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Weeding Ebooks at an Academic Library

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Abstract

Libraries can improve their ebook collections by weeding them to remove outdated and irrelevant content. This paper reports on an ebook weeding project conducted by the Franklin University Library in Columbus, Ohio. It discusses the library's reasons for weeding its ebooks, how the library weeded its demand driven acquisitions ("DDA") pool, and the challenges the library encountered weeding ebooks. The library ultimately conducted a more limited weeding of its ebook collection than initially planned. This paper explains the reasons for this limited weeding project, the decisions the library made throughout the project and the method used to conduct the ebook weeding project.

Keywords: ebook weeding, collection management, deselection of library materials, academic libraries

Introduction

Weeding a library's book collection is a time consuming, but necessary, task which "libraries must inevitably engage in . . . to keep the collection in good shape for users" (Gregory, 2019, p. 111). Weeding improves the library's collection by removing outdated or irrelevant material, making it easier for the library's users to find what they need. When deciding whether to remove books from the library's collection, librarians review books "to determine whether individual items still merit inclusion" (Nelson et al., 2020, p. 1). According to Evans & Saponaro (2012), weeding can be thought of as "[s]election in reverse" because a library can apply the criteria it initially used to select titles when deciding whether to remove them from the collection (p. 148). The library removes items which do not meet the criteria it has set for including items in the collection or, alternately, removes items which meet the criteria for weeding.

The nature and requirements of print books encourage a library to weed its physical book collection. Libraries do not have infinite room for books, so libraries weed physical collections to remove outdated titles

to create space for new titles. Weeding of a print collection also happens organically as titles are lost, stolen, or become physically unusable.

But what about ebooks? "E-books should be weeded with the same rigor given to other materials" (Johnson, 2018, p. 203). However, the pressures which encourage weeding of physical materials do not apply to ebooks. Although "[t]here are numerous similarities in weeding e-books and print books" (Crosetto, 2012, p. 95), there are also differences. When it comes to weeding, ebooks "are easy to ignore because they do not take up physical space" (Johnson, 2018, p. 203). While concerns about physical shelf space cause libraries to weed ebooks, ebook storage space is not a concern which motivates weeding ebooks (Crosetto, 2012, p. 100). Nor, due to the nature of ebooks, do ebooks get organically weeded when they become lost, stolen, or physically unusable.

While the space concerns that encourage weeding a physical book collection do not apply to ebooks, there are still important reasons for a library to weed ebooks. Like physical books, ebooks can "become outdated . . . and relevance can be compromised" (Moroni, 2012, p. 27). Therefore, as with print weeding, weeding an ebook collection can help a library's users by removing outdated or irrelevant material.

By weeding ebooks, libraries can also help their users find the materials they need. Although an ebook does not take up physical shelf space, "[l]arge quantities of e-books clutter searches with an overabundance of results, many of which are old, outdated or contain wrong information" (Cully, 2015, p. 3). Keeping outdated or irrelevant ebooks in a library's collection "clutter[s] the catalog and search results, making finding the most current items difficult" (Johnson, 2018, p. 203). By removing these titles from its ebook collection, a library can both help its users find the books they need and "improve the quality of the collection by making it easier to find up-to-date materials" (Johnson, 2018, p. 199).

This paper reports on an ebook weeding project conducted by the Franklin University Library. It discusses how the library weeded ebooks in its demand driven acquisition ("DDA") pool and attempted to weed a collection of owned ebooks. Then, the paper explains the problems the library encountered when trying to weed the ebook collection, the decisions it made and the processes it followed to accomplish ebook weeding on a more limited basis than initially planned.

Weeding at Franklin University Library

Franklin University in Columbus, Ohio, provides both in-person and online classes,

primarily to adult students. The Franklin University library supports the university's learning community with a collection consisting of over 17,500 physical books and 350,000 ebooks. At the time of the project described in this paper, the library's staff of six librarians included four librarians who worked as liaison librarians in addition to their other duties.

The library had previously weeded its physical book collection, but had never attempted to weed its ebooks. The library's most recent physical weeding project occurred in 2018. At that time, librarians reviewed a list of books published before 2005 which had zero checkouts in the past ten years. The library's collection development policy indicates that "[m]aterial that is outdated, inaccurate, or damaged beyond reasonable repair will be removed from the collection" (Franklin University Library, 2021). The library staff met and decided to apply the following criteria to determine whether to remove the reviewed books from the library's collection:

- Is it outdated?
- Does it provide misinformation?
- Is it irrelevant to our collection/patrons? (Does it support our current curriculum?)
- Do we have duplicate copies?
- Do we have a newer edition?
- Is it in poor condition?

