these factors may be less meaningful in disciplines that rely on older, low-use material.[13] A 2013 SPEC Kit on print retention in Association of Research Libraries suggested duplication as the most likely factor for deaccession among surveyed libraries.[14] Libraries may also consider factors such as local or historical interest, availability of materials from other libraries, inclusion on core title lists, notability of authors, curricular needs or program alignment, value, and faculty input in refining these criteria.[15] To more directly consider usage, evaluation of citation data as an alternative has been proposed, though the availability of citation data may limit this approach's scalability.[16] Data-driven deselection projects have been

supported through list-based approaches.[17] List-based processes can also be supported by the Sustainable Collection Service tool described by Lugg and Fischer, which provides deselection data parallel to those used in approval plans for material selection.[18] Several libraries have used this tool to conduct data-driven deselection.[19]

While the literature emphasizes data-driven approaches to deselection, human-mediated decision-making relies upon values and emotions. In 1990, Kovacs emphasized a gap in the literature created by a focus on cognitive approaches to decision-making in collection development and noted that there is "more to the decision-making process than collecting data and evaluating that data in terms of a specific framework."[20] In a more recent paper, Quinn argues that librarians should consider how factors such as mood and interest impact their memory, judgment, and collection decision-making.[21] Framing is one way to lower barriers to making collection decisions, where the desired decision is presented in a way that reduces cognitive load, and librarians must justify an action against the default. Often librarians feel they must justify a reason to weed each item, but using data to present librarians with lists of weeding candidates reverses this decision-making frame in that they now need to justify why not to weed. This was illustrated in Way and Garrison's work, where a data-driven list of items to withdraw gave librarians confidence to make final deselection decisions.[22]

Background

The University of New Mexico (UNM) is classified as a Carnegie Research University with Highest Research Activity (R1) as well as a federally designated Hispanic-Serving Institution. UNM serves approximately twenty-six thousand undergraduate, graduate, and professional students through more than 215 degree and certificate programs. The UNM central campus libraries serve the campus community through four libraries, collectively named the University Libraries (UL). The UL includes Zimmerman Library, the largest and oldest campus library, which supports humanities, education, and social sciences, and houses the UL's Center for Southwest Research and Special Collections (CSWR); Centennial Science & Engineering Library, which supports science, technology, math, and engineering; the Fine Arts & Design Library, which supports the visual and performing arts plus architecture; and Parish Memorial Library, which supports business and economics. Additionally, UNM is home to two separately administrated special libraries, the School of Law Library and Health Sciences Library & Informatics Center (HSLIC), supporting UNM School of Medicine and other biomedical programs, which are located on the adjacent north campus.

Partnerships with allied campus programs, the desire to enhance and modernize collaborative spaces for students and other users, and growing physical collections have driven space issues to the forefront for the UL. Centennial Library became the home for a large computer-based classroom for introductory math classes in 2012; Zimmerman Library provides extensive space for the campus peer tutoring services on its third floor and has recently redesigned its first floor as a collaborative Learning Commons space. A 2014 analysis of UL collections space by two librarians provided data on our current collections space allocation and raised concerns regarding future space needs.[23] Space constraints in the libraries are significant, particularly for Zimmerman Library, with its ever-growing general and special collections, limited existing storage space, and no existing offsite storage. Project PiRate is one of many recent UL efforts designed to strategically address collection space issues and management throughout our libraries.[24]

At the beginning of Project PiRate, materials in the project's scope numbered more than 20,000 items and occupied 577 shelves across the four libraries. The collection supports students and faculty in a variety of nonclinical programs including sociology, history, education, public policy, and general sciences. At the time of Project PiRate's proposal, approximately 85 percent of R call number items were located in Zimmerman Library, 15 percent in Centennial Library, and less than 1 percent in the Fine Arts & Design Library and Parish Memorial Library. The planning team targeted a 45 to 60 percent reduction in the overall size of this collection based on circulation data and anticipated space availability in Centennial, where the remaining collection would be relocated at the end of the project. It was an aggressive approach, justified by two factors: HSLIC has the responsibility to support clinical disciplines in addition to maintaining a special collection dedicated to history of medicine; and materials in clinical subject areas become obsolete and potentially dangerous for practical applications. This project gave the UL an opportunity to leverage significant space generated by a previous JSTOR journal withdrawal project in Centennial Library and to address issues of overcrowding in Zimmerman Library.

Method

Participants and their Roles

Project PiRate was complicated and required clear communication between multiple library stakeholders, the acquisition of complex collection data, flexibility in application of weeding parameters, and respect for all participants' time and workload constraints. A small management team was formed in September 2016 to coordinate the project's

multiple facets. This team consisted of the Centennial Library Operations Manager (Access Services), the Director of Collections (Public Services, with responsibilities bridging Technical Services), and two science subject librarians (Public Services). These team members served as logistical planners and the points of connection and coordination for all stakeholders who would come to be involved through the production of collection data, inventory, deselection decisions, record deaccession activities, and physical removal and relocation of materials. While not a member of the core team, the project's workflow and management was also informed and vetted by the Director of Technical Services. As with any weeding project, Project PiRate required close collaboration and coordination among many of the UL's departments. Departments identified as critical to the full project's progression and success included Access Services (seven of thirteen staff and twenty-four of seventy student employees at Zimmerman and Centennial Libraries), subject selectors (thirteen of twenty selectors), Technical Services (six of fifteen department members), and Facilities Services (three of three staff members).

