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Biz of Acq — Evidence-based Collection Development on a Large Scale: A Use Factor Allocation Formula

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East **Carolina University** is part of the **University of North Carolina** system with an enrollment of approximately 27,500. About 6,000 of those students are enrolled in distance education programs. **ECU** is a master's level institution with a few select Ph.D. programs and a medical and dental school. Joyner Library (along with its constituent the Music Library) is the main library for the non-medical campus and employs about 100 full-time employees. The collection is comprised of approximately 2 million print volumes, 1 million eBooks, 100,000 electronic journals, 475 databases and a rich array of primary resources housed in Special Collections. Joyner's materials budget is approximately $1.7 million dollars. There is also a virtual resources budget of approximately $2 million shared between Joyner and its West-campus counterpart, Laupus Health Sciences Library.

This article will address the distribution of monographic acquisitions funds which cover the purchase of one-time materials such as books, scores, eBooks and DVDs. This article will not address the monies from which electronic databases, electronic journals, print journals and other recurring expenses are paid, nor will it talk about large one-time funding requests such as journal backfiles or archival packages. The total sum of the subject funds being discussed is approximately $240,000. Why is so much attention being paid to a relatively small amount such as this? Although we routinely tell faculty what our entire materials budget is and how much of a cut we're sustaining, the amount they are really interested in is the allocation for their subject fund. Politically, this is a very important portion of our materials budget.

During the fall of 2012 the Head of Monographic Acquisitions and the Collection Development Librarian for the Humanities were tasked with devising a new fund allocation formula. Our old fund allocation formula was a large weighted variable monstrosity that had been developed by a committee of teaching faculty in 1981 and 1982. They weren't happy with it when they created it, just as we weren't happy with it. They were dissatisfied because it did not take into account research productivity. We weren't happy with it for several reasons. It was time-consuming to get the data required for the weighted variables. Some of the data was on calendar year cycle while some was on a fiscal year cycle so the collection periods for the data never quite matched up. A portion of the data was something we had to ask the registrar's office to help us with and this was time-consuming. And finally, we just felt there had to be a better way to get at use of the collection.

Literature Review

The article that started this whole process was **Aguilar's** "Application of Relative Use and Interlibrary Demand in Collection Development" published in *Collection Management* in 1986. We were familiar with this article from researching collection assessment techniques. **Aguilar** talks about three types of collection assessment: quantitative, qualitative and use factors. Quantitative analysis can answer questions like, "How big is the collection?" Qualitative analysis tries to answer "How good is the collection?" Use factors, a concept new to us at the time, can answer the sort of questions we were most interested in: "How is the collection used?" The use factors **Aguilar** mentions are **Bonn's** use factor, **Mill's** percentage of expected use, and the ratio of borrowings to holdings (Aguilar 1986).

To learn more about **Bonn's** use factor, we went back to **Bonn's** article "Evaluation of the Collection" from 1974. The entire scope of the article is different methods of evaluating collections. He mentions statistics, list checking, surveys, direct examination and then a fifth category with a hodge-podge of methods. It's in this hodge-podge section entitled Circulation that **Bonn** talks about his use factor. He says, "The ratio of use to holdings in specific subject classes, both expressed as percentages of the respective totals is the 'use factor' for that subject class and may be determined as specifically or in as much detail as desired" (Bonn 1974, 273). The important thing to realize about **Bonn's** use factor is that it prevents the problem that libraries run into when using circulation statistics for evaluation or for fund allocation: that a larger collection is automatically going to have more circulations than a small collection based on its size. **Bonn's** use factor controls for this by expressing everything as a ratio (Aguilar 1986, 17).

The third article which we relied heavily upon for this process was **Canepi's** "Fund Allocation Formula Analysis: Determining Elements for Best Practices in Libraries" (Canepi 2007). **Canepi** talks about a meta-analysis she did to answer the question "What are the best practices of fund allocation?" She found the most-used factors in fund allocation formulae were enrollment, cost, use/circulation and number of faculty. She says, "Since potential use may be the most difficult aspect to calculate, inclusion of multiple demand factors is certainly justified" (Canepi 2007, 20). She goes on to say that "precision is elusive, because libraries seek to measure by proxy what they cannot measure directly" (Canepi 2007, 21). After reading **Bonn** and **Aguilar**, we disagreed with **Canepi** that use cannot be measured directly.