During this physical weeding project librarians reviewed 906 books, keeping 157 titles and removing 749.

In 2020, the library decided to weed its ebooks. The motivating factors for this ebook weeding project included removing outdated/irrelevant material from the collection and making it easier for library users to find relevant content using the library's catalog.

It immediately became clear that the library faced challenges in weeding ebooks which were not present when weeding physical books. The size of the library's ebook holdings made weeding ebooks difficult. When the library last weeded its physical book collection, it had around 18,000 volumes. By contrast, in 2020 the library provided access to around 350,000 ebooks. Another issue the library encountered was that it does not have the ability to weed all of the ebook titles due to the nature of its collections. In addition to owned titles from ProQuest Ebook Central and EBSCO (which include titles originally purchased from other ebook providers that ProQuest or EBSCO later purchased), the library's ebooks included titles beyond the library's control such as leased titles and owned titles managed by the OhioLINK consortium. Because of these issues, the library had to identify a manageable subset of titles to

conduct any ebook weeding. The library identified two areas of the library's ebook holdings for review: (1) Ebook Central titles in the library's demand driven acquisitions (DDA) pool, administered by GOBI; and (2) a package of 14,735 NetLibrary ebooks which the library acquired in the early 2000s. As with our previous physical book weeding project, the goal was to remove outdated, irrelevant, or inaccurate material. In doing so, the library hoped to make it easier for library users to find useful material when searching ebooks.

Weeding the Demand Driven Acquisitions (DDA) Pool

Demand driven acquisitions (DDA) is an ebook purchasing model where the library does not directly buy titles. Instead, the library identifies ebooks it wants to make available, and its users can access the titles as if the library owns them. The library is not charged for the title and does not own the title, until a triggering event activates purchase. For Ebook Central, which administers the Franklin University Library's DDA program, these triggering events include one user viewing the ebook for over five minutes, or a user copying, printing or downloading material from the ebook (Proquest, 2019). When a triggering event occurs the library automatically purchases the title which then becomes a permanent part of the library's collection.

The Franklin University Library's DDA program, through GOBI Library Solutions, began in 2016. When the DDA program started, a retroactive load added titles which met the library's selection criteria to the DDA pool. Going forward, titles which met the library's selection criteria (which involved a combination of the library's slip plan and a price limit) were automatically added to the pool. Liaison librarians also manually selected titles to add to the DDA pool.

The Dewey categories included in the library's selection plan, which GOBI used both for the initial creation of the pool and subsequent additions to the pool, had changed since 2016. When the library updated the selection plan, GOBI updated the categories for titles added to the DDA pool going forward. However, the change to the selection plan did not apply to titles already in the DDA pool. Once GOBI added a title it stayed in the pool (unless purchased). Because of this, the library decided as an initial step to review the DDA pool to remove titles which it no longer wanted to provide or potentially purchase.

GOBI provided a spreadsheet listing all 13,175 titles in the library's DDA pool. The spreadsheet listed both title information and which of the three methods had added the title to the pool. The library used this spreadsheet to review and determine what titles to remove from

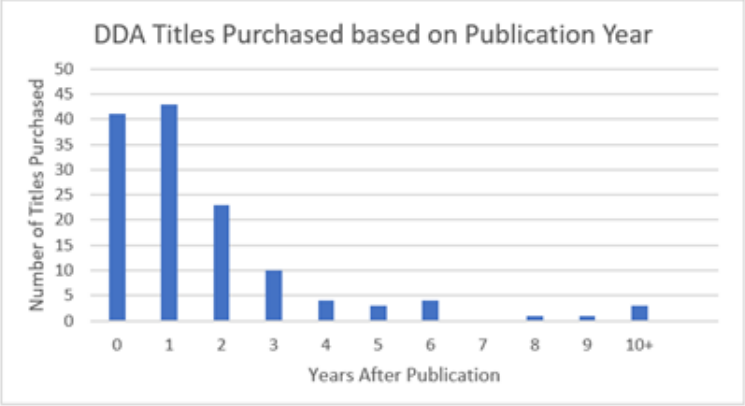
DDA.