Access Services staff and student employees in Zimmerman and Centennial Libraries were critical to logistical aspects of collection assessment, review, and eventual physical consolidation and relocation of retained R call number items. The department's focus on library patron needs and physical usability of the R call number collection continually helped to reinforce project objectives and keep practical concerns in mind throughout the process. Access Services student employees inventoried the R book collection in Zimmerman Library prior to the project's start to provide an accurate understanding of the bulk of physical holdings and any discrepancies between the physical collection and catalog data; they also worked to shift materials in Centennial Library to create space for the R collection items that would be transferred from Zimmerman Library. During the selector review process, Access Services staff and student employees served as a bridge between subject librarians and Technical Services staff, relocating materials throughout the decision process. Access Services staff monitored the deselection process, providing status updates and communicating progress towards the deselection goal.

The process of identifying R collection items for deselection fell to subject selector librarians who, in addition to instruction, outreach, and specialized reference, are responsible for collection development and management in defined subject areas. Responsibility for review also included the Curator of Latin American Collections, responsible for Latin American subject materials in the general and special collections (including Spanish and Portuguese language items), and the Director of the Center for Southwest Research and Special Collections, both of whom were essential in identifying unique items to retain and often transfer to the UL's special collections. The Project PiRate management team communicated and coordinated with the HSLIC Resource Management Librarian to offer deselected materials for transfer. Due to significant space restrictions for physical collections in HSLIC and the quickly evolving nature of clinical health sciences information, the primary interest in selecting content for HSLIC's medicine collection was historical, particularly any reports or documents from New Mexico–specific programs plus any noteworthy broadly significant historical works.

Six members of the Technical Services Department were responsible for the deaccession of weeded items from the UL's Integrated Library System (ILS), resolving item-level cataloging issues for retained items, and changing retained item location information in the ILS following the physical relocation of materials. The Facilities Services Department worked closely with Technical Services to successfully move all deaccessioned items through the disposition process. Deaccessioned materials were recycled and repurposed through the commercial bookseller Better World Books (BWB); through their Discards & Donations program, the library earns a percentage of net sales, and BWB donates a book for each one sold.

Timeline

The project timeframe weighed heavily on all participants. Originally, Project PiRate was proposed to be completed within twelve to eighteen months. However, it abruptly transitioned to a shorter ten-month window to take advantage of the availability of limited funds for external movers, which would be exhausted at the end of the 2016–2017 fiscal year. The project team aimed for strict adherence to the proposed condensed timeline with deselection decisions to be completed by May 2017, allowing the physical move of the remaining materials to take place by early June (see figure 1).

The time demands of early project planning, preparation, and piloting—including resolving unanticipated complications—condensed the timeline, providing a limited four months for the active deselection and deaccession processes.

This accelerated timeline was taxing on project participants and required flexibility by all departments involved to incorporate required project duties into already demanding workloads. Administrative support for the project helped to free up time, including excusing subject selectors from reference desk shifts for the duration of the deselection period, thus providing standard windows of time that could be used for concentrated project work. Access Services regularly devotes a certain percentage of staff and student time to projects, so the work required for this project took priority for its duration. To accommodate the influx of work in Technical Services, staff developed a workflow to allow