The article which gave us a taxonomy for fund allocation formulas was **Catalano** and **Caniano's** "Book Allocations in a University Library: An Evaluation of Multiple Formulas" (Catalano and Caniano 2013). The authors describe various fund allocation methods. In total, they discuss five methods: percentage-based, factor or regression analysis, historical spending, circulation-based and weighted multiple-variable. Weighted multiple-variable formulas, according to the authors, allow "the library to select the factors that are deemed to be the most valuable when allocating funds. Additionally, this model allows for the library to attribute its own weight to each variable" (Catalano and Caniano 2013, 195). After reading **Catalano** and **Caniano's** article, it became clear that our old formula was an overly complicated weighted multiple-variable formula, and that we wanted to move towards a simpler formula with a use factor for circulation and price per item weighted equally.

Methodology

So, what we came up with after a lot of discussion is a very simple formula. We take **Bonn's** use factor, expressed as a ratio. We also take the average cost of items for each fund expressed as a percentage of the whole. We then express this as a ratio as well. Then we add the two ratios. Next, we total the resulting column and express all numbers in the column as a percentage. That final percentage is what tells us how much of the firm order monies each fund is entitled to.

We feel that **Bonn's** use factor is not merely a proxy for use, but rather that it is indicative of use. By employing a measure of actual use, we felt we could then do away with all the proxies one typically sees in a weighted multiple-variable formula such as number of faculty or number of courses. **Bonn's** use factor by itself, however, would leave out a very important piece of the picture: price. We are a large library that supports many disciplines. For some disciplines, such as chemistry, price per item is quite high: over $100. For other

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disciplines, such as music, price per item is low: under $20 due to the large number of inexpensive scores the Music Library purchases. So, as important as the use factor for circulation is, we felt price per item should be just as important. To look at it another way, we are accounting for both supply and demand in our formula. **Canepi** says use or circulation is a demand figure, while cost is a supply figure (Canepi 2007, 17).

Data Gathered

When it came time to actually put our theory to use, we worked with our ILS administrator to get the data we needed. We needed the circulation figures for all the books purchased each year for four years, not including the current fiscal year. (The current fiscal year was not included because we felt those books might not have had sufficient time to circulate.) We chose four years because that was as far back as our ILS went due to a system migration in 2008-2009. So, for 2013, we got data for 2008-09, 2009-10, 2010-11 and 2011-12. For 2014, we requested the same sort of data for the following years: 2008-09, 2009-2010, 2010-2011, 2011-1012 and 2012-2013*. For both years, we got this data for our LC classed items, which are the bulk of our collection, and our Dewey classed items, which are primarily children's literature. This data came to us in several Excel files: one for each fiscal year for the general collection, one for each fiscal year of the children's literature collection and one for each fiscal year of our media collection. The data came to us in rough call number order. There were a few corrections in call number order we had to make, and then we were able to split the data into sections, based on LC. We had over 150 sections that got funneled into 38 fund codes. Sometimes the relationship between LC sections and fund was straight forward: all the M's were put into the music fund. Sometimes it was more complicated such as for art where there are the multiple locations in the N's plus the TR's. The Dewey classed items were shunted into the Curriculum fund section. All media went into the appropriate LC section, unless it belonged to the Music Library and went into the M's.

*We requested five years of data the second year we ran the formula. We then compared the results of all five years to the results of only the four most recent years. We discovered that there was not much difference between the four year results and the five year results, so we decided to stick with four years.

Buy-in and Political Ramifications

We first sought buy-in from our colleagues at the library. It was important that the selectors at Joyner Library and the Music Library understood that the fund allocation formula had changed and how this change would affect them. Once we had discussed it with the appropriate librarians, our assistant director, and the interim director, we took the formula to a group representative of the faculty. Because our previous weighted multiple-variable formula had been devised by the Faculty Senate many years ago, we decided to go to the Faculty Senate Libraries Committee to get final approval to switch over fund allocation methods. We did this after one year of testing the formula to see how well (or not) it worked. It's very important to have some sort of higher authority sign off on changes to the fund allocation processes because such changes can lead to politically precarious situations without that authority's approval. In our case that authority happened to be the committee comprised of faculty from outside the library, but at other institutions the library director may be the only authority to which to appeal.