When conducing such a review, libraries "need to formulate parameters for weeding DDA-eligible content" (Downey, 2014, p. 11). The library decided to consider two factors in reviewing its DDA titles: subject matter and publication date. The library wanted to ensure that the subject matter of books in the DDA pool still merited inclusion in the library's collection. However, even though older DDA titles "may be targets for periodic weeding" (Downey, 2014, p. 11), the library needed to determine how it wanted publication date to affect whether it kept an ebook in the DDA pool.

The University of Iowa decided to "annually remov[e] titles that have remained unpurchased for five years" from its DDA program based on a review of items purchased from its DDA pool between 2009 and 2014 (Fischer, 2016, p. 118). Although that review found that "users do find older texts useful" (Fischer, 2016, p. 113), their analysis determined that "patrons definitely use recent content the most" (Fischer, 2016, p. 117). Kent State University Library's review of its DDA program found that 92% of its DDA triggers occurred within one and a half years of a title becoming available in the library's catalog and pointed out that "[t]his result may help DDA e-book programs establish a window for weeding" (Zhang, et al., 2015, p. 89).

We reviewed our DDA purchase data to identify how year of publication affected the Franklin University Library's DDA activations. Consistent with Kent State's finding, most of our purchases occurred during the first two years of a title's availability:

Years After Publication	Number of DDA Titles Purchased
0	41
1	43
2	23
3	10
4	4
5	3
6	4
7	0
8	1
9	1
10+	3



Even though most activity occurred in the first two years after publication, we felt there was enough activity in the third year after publication to use that as our cut-off point for leaving items in the DDA pool. As a result, the library decided to remove without liaison review any titles older than three years which had been added to the pool by automatic selection (either

through the initial retroactive load or subsequently meeting the selection criteria). Because the library felt that titles which liaison librarians had selected for inclusion in the pool merited a closer look, it marked for review titles over 3 years from publication date added by liaison selection.

The library next compared titles published within the last three years to our selection plan using Dewey numbers. We kept titles with a Dewey number within our current selection plan, whether GOBI had added them automatically or by liaison request. We marked any titles outside the Dewey ranges of our selection plan for deletion if GOBI had automatically added them to the pool. If a liaison librarian had selected a title outside of our selection plan for the DDA pool, we marked it for review.

Because of these decisions, we automatically kept the 3,057 titles published in the last three years which met our current selection criteria in the DDA pool. We also automatically removed 9,338 titles which GOBI had automatically added to the DDA pool which either had a publication date older than three years (regardless of whether they met our current selection criteria), or which had been published within the last three years but no longer met our selection criteria.

This left 780 titles which liaison librarians had previously added to the DDA pool for manual review to determine whether to keep them in the DDA pool or remove them. These 780 titles included all titles added by liaison librarians which were more than three years past publication date, and those titles added by liaison librarians which had been published within the past three years but were outside of the library's current selection plan.

We split the titles marked for review among liaison librarians. For titles with Dewey numbers in the library's selection plan, the liaison librarian with responsibility for that Dewey area reviewed the titles. Because none of the liaison librarians had responsibility for the titles in Dewey ranges outside of our selection plan, we randomly assigned the remaining titles so that each liaison librarian had the same number of titles to review. Liaison librarians decided to keep 318 of the 780 titles and remove 462. Combining the manual review with our automatic decisions kept 3,375 titles and removed 9,800 titles from our DDA pool.

Unlike physical books, where the library can remove books from the shelf as part of weeding them, the library did not have the ability to remove the identified ebooks from its DDA pool. Instead, the library had to send a spreadsheet listing the titles we wanted to remove to GOBI, which then removed those titles from the DDA pool.

Weeding the NetLibrary Ebook Collection

1. Pilot Project

Before we embarked on weeding an owned ebook collection, we decided to do a pilot project to see how the removal process would work and make sure that the ebooks could be removed. We chose a series of ICON health books which the Louisiana State University ("LSU") library had reviewed and removed from their collection because they found that these ebooks had "so many things wrong with [them] that the decision to remove [them] was fairly easy" (Waugh, et al., 2015, p. 25). Our NetLibrary collection contained 326 ICON health titles. We also identified 192 similar ICON economic studies books. As noted by the LSU library, the ICON health books

> were written with the assistance of computer algorithms; and as such, the term "compiled" might be a better description than "written." All of the books follow roughly the same template and consist mainly of material gathered from public and government sponsored websites on the Internet (Waugh, et al., 2015, p. 21).

We determined on review of the ICON health books and the ICON economic studies books that the LSU Library had accurately described these titles. The ICON titles did not add anything worthwhile to our collection, contained outdated information (none of our library's ICON titles were published more recently than 2004), and did not constitute the type of material that would be independently purchased by the library to add to the collection. As a result of this review we decided to remove both sets of ICON books.