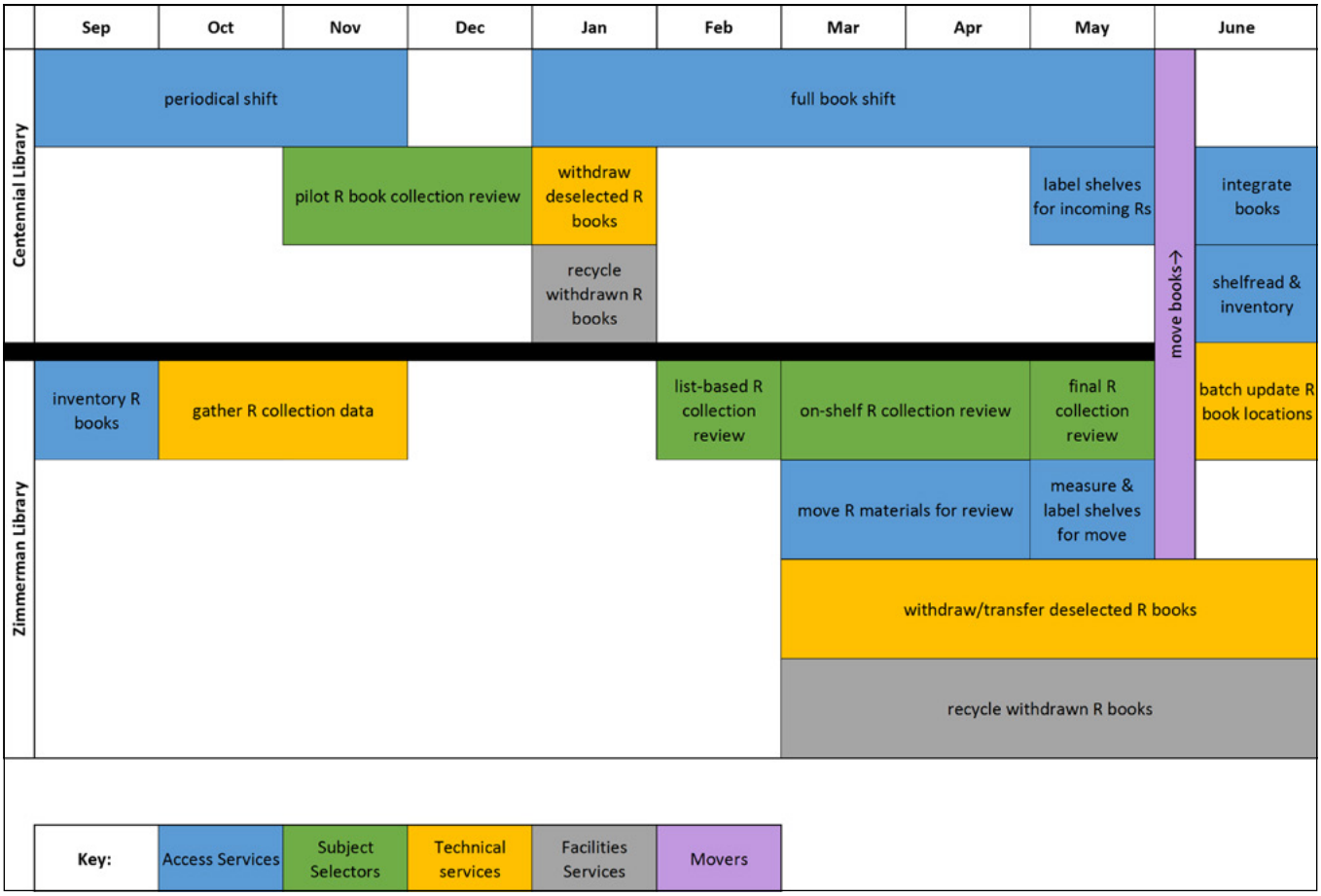

Figure 1. Overall Project Timeline

small batches of withdrawals to be incorporated into their workload. The finite project with its precise end date also helped in that it was broadly accepted that the demands of Project PiRate were strenuous but temporary.

Data and Decision-Making

In approaching the initial design of the deselection plan, the project team aimed to combine high-level collection data, subject selector expertise, and a network of social support to enable informed and effective decision-making within a limited timeframe.

Gathering Data

In consideration of the weeding literature, the project team first approached the R collection review and deselection process with a data-focused, list-based methodology. Circulation data and collection metadata were obtained to provide a clear and detailed picture of the collection, after which the team began the process of developing criteria and considerations for weeding decisions and a project timeline. Beginning in late September 2016, Access Services and Technical Services staff initiated a download of all R call number collection data, including circulation history, from UNM's integrated library system, OCLC's relatively new WorldShare Management Services (WMS) platform. Collection and circulation data essential for a data-driven review were identified by the project team as publication date, total circulation, circulation year to date, date of last circulation, OCLC shared holding numbers, language, and the presence of terms associated with New Mexico in the title, author, or publisher fields.

Though straightforward in concept, the data extraction process proved to be significantly more difficult in practice. Due to ILS limitations, collection data and circulation data required separate downloads and the two datasets were then merged. As an added complication, it was not possible to download just the subset of R call number collection data, but rather data for the entire collection had to be downloaded in full. This process resulted in substantial

delays due to large data file size and the requirement of significant technical support from OCLC. Upon review of data, an issue related to data duplication became apparent, in which a portion of holdings, including barcode number, were duplicated; this apparently resulted partly through an output error for multi-copy holdings but also occasionally occurred for single-copy holdings without any obvious cause. Following initial review of data, it became apparent that there was a significant proportion of items cataloged that were not present in the physical R collection inventory data. Some of these discrepancies were attributed to known issues that occurred following previous ILS data migrations. Due to these unanticipated data complications, associated delays resulted in a shift and compression of the timeline for the next stages of the project.