Improvements to the Formula

When we first ran the formula we only looked at print books and check-outs. It was our intention early on to add eBooks to the formula at some point, so when we ran it the second year we did just that. The bulk of our firm order eBooks came from ebrary so we counted only those eBooks. We used **ebrary's** own BR 1 report and decided that a use would be most analogous to ebrary's User Sessions. Almost all books we had purchased through **ebrary** as firm orders had one use, most with only one page viewed. We thought this was odd. After all, this was not a DDA where you expect there to be a use of every book. We realized, however, that that initial use was coming from cataloging or electronic resources staff checking the URL of the book in the record. We therefore decided to discount the first use. By doing so, the usage looked much more like something we were expecting: many books with no usage, some with 1 use, a few with multiple uses. At this point we simply incorporated the eBook statistics we'd gathered into our grid of use by LC class.

The other thing we changed in the second year we ran the formula is that we counted in-house uses as check-outs. Over the course of the year after we ran the formula the first time, we learned that various units put a lot of effort into keeping these in-house use statistics. The Teaching Resources Center and the Music Library in particular keep very good track of in-house use. Representatives from both units convinced us that we weren't getting the whole picture if we were leaving those statistics out. It was easy enough to incorporate them, and in the areas mentioned above it certainly made a big impact on their circulation numbers, which in turn had an impact on how much these units were entitled to.

Case Studies:

PSYCHOLOGY — Psychology is an interesting case study. The psychology department at **ECU** supports undergraduate and graduate study with a B.A., two master's programs and one Ph.D. program. Joyner Library supports all of these programs through its development of the psychology collection in both print and electronic formats. The first year we ran the formula, psychology was entitled to 2.61%, but that was based just on print alone. For the second year, psychology was entitled to 5.02% based on print and electronic use. As the cost per psychology item remained close from year one to year two, we can infer that psychology sees a large amount of use of electronic items. We feel one reason that psychology might be seeing so much e use is twofold: we have a large social work program and we have a health sciences campus with a Psychiatry degree. Joyner Library supports the social work degree, but there may very well be some overlap with psychology. And, although Joyner Library does not support psychiatry — it's a subject that is covered by the Laupus Health Sciences Library — we think some of the texts we purchase for psychology overlap and complement those Laupus purchases for psychiatry. Therefore, we believe our psychology eBooks are doing double duty.

CURRICULUM — Another interesting case study is our curriculum collection that supports student teachers and is also used by children. It is housed as a mélange of Dewey and LC classed books in our Teaching Resources Center. For FY 2014 they were entitled to 4.98% of the whole monographic fund. After adding in-house use statistics, this year, they were entitled to 6.71%. These materials are important for students studying to be teachers; however a lot of parents in the area take their children to our Teaching Resources Center (TRC) to check out books that interest them. We think the unique nature of this collection makes its in-house usage statistics very meaningful, as children, frequent users of the collection, don't re-shelve. However, the curriculum selector is still not happy with the allotment. One reason it might be lower than he (and we) expected is that the books for the curriculum collection are cheap: less than $18 per title. We have found that the average price per title paid in each fund makes a big difference in how much of the whole a fund is entitled to. To remedy this we instituted a $2,000 variance rule: if any fund was to see changes of more than $2,000 either up or down, we would hold the change to $2,000 so that neither too much would be taken from the fund at once nor would the fund see a huge increase from one year to the next. It was also a way of softening the blow to funds that saw a large decrease in the money allotted to them.

EDUCATION — Talking about softening the blow, Education was one such fund that desperately needed the $2,000 variance rule. Under the old formula Education was entitled to a significant portion of our monographic funds. It is a large department with many professors, classes, undergraduates and graduates. All of these were variables that were part of our old formula, so Education fared very well under it. When we changed formulas, Education didn't fare so well. It saw a large decrease in the money it was entitled to. We feel this decrease was due in large part to low circulation for education materials. Although it is a large department, the monographic education resources we're buying aren't circulating that well. Why is that? It's just a guess, but we think it has to do with an undergraduate culture that is shifting from the monograph as the main scholarly resource to the article. Overall, in the social sciences we're seeing a trend towards journals and gray literature.

