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Moving Towards Data-Driven Development: WorldCat Collection Analysis

by Alice Sneary (OCLC Creative Services Analyst) <snearya@oclc.org> (or It's All Good blogger at scanblog.blogspot.com)

The comedian Steven Wright once said, “You can’t have everything... where would you put it?” And sometimes it seems like that joke holds true with data about our library collections, too. It should be easy to see current information at any time, on every item in the collection — or in someone else’s collection. But if you had all that data and metadata...if you had “everything”...where would you put it? And how could you keep it reasonably current?

Until recently, that’s been the conundrum. Traditional collection data and analysis tasks have been criticized for being too informal and qualitative. But the rigorous methodology and volume of data required for truly quantitative authoritative analysis have been both prohibitively expensive and time-consuming. Management and administration may want to analyze “everything,” but real-life staffing and budget restraints stood in the way.

Until now. Since its launch in March 2005, more than 500 libraries have discovered that they have somewhere “to put everything” in their collections so they can analyze it, compare it and plan for the future. All their collection data and metadata now resides in WorldCat as part of the WorldCat Collection Analysis service from OCLC Online Computer Library Center.

Participating libraries know what’s there, and what’s NOT there, for their collections. They know what titles and subjects are good candidates to acquire, and what should be weeded out. They can compare themselves against peer institutions and authoritative lists, using the more than 1.3 billion items in WorldCat in a whole new way.

What is WorldCat Collection Analysis?

WorldCat Collection Analysis is a Web-based service that allows libraries to analyze all the materials they have in their collections that are cataloged in WorldCat — their “holdings.” Libraries can evaluate their holdings in multiple ways — by format, subject, language, audience or publication date, to name a few. Then they can generate an easy-to-read (and visually intuitive) report as a table or a graph, ready to drop into a printed report or electronic newsletter. Library staff access WorldCat Collection Analysis through a tab on the OCLC FirstSearch service, which means it’s a familiar, comfortable interface for many librarians to navigate.

Any library with holdings in WorldCat can use WorldCat Collection Analysis: community college libraries, academic libraries, public libraries, special libraries such as law, art, medical and theological — even government libraries use the service. A sizable number of subscribers (23 percent) have less than 100,000 holdings. About 17 percent of subscribers have more than one million. In other words, the service has value for any library, of any size.

A library can compare its collection against other collections, too. Once the individual library analysis is complete, a library can do a peer-to-peer comparison against up to five other libraries’ collections at a time — regardless of whether the other libraries use the service.

Predefined peer comparisons are also available, such as the Google Book Search Library Partners (the “Google Seven”), the top 20 ARLs, the top 10 law schools and the top executive MBA programs as determined by external sources such as U.S. News & World Report. Or, you can compare against known authoritative source lists. Some examples include Outstanding Academic Titles, Booklist, Books for College Libraries, 3rd edition and more.

Visualization tools such as charts and graphs help library staff see patterns and draw insights from WorldCat Collection Analysis data. A library can see itself as a whole or how it stands in relationship to other libraries, at a glance. Data visualization enables a “drill-down” effect to see successively more granular views.

Why Data Matters

WorldCat Collection Analysis is important because it provides a powerful insight into a library’s collection strengths — and its weaknesses. These insights, in turn, can drive accreditation discussions and funding presentations, dovetail with census data predictions and more.

To academic libraries

An analysis of your collection could help align day-to-day collection development goals with the strategic goals of the university. It could be as simple as continuing accreditation, but it could be much more than that, too.

For example, one goal might be to become the leading university for graduate-level bioengineering studies in the eastern United States. The library can do a comprehensive analysis on the bioengineering materials available, and then compare its holdings with collections in other leading institutions. WorldCat Collection Analysis provides the tools to make and communicate smart acquisition decisions and develop funding requests to support the university’s long-term goals.

There has been an increased emphasis in many academic institutions for faculty to do more original research, speak publicly and publish. WorldCat Collection Analysis can help collection development staff develop library collections that support faculty efforts to reach these goals.

To public and special libraries

Public libraries also benefit from learning more about what’s available and accessible to users with WorldCat Collection Analysis. Publics have also used it to determine multilingual strengths, subject gaps and where they might find some additional shelf space with a judicious weeding of titles. Special libraries can use it to determine age range of specific collections, or to target potential materials for digitization.

To consortia — geographic or type-specific

Consortia have started to use WorldCat Collection Analysis, too. They see the materials in their geographical area — or can look at similar-special-interest collections (Braille, for example) and move to complement each other’s holdings, rather than duplicate them.