With data in hand, the project team next identified specific targets that could be employed as high-level defaults to guide selectors' decisions. The literature points to publication date and circulation metadata as major factors to consider, but exact recommendations as to material age cutoffs from a conservative twenty-year to more aggressive four-year consideration period; use of circulation data varies by data available in each institution's ILS.[25] For Project PiRate, the project team identified 2000 as a publication date cutoff, meaning that weeding efforts would focus most heavily on all items published more than fifteen years ago. This date was intended to provide a clear dividing line to subject selectors that easily separates older content most likely to be scientifically invalid but is not so ambitious as to place undue strain on the social science and humanities content. Since the data showed that the proportion of materials in the R collection published prior to 2000 was high (76 percent), focusing on this pre-2000 content provided ample opportunity to meet physical downsizing goals that would make the collection move feasible. Regarding circulation, the project team selected 2006 as a cutoff date, meaning that selectors would focus deselection efforts on items that had not circulated in the last ten years, which included 56 percent of the collection. Considering these two parameters together, the proportion of items that fell under both categories was 44 percent, providing an ideal baseline for which to aim in required downsizing via deselection; these were thus emphasized as the cutoff parameters throughout the project.

Addressing an Interdisciplinary Domain

Historically, collection management and selection responsibilities for R call number items were highly distributed in the UL, due in large part to the interdisciplinary nature of medical subject matter associated with many wide-ranging campus programs and shifts in librarian responsibilities. The UL's R collection is not defined by a formal collection policy or scope, but it is broadly understood that it aims to provide strong support for main campus programs and subjects with any peripheral association with medicine, including public health, speech and hearing science, exercise science, nutrition, psychology, biology, Latin American studies, New Mexico and broader Southwest area studies, and Native American studies. Additionally, other subject matter covered by the R collection that relates to components of main campus programs includes environmental health, medical physics, biomedical engineering, history of medicine, additional area and ethnic studies programs, medical anthropology, architecture and design of medical facilities, art and music therapy, bioethics, and women's studies. Together, these subjects intersect on the disciplinary domains of nearly every UNM subject librarian, plus the Curator of Latin American Collections and CSWR Director.

To assign subsets of the R call number range to specific subject selectors, the project team looked to Gale's SUPERLCCS 13 schedule, UNM's last purchased print schedule, to fill in gaps from the freely available LC Classification Outline, rather than the online alternative, Classification Web.[26] The team roughly mapped selector subject areas of expertise to corresponding content in the schedule, with occasional interdisciplinary overlap where multiple selectors were assigned to a single section. These assignments were transferred to the full R collection data set, mapping subject selectors to individual items by call number subclass. Three caveats overrode these call number assignments: all Spanish and Portuguese items were assigned solely for review to the library's Latin American Collections Curator; all items published prior to 1900 were assigned for review to the CSWR Director; and items with the word "Mexico" in the title, author, or publisher data field—thus designated with a level of local or regional relevance—were assigned for review by both the CSWR Director and HSLIC librarian. Individual project assignments varied widely, ranging from approximately one hundred items to nine thousand items, averaging around eighteen hundred.

Throughout the review stage, decision-making was delegated to subject selectors, who developed subject-specific considerations beyond key data parameters during their individual deselection processes. Specific information used by subject selectors in their analyses included additional metadata, such as OCLC holding numbers; content, particularly table of contents information; and physical condition. Additionally, subject selectors were encouraged to frame their decisions within the context of their disciplines, considering an item's historical significance, relevance to campus programs, "outdated" content that may be harmful if applied in practice, prominence of specific works and/or authors, and citation history, as evident through citation network data in Web of Science or Google Scholar.

Support for Decision-Making

Since the materials in the call number R were orphaned for many years, Project PiRate faced the issue of low levels of individual selector familiarity with the existing R collection. Thus in designing a deselection plan, the project team prioritized mechanisms for social support to aid in effective decision-making. The majority of UL subject selectors began their work at UNM within five years of the project's start date, including many on the more recent end of that timespan. Individuals' relative newness, compounded by the status of the R collection as peripheral to the scope of all subject selector focus areas, resulted in widespread unfamiliarity with the collection's materials, and the context of collection development, related subject-matter, and associated campus programs. This unfamiliarity led to initial anxiety, both within and beyond the project team, about effective individual decision-making abilities in the deselection process. Partly due to these anxieties, the project team aimed to make the design and execution of the deselection process as inclusive, communicative, and collaborative as possible, with the assumption that these combined qualities would mitigate tendencies for emotional decision-making and bring about the quickest route to thoughtful, confident, and effective weeding.

Since UNM has a separate medical library on the adjacent Health Sciences campus that serves the primary constituents of medical subject materials, the main campus libraries' R collection technically lacked a primary constituency—thus its orphaned status. This meant that gathering faculty input was not viable. Instead, the project team conducted an initial environmental scan to develop a high-level collection framework identifying peripheral main campus groups, programs, and courses that may be impacted by project collection decisions. This analysis included Interlibrary Loan (ILL) data, the existing approval plan profile, UNM's course catalog, UNM's website, and selector knowledge about tangentially affiliated departments. With the resulting data, the team took a nuanced, individual selector-driven approach to communicating project goals, details, and decisions with campus faculty or other identified stakeholders.

Internally, the project team made it a priority to establish a thorough, consistent, and open method of communication to individuals involved in the project, taking the form of early informational meetings, regular emails, and working meetings to encourage progress and exchange feedback. The team created a shared, cloud-based folder that project participants could reference to easily find key project communications and data. An emphasis on two-way communication allowed the project team to accommodate different workflows for material deselection and adjust expectations to existing workloads. Together, these efforts to establish and maintain strong communication within and across departments played a significant role in fostering a culture of collaboration, responsiveness, and understanding throughout the project.