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Being Earnest with Collections — Getting to Yes: Employing the Harvard Negotiation Project's Method of Principled Negotiation

by **Claire Dygert** (President, CDygert Solutions) <cdygert@cdygertsolutions.com>

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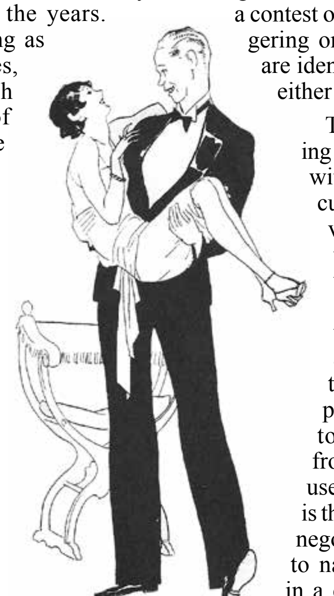
Column Editor's Note: *In this issue of* ***Being Earnest with Collections****, I am pleased to be featuring a dear friend and former colleague. I have known* ***Claire Dygert*** *for over ten years and was fortunate to work with her in Florida and to benefit from her expertise in working with vendors to control price increases and provide more content. In this article,* ***Claire*** *provides clear guidelines and best practices for librarians to follow when negotiating with vendors. Those librarians interested in being "earnest with collections" should read this short article and then try to implement a few of the best practices. Putting some of* ***Claire's*** *ideas into practice may save the library money and help librarians to avoid tenuous relationships with vendors. —* ***MA***

Over the years I have given my "Building Your Licensing and Negotiation Skills Toolkit" workshop to many audiences. What I am always struck by is how anxious the prospect of negotiating with vendors and publishers makes many librarians. For years there has been an "us against them" mentality in the library world that sets the relationship between library and vendor in an adversarial mode as the default. The **International Coalition of Library Consortia (ICOLC)** has long used the "Battlefield" as a metaphor for the library/vendor relationship — an image that I fear too many people have embraced over the years. While I think this is changing as **ICOLC's** leadership changes, battle scars from that approach surely remain in the form of mistrust and a reluctance to be transparent and forthcoming from both sides of the field.



I became interested in honing my negotiation skills early in my career, but it was not until I took a job with a library consortium that had statewide contract negotiation as one of my primary responsibilities that I started to read more widely in negotiation strategies. The methodology laid out in the book *Getting to Yes: Negotiating Agreement Without Giving In* has most informed the approach I take to negotiations today. Written by **Roger Fisher** and **William Ury** of the **Harvard Negotiation Project**, their method is one of principled negotiation, or negotiation on the merits, rather than positional bargaining. Positional bargaining is the most common form of negotiation, where, much like on a battlefield, each side takes a position (e.g., I will only pay X amount) and then changes that position as the negotiation continues. This often becomes a contest of wills, with the risk of endangering ongoing relationships, as egos are identified with a position and one either "wins" or "loses."

This is not to say that employing principled bargaining methods with vendors will result in discussions void of conflict, for a very fundamental conflict is at the heart of these discussions: the need of the vendor and the sales person to maintain a sustainable, successful business and income, and the need of the library to maximize the purchasing power of its budget to provide as much content, from multiple vendors, to their users. Accepting this as a given is the first step in becoming a good negotiator. Mastering the ability to navigate through this conflict in a calm, professional manner is the goal. The fundamentals of the **Harvard Negotiation Project's** methodology give one the tools to do so.

There are four basic tenants to principled bargaining:

- Separate the people from the problem or issue
- Insist on using objective criteria
- Focus on interests, not positions
- Create options for mutual gain

Separating the People from the Problem or Issue

Several years ago, I was discussing a particular publisher with a librarian — let's call him Bob — who works at a large independent university library. He was in the midst of negotiating a contract and it wasn't going well. He was enraged at the sales representative that he had been dealing with, and blamed them for being incalcitrant. "Claire," he said to me, "I don't know how you can deal with all of these vendors! I get so angry I can't sleep at night!" I asked him to explain what the problem was. The vendor had proposed an annual price increase that he found unacceptable, and he kept telling them so. But it turned out he hadn't articulated why the price increase was unacceptable, or proposed and justified an alternative. What he did do was dig in and repeat his position, which made the person who rejected it appear as the adversary.

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Conclusion

Although our new formula is markedly simpler than our previous one, it still takes quite a lot of time to gather all the statistics necessary for running it. We feel that the labor costs are worth it, as it is an evidence-based method of distributing funds, and that is exactly what we need right now in this burgeoning climate of accountability with its emphasis on proof of return on investment. Just like our old formula, we won't run it from scratch every year, but rather every other or every third year to cut back on the amount of time spent gathering statistics for it. We feel that a library our size is pretty much the largest we would recommend using this formula due to the time necessary to gather all the statistics. Smaller libraries that are looking for evidenced based methods of allocating firm order monies might do well with this formula.

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