Reciprocal borrowing arrangements can be made and each consortial member library saves money on duplicative materials and continues to provide users with quick access to physical materials beyond local walls. We’ll look at some surprising results of consortia analysis, the TRNL Collection Analysis Project, later on.

An Independent Source of Data

WorldCat Collection Analysis has emerged as such a valuable tool because it gives libraries an objective look at the facts behind their collection development decisions over the years. Back to the beginning, in fact.

Libraries subscribe to the service on an annual renewal basis, which comes with unlimited report usage. That means a library can take a baseline snapshot of its collection, fill gaps, weed, strengthen subject areas and run a report each month to check against goals. It’s a great way to benchmark and then measure progress.

Erlene Dudley, Director of William Woods University Library in Fulton, Missouri, explained the importance of the service in helping to reach their goals when she says “We’ve been able to establish benchmarks to build on... and [WorldCat Collection Analysis] has been extremely useful for developing budgets because it’s an independent, objective source of data.”

With the rising cost of acquisitions, library boards across the country demand more insight into library budgets, and a shift towards data-driven models of collection development has been seen nationwide. With WorldCat Collection Analysis, library staff members can show where their library is unique and where the opportunities lie for improvement. Boards can base decisions on facts and comparisons to similar libraries, rather than guesses or intuition.

As one satisfied librarian told us in an anonymous note:
Mamous user survey. "Being able to compare our collection with peer libraries is amazing. I have only begun to imagine the possible uses for the information."

The WorldCat in WorldCat Collection Analysis

When a library uses the service, it puts the library's materials within the larger context of the 71 million items (records) in WorldCat. New holdings pour in every day, as the database continues to expand beyond the current 1.3 billion mark. In fact, an OCLC member library adds a record to WorldCat every 10 seconds, on average.

The constant rate of expansion makes batchloading a critical component to a library's successful use of the service. The more data your library puts into WorldCat — the more data your library will get out of WorldCat, in terms of collection analyses and more. Libraries that subscribe receive a complimentary retrospective batchload of holdings into WorldCat.

Batchloading gets metadata into WorldCat, so your library can analyze the results. But your users are more likely to be interested in what materials they can get out of WorldCat. That is, WorldCat Collection Analysis can also help you optimize your library's collection for WorldCat.org.

Staff may look at subject area gaps and realize that eBooks or ejournals would be the best way to connect users immediately with the content they're looking for. Run the NetLibrary and eBooks comparison list to help your library supplement print materials with electronic.

Through WorldCat Collection Analysis, a librarian can see at a glance what eContent, digital materials and print citations the library makes available through WorldCat.org on the open Web — and how it stacks up against peer libraries.

Success Stories

So who are the people using this service? Glenda Lamers, Global Product Manager of WorldCat Collection Analysis, provides some insight into these 500 "data-driven libraries."

"I am always amazed at the ingenuity of our libraries. They are always pushing the service and finding new ways to mine the data from WorldCat. Since the 2005 release, there have been 1,643 analyses done on the service, with peer comparisons being far the lion's share of 73 percent of total analyses run."

That means libraries have used WorldCat Collection Analysis multiple times in the past 12 months. Historically, libraries have been more interested in knowing how they stack up against each other, although the interest in measuring against an "ideal" authoritative source has started to take off.

Lamers confirms this, as she tells me that Authoritative List comparisons were only added to the service in June 2006, and as of this writing (early September), there have already been 68 reports run in about as many days. The demand for comparisons and comparison lists only continues to grow.

William Woods University

The private, liberal arts institution in Fulton, Missouri, started to use WorldCat Collection Analysis and went from peer comparison to purchase in little over three months. As Library Director Erlene Dudley explains, "Simply saying we have this many titles in History doesn't do much. We also wanted to see how we compared to other institutions to identify what we needed."

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Dudley was looking for context, and she got it. “We realized that our NetLibrary eBooks filled the subject gaps we identified. We then found people were using them frequently. This opens up our acquisition thinking.”

William Woods used the service to do peer-to-peer comparisons and bolster academic subject strengths.

Southeastern Oklahoma State University

The state school in Durant, Oklahoma, supports more than 4,000 students in 19 undergraduate programs and five graduate programs. But the library struggled to maintain a consistent collection development scheme. “We never knew with certainty how well our titles supported the academic program,” says Collection Development Librarian Susan Webb.