Deselection Procedure Development and Implementation

Piloting a List-Based Review Process

In the interest of testing the originally proposed deselection data parameters prior to a broader rollout, the project team's two subject selector members—the life sciences and physical sciences librarians—conducted an initial "pilot" weed of the R call number items housed at Centennial, roughly 15 percent of the total R call number collection; at this stage, the goal was to reduce the Centennial R collection by approximately 25 percent. The materials already housed in Centennial trended heavily towards more "hard science" content, such as biological engineering, nuclear medicine, environmental health, pharmacology, and internal medicine.

Rather than work exclusively from the data, these selectors worked together in the Centennial stacks, where both the physical items and supporting collection data helped inform effective deselection decisions. This process was used to test the feasibility of using the cutoff parameters determined by examination of the data and level of collection size reduction needed. Through this scaled-down collaborative process, the librarians identified items for deselection, indicated through a physical flag placed within each item and on the accompanying data sheet. The total number marked for deselection was slightly below the target but within reason for overall project success. Shortly thereafter, the subject selectors based in FADL and PML conducted a similar deselection process of their extant R materials, making up less than 1 percent of the total R collection; all retained items were sent directly to Centennial.

Following the success of this initial pilot portion, the project team felt confident to move forward with the deselection of the Zimmerman Library R collection, bringing all relevant subject selectors into the process. Though the Centennial pilot incorporated a dual list-based and physical collection review, the project team decided to roll out the Zimmerman Library phase of collection review through data-driven, list-based deselection to simplify the process to enable expedited decision-making, an approach heavily supported in library weeding literature.

List-Based Review Roll-Out

In February 2017, after the remaining R collection data was fully assigned to subject selectors, the project team

created and distributed personal Excel data files to each selector. The project team also created a number of filtered data subsets within each subject selector file, which isolated assigned collection data corresponding to certain parameters. Based on prior data analysis, the project team advised that selectors focus the most robust deselection efforts on the filtered data subset of older items that had not circulated in the last ten years, particularly those items that lacked recorded circulation. It was suggested that selectors also consider OCLC holding numbers, but this was left to the individual's discretion.

Selectors were asked to begin this data-driven deselection process as soon as possible to gain a sense of logistics and feasibility, which would be discussed during the early project feedback meetings. Prior to the first meeting, selectors began to communicate anxieties and doubt towards the project timeline's achievability. Rather than make quick data-reliant deselection judgements, selectors shared that they frequently looked up individual item records to gather additional information to inform decisions. Many individuals expressed difficulty working within the confines of a dataset without easy access to physical materials and the broader context of the full collection. However, because selector subject areas within the R call number range were often highly dispersed, viewing the physical collection with an individual's list in hand was also perceived as a highly unwieldy process.

Flipping the Review Process and Designing a Hands-On Approach

In response to broadly expressed anxieties, project meeting conversations quickly shifted to alterations or alternatives to the proposed list-based weeding process that would mitigate the significant intellectual and emotional energy required to thoughtfully and effectively weed the R collection by half within the originally proposed timeframe. A suggestion was to flip the decision process from "what to discard" to "what to keep" and add the element of physical review back into the process, which quickly gained favor among subject selectors as an instinctively more manageable and less stressful decision process. The newly proposed review process suggested that the project managers find a way to physically identify or isolate the R call number materials most likely to be weeded, including those materials conforming to the key parameters of published prior to 2000 with no circulation since 2006. Subject selectors could physically review the materials with corresponding data, depending on personal preference, and, from that group, choose to keep only those items with discernable value to the collection and its current and future users. This value would vary by subject selector and call number, allowing for variations in collection preferences between distinctly different disciplines, such as history of medicine, where age and circulation does not necessarily equate value, versus genetics, where retaining older, low-use items is more likely to equate with misinformation.

Selectors were encouraged to conduct reviews in groups or pairs to provide further opportunities for thoughtful decision-making through discussion and the sharing of different perspectives and priorities, though some chose to work independently. Because no selector had prior extensive knowledge of the R collection or felt ownership over it, this more cooperative, hands-on approach mitigated associated anxieties to make the process more collaborative than dependent on the individual. As an exception, the Latin American Collections Curator requested that Spanish and Portuguese materials be reviewed in one group within the original Zimmerman Library R collection space to consolidate the process within a shorter timeframe and to allow for a single, more holistic analysis of Spanish and Portuguese language materials in medicine.

On-Shelf Review Trial

The newly proposed process required a significantly different workflow to physically identify and/or isolate a dispersed subset of materials, as illustrated in figure 2.