Because our library does not host the NetLibrary collection, we had to contact the vendor and ask them to remove the titles. Since EBSCO purchased NetLibrary, EBSCO hosted these ebooks (Kelley, 2012, p. 52). We used our catalog to generate a list of ICON titles to remove. We exported the list to a spreadsheet. We emailed the spreadsheet to EBSCO and asked it to remove those ebooks from our collection. While EBSCO did not physically delete the titles, it achieved the same result by hiding the titles so that the requested deletions would not appear in either EDS or EBSCOhost searches. We then deleted the titles from our catalog.

2. Weeding NetLibrary titles

Since our pilot project involving the ICON books demonstrated that we could remove ebooks from the NetLibrary collection, we decided to move forward with the eweeding project.

Even though we limited the ebooks considered for weeding to our NetLibrary titles, identifying what ebooks to weed proved challenging.

The library's most recent physical weeding project required several months for librarians to review 906 physical books. For this eweeding project, the NetLibrary package we wanted to review contained 14,735 ebooks. This meant that if we reviewed every NetLibrary ebook, the eweeding project would require us to review 16 times as many books as we had reviewed during the physical weeding project. Because "weeding is time- and labor-intensive, draining librarians' energies and taking them away from other important aspects of their jobs" (Reno & Lowe, 2017, p. 105), our small staff (4 liaison librarians, who had other job duties) could not review 14,735 titles to determine whether to keep or remove them from the library's collection.

We needed to create a method to identify a manageable number of titles for review. We decided to identify Dewey ranges which would most likely contain irrelevant or outdated information and concentrate our review on ebooks within those Dewey numbers. We split the list of Dewey categories into four segments (ranges 0-249, 250-499, 500-749, and 750 – 999). Although many of the Dewey categories had one entry per number (605 Serial publications), some had multiple entries (610 medicine and health, 610.3 medical encyclopedias, 610.6 medical organizations & professions, etc.) and some numbers had no categories listed. In total, there were 1004 Dewey categories for review.

Two liaison librarians reviewed each range of Dewey numbers. During this review, liaison librarians either marked a Dewey number as "review", which meant they thought we should review titles in the category to see whether we wanted to keep them in our collection based on relevance, currency or inaccuracy, or "ignore" which meant they thought that we could keep the titles in our collection without looking at them. If the two liaison librarians agreed on an action (either review or ignore) then we applied that action to the Dewey number. If the two disagreed, then a third liaison librarian independently reviewed the categories to break the tie. This review led to the following breakdown by Dewey category:

Dewey Range	Disagree	Review	Ignore	Total
0-249	79	14	136	229
250-499	79	47	106	232
500-749	89	14	186	289
750-999	21	1	232	254
Totals	268	76	660	1004

The initial results marked 76 of the 1004 Dewey categories for review. The tie-breaking procedure for the 268 disagreements added 94 additional categories to review, which resulted in a total of 170 Dewey categories marked for review. The 170 Dewey categories marked for review included 7,921 titles. Because the library only had 4 liaison librarians to conduct this review, each librarian would have to review 1,980.25 titles – in addition to their regular duties. Since even this reduced number was too large for us to adequately review, we needed to further limit the titles for review.

Although the library's initial motivation for the eweeding project included removing both irrelevant and outdated materials, we decided to focus our efforts on removing the outdated material because it "could contain nonrelevant, misleading, even potentially harmful information" (Crosetto, 2012, p. 96). Based on this decision, we had each liaison librarian mark the top 10 Dewey areas from the 170 Dewey categories marked for review that were likely to include outdated information. This resulted in the following ranking:

Selected by 4
005 Computer programming, programs & data
610 Medicine & health

Selected by 3
000 Computer science, information & general works
003 Systems
364 Criminology

Selected by 2
004 Data processing & computer science
006 Special computer methods
330 Economics
351 Public administration
370 Education
384 Communications

Selected by 1
171 Ethical systems

300 Social sciences
337 International economics
340 Law
378 Higher education (Tertiary education)
415 Grammar of standard forms of languages
600 Technology (Applied sciences)
610.72 Medical research
616 Diseases
617 Surgery, regional medicine, dentistry, ophthalmology, otology, audiology
650 Management & auxiliary services

We then reviewed ebooks in Dewey categories selected by 4, 3 or 2 librarians. Those categories contained a total of 949 ebooks. After discussion at a library staff meeting, we determined to apply the following criteria when reviewing these ebooks:

- Is it outdated?
- Does it provide misinformation?
- Is it still relevant?
- Does it still provide useful information?