With WorldCat Collection Analysis, they had the necessary data to make curriculum-supporting decisions to assist an accreditation review. WorldCat Collection Analysis opened her eyes. “You don’t realize how heavily a collection might be slanted toward a department until you look at it in detail. And you can’t dispute it because it’s there in black and white,” says Webb.

For Southeastern, using the individual collection analysis portion of the service contributed to the institutional accreditation procedures.

Virginia Tech

With more than 2.2 million titles in its libraries, Virginia Tech had lots of questions about its collection — especially because it was spread among a main library and three specialty branches, explained Paul Metz, Director of Collection Management. Virginia Tech is a member of ASERL, the Association of Southeastern Research Libraries — the largest regional library consortium in the country. Through ASERL, Virginia Tech could analyze its own collections, as well as compare them to 13 doctoral institutions that were custom-selected as a peer group for Virginia Tech.

With the new service, Metz reports he is able to “speak empirically, comparatively and in detail, whereas without it I could only have been speculative or very general.” He has led the effort to look at collections on a large scale, down to a very granular level. “It gives us the ability to make smarter decisions about what’s needed in our collections.”

Virginia Tech used WorldCat Collection Analysis to gain an overall sense of what’s in its collections and determine gaps and overlaps with peer institutions.

Triangle Research Libraries Network

The four universities that make up the Triangle Research Libraries Network (TRLN) include North Carolina State University, Duke University, North Carolina Central University and University of North Carolina.

Surprising Uses: Preservation, Digitization, Music and Languages

Looking at a library’s collection for gaps, overlaps, strengths and weaknesses is one of the main uses for WorldCat Collection Analysis. But libraries have also used it in surprising ways. For example, Shirley Baker, Vice Chancellor, Information Technology and Dean, University Libraries of Washington University in St. Louis, Missouri, is using it to drive a preservation and digitization project.

Her library staff has compared their collection with two of the libraries that participate in the Google book digitization project. They found that 150,000 public domain works held by their library would eventually be freely available through Google, but that
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400,000 works held by Washington University are NOT being digitized in the Google program. Now they can use WorldCat Collection Analysis to see which of the 400,000 titles are uniquely held in their collection. These titles — Baker estimates to be somewhere between 7,000 and 30,000 — will form the basis of their preservation and digitization efforts.

Figures 1 and 2 show how a library might make more use of WorldCat data in unexpected ways to drive decisions.

For example, figure 1 shows how WorldCat Collection Analysis can generate a report on the distribution of languages for materials published from 1600-1699.

Should the yearly medievalist colloquium be held at this library, the Latin scholars could rejoice... and the library would know to request some additional Dutch, German or Italian materials before the event. Easy-to-read graphs show a collection snapshot, and staff can "drill down" for even more granular detail.

Figure 2 selects by format. The analysis looked for sheet music, musical scores and electronic music. Again, the graph demonstrates a clear pattern of build-up in the 1970s and then a marked drop-off. Why is the music program not growing on campus? Perhaps a funding decision in the 1980s had something to do with it.

What's next for WorldCat Collection Analysis?

Glenda Lammers has big plans for the next release of WorldCat Collection Analysis, due in late 2006.

"We're working on incorporating inter-library loan data from WorldCat Resource Sharing into WorldCat Collection Analysis. It will help libraries see where their collections are augmented through resource sharing, and whether or not the interest is temporary or sustained."

The enhancement, available to current subscribers at no charge, will also show if libraries are lending out materials often enough to justify space on the shelves. It will show what materials would be good candidates for off-site storage, as well as identify where a strong collection may be aging. That is, a library may have a strong collection in nursing, but the majority of the materials may be more than five years old. Data from WorldCat that includes ILL requests will provide an even more comprehensive approach to analyzing and comparing a library's collection.

ILLiad and Fretwell Downing VDX statistics will be included in a future enhancement, due in spring 2007.

"You'll be able to see the patterns in the ILL requests," explains Lammers. "It will give libraries an even clearer picture about what's in their collections and how it compares with what users are looking for."

And getting users what they want is, in the end, the whole point of collecting all this data and analyzing it more efficiently.

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helpful in locating hotel rooms for our attendees. Thank you, Michael!

Speaking of helpers with the Charleston Conference, many, many, many people have helped us. First and foremost, on the local front, are Regina Semko <semkorfeco.edu> who once worked at the Lightsey Conference Center and knows all about running Conferences and Leah Hinds <leah_hinds@hotmail.com>, who used to work with Regina and is learning the ropes. Our other indispensable on-site helper is David Lyle who is a fabulous techie and can solve any problem in the world. David will also do any task we continued on page 78

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