The project team, selectors, and other key library stakeholders agreed that flagging or marking items as review candidates in situ within the full R collection could be problematic due to high user activity in this area of the library on Zimmerman's third floor, which could disrupt the process. Alternatively, it was suggested that materials could be physically pulled and relocated for review to an area with lower user activity in the Zimmerman Library basement. This physical relocation would require a significant time and labor commitment from the Access Services Department staff and student employees but would otherwise drastically transform subject selectors' ability to make quick and effective collection decisions. Despite the added demands on Access Services, it was agreed that the revised review process would more likely result in a successfully executed project within the proposed project timeframe, at that point down to just three months, and thus be more beneficial for the library in the long run.

With broad buy-in, the project management team created process documentation, an optimistic schedule, and designed a trial round of physical review to determine if this new approach would work both in practice and concept. In preparation for the physical review, the project team created a pull list for all RM-RZ call number items that met the defined parameters. A copy of this list was sent to the HSLIC Resource Management Librarian for review. Student employees in Access Services used the lists to pull items from Zimmerman Library's third floor R range and physically relocated them to the designated

deselection review staging area, adjacent to the Technical Services work area. Item location information was not edited in the ILS, but prominent signage was placed on both the third floor R shelving and basement review staging areas directing users to consult the library circulation desk for assistance with R call number items. The general RM-RZ pulled items were shelved by call number, and a separate shelf beside these materials was designated for all RM-RZ items identified specifically for CSWR review.

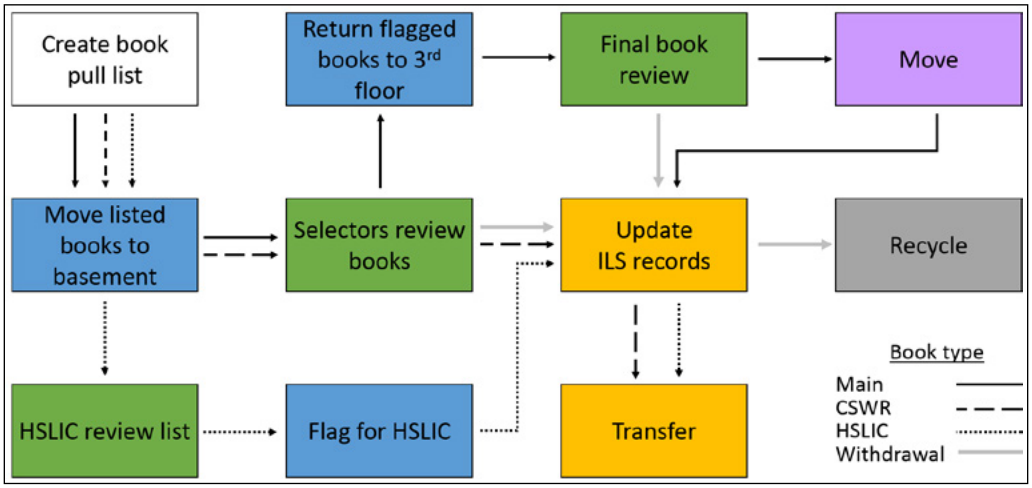

Figure 2. Final Project Workflow

The project team designed and printed a visually distinct flag for subject selectors to reflect decisions to keep material. A separate simplified flag was used to mark any items that the HSLIC Resource Management Librarian requested for transfer, making this process distinct from other internal collection decisions. Regardless of the decision communicated, all flags required selectors sign and date them, and this information was intended to enable communication should questions arise in the retention or deaccession processes. The default status of all items during the review was "deaccession," but physical flags placed inside an item and shelving locations were used to communicate the following decisions:

- Keep: retain item in the main R collection
- CSWR Review: suggest review by the CSWR Director—and if necessary, history selector—for local, regional, or broader historical relevance
- Other: a rarely used alternative that accommodated nonstandard requests, such as to catalog an electronic surrogate or alter a call number

The trial RM-RZ deselection review period was scheduled for one week, and the project management team designated the first day of this review, the Monday of spring break, as a collaborative subject-selector work day during which the majority of selectors made time to test the new review method and work collaboratively through decision workflows. In the interest of conducting a prompt litmus test, the project management team scheduled an all-selector meeting the following day for individuals to provide initial feedback or send comments via email. Since the feedback was overwhelmingly positive, the project management team quickly developed a detailed project timeline and solidified workflow to bring the project to its completion by the end of May, in approximately ten weeks.

Deploying the Full Review Process

The remainder of the R call number collection was divided into six sections of comparable size following the LC call number breakdown. Each section review was scheduled for approximately one week, with the objective that review of all Zimmerman Library's R call number items within the standard cutoffs would be completed by the end of April 2017. Two subject selector "section leads" were assigned during each round of review, and these assignments were based on the significance of the individuals' liaison departmental subject areas to the content being reviewed during that period. Section leads were responsible for conducting a thorough collection review to identify items that should be kept or transferred within the libraries. All other subject selectors were encouraged to review each week, with the understanding that any nonlead individual was welcome to skip content identified as irrelevant to their subject domain. All selectors agreed that any individual was welcome to review and identify content to "Keep"—aside from special collections and Spanish and Portuguese language items. A sign-off sheet was posted in the basement R deselection review area on which selectors were asked to indicate when they finished a round of review to help communicate progress and participation among project constituents. At the end of each review period, any items marked and shelved together under the "Keep" heading were reshelved within the full R collection on Zimmerman's third floor, while all other items were routed through Technical Services for transfer or deaccession.