These criteria were similar to those applied during our most recent physical weeding project, with the removal of issues specific to physical books such as number of copies and condition. Liaison librarians reviewed the 949 ebooks resulting from our identification of Dewey areas likely to contain outdated information to decide whether to keep them or remove them from the collection. Of these 949 ebooks, only 8 education (Dewey number 370) titles were marked to keep.

The library did not want to remove materials without involving faculty, but past experience had shown that faculty did not always respond when the library asked them to review books the library wanted to weed. As a result, each liaison librarian sent the list of items marked for deletion to the appropriate faculty member, with a statement that if we did not hear back from them by a set date we would delete the titles. A sample email sent to faculty stated:

> Hi [Faculty Name],
> The library has been reviewing some of our older ebooks to see what can be

removed from our collection. The purpose of this project is both to remove inaccurate/outdated information, and to make it easier for students to find more current/accurate information when searching our ebook collection.

We identified [number] ebooks for removal in your area. They are included in the attached spreadsheet (which has title/subject information, as well as a link to each book).

We plan to remove these titles on [date], unless you let me know that any of these titles should be retained. If you think any should be retained, please let me know by highlighting it on the spreadsheet and then returning the spreadsheet to me before [date]. Please let me know if you would like more time.

Thanks,
[Librarian]

Some faculty members did respond, but none indicated that we should keep any of the books marked for deletion. As a result, we followed the format we had used for our pilot project, generated a list of titles from our catalog, sent it to EBSCO with a request that it delete the titles from EDS/EBSCOhost search results, and then deleted the titles from our catalog once we received confirmation from EBSCO that it had done so.

Conclusion

Weeding the library's ebook collection turned out to be more challenging than weeding the print collection. The main problem our library faced when attempting to weed ebooks, as opposed to physical books, was the larger number of titles involved. Unlike our most recent physical weeding project, which reviewed 906 books, reviewing just the NetLibrary ebook collection would have required review of 14,735 titles. Another issue the library faced when attempting to weed its ebook collection which it did not face when weeding the physical book collection was the lack of control over parts of the collection. The library owns and controls all of its physical books and can remove any book it chooses. However, the library does not own all of its ebooks because many of its ebooks are available from leased subscription packages. Additionally, some of the owned ebooks are controlled by the OhioLINK consortium.

Although we faced greater difficulty in identifying what ebooks to weed than we did with physical books, the process of removing ebooks from the collection was easier. While the library did have to work through EBSCO to weed the ebooks, we just had to provide EBSCO

with a spreadsheet identifying the ebooks we wanted removed from the collection. By contrast, weeding physical books required library staff to go to the shelves, find the books, remove the books, and process the removal.

Our library initially intended to remove outdated and irrelevant ebooks to make it easier for our users to find relevant content. While we were able to remove some outdated material, we failed in this overall goal. The large number of ebooks to review from even the limited NetLibrary collection led the library to discard the goal of removing irrelevant titles in favor of removing outdated material. However, the eweeding project only minimally met that limited goal with the removal of just 941 titles from the NetLibrary collection of 14,735 ebooks, which amounted to 6% of that collection. This removal barely impacted the library's overall ebook collection, only removing approximately .02% of the over 350,000 ebooks our library provides.

In spite of the limited success of the eweeding project, it did provide some benefits. As one faculty member replied to the email sent by their liaison librarian asking whether they objected to removing ebooks selected for removal: "These are truly old! Yes, please remove these books from the ebook collection. We really don't want our students relying on such old books" (Baumlein, personal communication, August 6, 2020).

The decision to review titles in the library's demand driven acquisition (DDA) pool proved more successful. The library benefitted from removing outdated / irrelevant titles from the DDA pool. Unlike the overall ebook collection weeding, weeding the DDA pool to remove irrelevant / outdated titles was a manageable project. Libraries will benefit from periodically reviewing their DDA collections and removing titles which no longer meet their selection criteria. Because libraries have not yet purchased DDA titles, removing such titles from the pool will both improve their collection and save them money.

While libraries should periodically review and remove titles from their DDA pools, whether libraries should conduct weeding of their owned ebooks is a more difficult question. Libraries considering whether to weed their ebook collections should define their purpose in eweeding and ensure that the project will be able to meet that goal. Some questions to consider include:

- What is the purpose of the eweeding project?
- Does the library realistically have the ability to meet these goals?
- What does the library control and have the ability to remove?