The project management team planned one final full-collection review period in May 2017 to give subject selectors the opportunity to view the remaining R call number collection in full and identify areas that would benefit from additional deselection. This final May review period was when full collection review of Spanish and Portuguese language items (more than two thousand) was conducted by the Latin American Collections Curator. The full collection review period was open for approximately four weeks, but a high proportion of deselection was concentrated during two designated selector work days scheduled during the intersession following spring finals week. The project team emphasized to subject selectors that content with high potential for deselection included multi-copy items, outdated older editions, items out of scope for the main campus collection, and items that may have recent or high usage but were not recommended representative resources on a given topic due to the significant advancement of the subject. In a reversal from the first round of review, in this final full collection component, new project flags indicated when an item should be deaccessioned as this represented a minority of items.

Material Deaccession and Records Processing

Materials identified for withdrawal, left on staging area shelves in the Zimmerman Library basement or flagged for withdrawal on the third floor, were moved on carts to the Technical Services Department and distributed among three cataloging staff members for processing. The catalogers deleted the item record and holdings for the books in OCLC using the WMS acquisitions module, and library ownership markings were removed or covered. As the items were withdrawn, materials were packed in boxes by a single staff member. The boxes were collected and placed on pallets for shipment to BWB.

As noted in the "Other" category of the selector slips, a limited number of items received electronic holdings information, replacement spine labels, or barcodes. No hard deadlines were established for processing withdrawn materials, and this work was incorporated into Technical Services staff members' work as time was available. With efficient workflows, the Technical Services staff easily kept pace with selectors. After materials were moved, Technical Services staff worked with OCLC to perform a batch shelving location change in corresponding catalog records.

Stack Preparation and Collection Move

Transferring three hundred shelves of materials from one library to another, even on the same campus, is not trivial. Stack preparation for the eventual move began early in the overall timeline, during the data gathering phase. Student employees in Centennial Library spent about five months shifting significant portions of the collections to free up the necessary space. The R books in Centennial Library were also moved to a temporary location at the end of the semester to provide completely empty shelves at the time of the collection transfer.

As the review process concluded, the remaining items in Zimmerman Library were consolidated and careful measurements were taken to confirm adequate shelf space was available in Centennial Library. To facilitate the moving company's work, the shelves to be emptied in Zimmerman Library were labeled and corresponding labels were applied to the empty shelves in Centennial Library. The first item on each shelf was flagged with the shelf number to clearly indicate to the moving crew when to begin filling the next empty shelf. The move took place over a two-day period in early June and was completed without incident.

Several shelf maintenance tasks remained to be done after the move. Student employees integrated the Centennial Library holdings into the newly transported materials to complete the collection, after which they conducted limited spot shifting and shelf-reading. The final step was to inventory the complete collection, ensuring that the project managers knew exactly what had moved and had an accurate representation of remaining materials in the catalog.

Project Closeout

Because Project PiRate grew to encompass the work of a high proportion of employees across the UL, the project management team thought it best to close out a successful project with a celebration in thanks. Taking advantage of the project nickname, Project PiRate, the team organized a pirate-themed party to celebrate the time and hard work that was collectively invested to complete the project that enabled the library to meet its ambitious project deadline. Participants were also asked to take a brief survey to share their overall impressions of the project, input on what worked well or was difficult, and to provide suggestions for future library collection projects.

Results and Discussion

At the completion of Project PiRate, the UL effectively reduced the size of the interdisciplinary R book collection across all main campus libraries by approximately 45 percent (from an original 577 shelves to 310), completing all core project work within the established ten-month timeline. Through a collaborative, responsive, and evolving workflow, the project team coordinated the successful deselection, consolidation, and relocation of all R book

collection items into a single branch library. This process resolved location-based access issues and resulted in significant clean up of ILS bibliographic records for the R collection. Despite starting with substantial discrepancies between records and known physical items, Project PiRate enabled Technical Services to clean up local holding records, solidify an understanding of exactly which items remained in the collection post-project, and set the stage for follow-up work to establish a standard library-wide process for resolving issues with missing items.

In tackling Project PiRate, the project team established a culture for cross-disciplinary and cross-departmental collaboration through an emphasis on maximum participation, communication, and responsiveness to individual perspectives and needs. This approach provided transparency across all library units involved and helped to ameliorate the anxiety rooted in widespread unfamiliarity with the R book collection. Through this approach, the team designed a collaborative workflow that was understood and supported across the libraries. The collaborative approach to deselection during the physical review of items most likely to be weeded provided natural opportunities for discussion among selectors, effectively reducing emotional deselection decision-making through built-in mechanisms for social support. Selectors essentially gave colleagues decision confirmation or permission to weed individual items, imbuing deselection decisions with more confidence through mutual support. Through this collective, communicative process, selectors learned from others' evaluative practices and became comfortable with decisions to keep or weed items. The move from reliance on only data for final decision-making led to nonstandard approaches to deselection, which can be viewed both positively and negatively. Though this approach gave selectors more control over the process, allowing for dynamic choices informed by widely varying collection management practices in sub-disciplines from the sciences to humanities, it also enabled factors such as different personal preferences and even temporary mood and energy levels to influence decisions in an inconsistent way. Future projects would benefit from both a more generous timeline and selector-wide training regarding basic evaluative tactics to establish an element of standardization during reviews.

Through the project's design, both available data and multidisciplinary subject expertise were employed to inform user-focused decision-making to produce a highly accessible and relevant R book collection. Beyond straightforward issues with data reliability (e.g. duplication, missing physical items, etc.), the project team found that the decision-informing abilities of collection data are limited, despite the popularity of data-driven deselection practices. Within the UL's interdisciplinary R book collection, standard data parameters were broadly acknowledged not to address the differences in collection management practices within widely varying sub-disciplines, such as history of medicine and health policy. In tangent with basic data parameters, the nuances of individual disciplinary considerations, specific campus programs, and subject expertise were broadly leveraged, enabling inclusive deselection practices that encompassed nearly every UL subject librarian. Additionally, this approach facilitated the use of "collective wisdom" to reinforce confidence in decision-making in a situation where all selectors were unfamiliar with the collection and no one felt ownership of it. The process of collection review enabled subject selectors to gather information that will inform an R collection scope moving forward, with the goal of revitalizing active management and making future acquisitions more targeted to specific information needs on campus; this included a passive survey of all related campus programs, consideration of R ILL borrowing data, and a critical analysis of the UL's existing approval plan.

The project's ambitious timeline, further motivated by financial expediency, required the development and facilitation of efficient collection management workflows to ensure project success. The review workflow evolved through the course of the project, moving from data-driven, list-based deselection to data-informed physical review of older and lesser-used material, focusing on items that should be kept. This adjustment to workflow created unanticipated demands on Access Services, which was responsible for the physical moving of items to be reviewed. However, the new workflow simplified the work of Technical Services staff, who were able to deaccession full shelves of materials rather than locate individual items by list or flag; the close proximity of the collection review area to the Technical Services Department workspace, both located in the Zimmerman Library basement, was a further advantage to deaccessioning workflow and productivity. The overall benefits of a completed project outweighed any strain, and the additional demand on Access Services through time and physical labor was accommodated with the significant help of student employees. Despite full UL support of the final project workflow, several complications arose during the collection review stage. The Access Services department experienced difficulty reconciling collection pull lists with items on the physical shelves due to known issues with collection data; however, it can be surmised that the same problem would have been encountered during a purely list-based deselection process. During the selectors' process of physical collection review, occasional disarray made a systematic review of items difficult. The disarray was partially attributed to complications that arose during pulling and moving items to the review area, but it was also evident that disorder of items occurred during the review process, with multiple selectors examining material and not always reshelving precisely by call number. The workflow could be

streamlined for future projects by fully resolving data issues when feasible and developing standardized guidelines for management of items during the physical review.

The informal post-project feedback survey circulated among key project participants lent additional insights to inform future collections project planning. Overall, general feedback about the project was positive, reaffirming its overall success particularly regarding outcome, responsiveness to participant needs, and emphasis on inclusivity and collaboration. Perspectives about areas for project and workflow improvement varied significantly between library departments, such as in the case of project timeline. On opposite ends of the spectrum, different project participants communicated that the timeline was both too fast and too slow, which in both cases was seen as a strain on workload. This disparity highlights the need to establish a middle ground in cross-departmental projects to accommodate diverse preferences and the difficulty in finding a single ideal workflow. Another aspect of note frequently identified for improvement was thorough communication with all library stakeholders early on in project planning. When the R project was initiated, it was generally assumed that the two science librarians would do the majority of the deselection work. However, when the initial collection analysis revealed the extensive interdisciplinary nature of the collections, many project participants were caught off-guard by Project PiRate and adjusted their workload significantly for a short period of time. The project and participants would have benefited from early meetings and broad planning discussions scheduled significantly in advance of the beginning of the collection review period. Making small adjustments to early communication planning and reconsidering project timelines from all perspectives in the future has the potential to significantly improve the efficiency of cross-departmental collaboration, early workflow design, and overall project morale.

Conclusion

Project PiRate resulted in an institutional workflow to review, consolidate, and move an interdisciplinary and previously orphaned book collection. The project's inclusive management approach supported cross-departmental and multi-library collaboration. The workflow leveraged broad subject selector expertise, and a flipped data-informed physical review process facilitated effective deselection based on an infrastructure of social support, reducing emotional decision-making. This collaboration-centered approach to the project built broad support and helped the library successfully achieve project goals within an aggressive timeframe. Though several areas can be optimized, particularly demanding workload considerations and advanced communications, Project PiRate is well poised to serve as a model for future collection management projects, especially in the context of interdisciplinary subject areas.

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