Other important considerations relate to staff time for conducting the review: how many librarians are available to review titles, how much time do the librarians have available, and how much time will the project take them to complete.

Another decision libraries must make when conducting an eweeding project is the method of determining what titles to weed. The Franklin University library chose to remove titles based on a review by liaison librarians, which is a time-consuming method. Another possible method for removal would be to base removal solely on usage statistics. A library could set a usage threshold and remove titles which do not meet those benchmarks, regardless of their content. While this would result in the removal of outdated and irrelevant material, it would also remove much material that is neither outdated nor irrelevant. The NetLibrary books considered during our eweeding project had low usage and would likely all have been removed had such a standard been applied. The Franklin University Library chose not to use this method because we did not want to engage in such a broad removal of ebooks which would necessarily include many titles which remain valid and relevant to our users.

While eweeding projects are theoretically beneficial for the reasons discussed above, as a practical matter our eweeding project demonstrated that actual weeding of ebooks is both more difficult and less beneficial in practice. At the Franklin University Library, our eweeding project began with a goal that proved unachievable. While we did limit our goals once the project started and, at least to some extent, achieved those limited goals by removing some outdated ebooks from the collection, had we recognized the size of the task and the difficulties involved at the outset we might have decided not to undertake the project. While we will continue to weed our DDA titles, the challenges identified in this project make it unlikely that we will undertake another project to weed our owned ebook collection.

References

Crosetto, A. (2012). Weeding e-books. In S. Polanka (Ed.). No shelf required 2: Use and management of electronic books (pp. 93-101). American Library Association.

Cully, J. (2015). I feel the need, the need to weed!: Maintaining an e-book collection. Southeastern Librarian, 63(1), 2-5. http://www.selaonline.org/SoutheasternLibrarian/Spring2015.pdf

Downey, K. (2014). Technical services workflow for book jobber-mediated demand driven ebook acquisitions. Technical Services Quarterly, 31(1), 1-12.

Evans, G. E. & Saponaro, M. Z. (2012). Collection Management Basics (6th ed.). Libraries Unlimited.

Fischer, K. (2016). Patron-driven acquisitions: Assessing and sustaining a long-term PDA e-book program. In S.M. Ward, R.S. Freeman, & J.M. Nixon, (Eds.). Academic e-books: Publishers, librarians, and users (pp. 107-125). Purdue University Press. https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1036&context=purduepress_ebooks

Franklin University Library. (2021, March 15). Policies & Guidelines. Retrieved November 2, 2021, from https://www.franklin.edu/learning-commons/about-the-learning-commons/policies

Gregory, V. L. (2019). Collection Development and Management For 21st Century Library Collections (2nd ed.). American Library Association.

Johnson, P. (2018). Fundamentals of Collection Development and Management (4th ed.). American Library Association.

Kelley, M. (2012). Moving Past Net Library: EBSCO is taking its ebook platform in a new direction. Library Journal, 137(10), 52–54.

Moroni, A. E. (2012). Weeding in a digital age: Shelf clutter can be a problem for ebooks as well. Library Journal, 137(15), 26-28.

Nelson, G. M., Goates, M. C., Pixton, D. S., Frost, M., & Broadbent, D. (2020). Collection weeding: Innovative processes and tools to ease the burden. The Journal of Academic Librarianship, 46(5), 1-13. https://doi.org/10.1016/J.ACALIB.2020.102139

Proquest. (2019, December 3). Ebook Central Admin: Trigger events for NL loans, DDA-discoverable books, and Extended Access coverage. Retrieved November 2, 2021 from https://support.proquest.com/articledetail?id=kA23r000000FW3oCAG&key=dda%20trigger&pcat=All__c&icat=

Reno, L. & Lowe, M. (2017). Into the weeds: Emotions and deselection in the library. In S. Hines & M. L. Matteson (Eds.). Emotion in the library workplace (pp. 99-128). Emerald Publishing Limited.

Waugh, M., Donlin, M., & Braunstein, S. (2015). Next-generation collection management: A case study of quality control and weeding e-books in an academic library. Collection Management, 40(1), 17-26. https://doi.org/10.1080/01462679.2014.965864

Zhang, Y., Downey, K., Urbano, C., & Klingler, T. (2015). A scenario analysis of demand-driven acquisition (DDA) of e-books in libraries. Library Resources & Technical Services, 59(2), 84-93. https://doi.org/10.5860/lrts.59n2.84