Building a Consortial Monographic Purchase Plan: The Colorado Alliance of Research Libraries Experience

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Introduction

In the fall of 2005, the Colorado Alliance of Research Libraries found itself in a familiar position: talking about cooperative collection development of monographs. This is something that the Alliance had discussed before, most recently over the previous year with the "not-bought" project to identify and purchase books that no one in the state had yet acquired.[1] This time around, a subgroup began to discuss the possibility of developing a shared approval plan for the consortium.[2] The shared purchase plan that arose from these discussions is an ambitious plan that, by managing duplication of under-graduate-level books, should allow the group to build a deeper shared collection at both the undergraduate and graduate levels. Though cooperative monographic collection development has been tried in many ways, there has been only moderate success.[3] The Colorado Alliance libraries hope to buck this trend with a plan that will control duplication across collections in the state while recognizing unique local needs.

Cooperative Collection Development of Monographs

Libraries have attempted to cooperate in collection of monographs since at least the 1940s when the Farm-ington Plan was developed.[4] The plan, which divided up collection responsibilities among 60 Association of Research Libraries members, was an attempt to ensure that by assigning each library one or more ar-eas to collect in depth, a greater number of materi-als would be available for research across the United States. An underlying assumption of the Farmington Plan was that all libraries would collect core materi-als, but that only the library focusing on the assigned subject area would collect those specialized materials. Other cooperative collection development schemes since then, including most notably the work of the Triangle Research Libraries Network (TRLN), have taken a similar approach.[5] Edward Shreeves notes that

> a fairly standard model for cooperative collec-tion development in the print environment di-vides the information universe into "core" and "peripheral" materials. A research library has a responsibility to maintain on-site a "core" col-lection that serves immediate needs, especially those of undergraduates. At the same time it will develop collections of "peripheral" material in selected areas that respond to local priorities but also serve consortial needs.[6]

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Echoing Shreeves, Robert P. Holley observes that "Cooperative collection development does not normally extend to frequently used materials . . . because libraries must honor their commitments to share materials with their partners."[7] When OhioLINK developed its series of linked approval plans in the late 1990s, it was the first library group to consider the novel idea of collaborating on purchase of core as well as peripheral monographs.[9]

The Colorado Context

The Colorado Alliance of Research Libraries was founded in 1974 by five libraries and now consists of eleven libraries in Colorado and Wyoming.[9] The consortium has long shared resources but, until recently, had not collaborated successfully in monographic collection development. In 1998, the Alliance implemented Prospector, a union catalog that displays the holdings of the Alliance members as well as other public and academic libraries in the region.[10] Users can easily borrow items through Prospector and have them delivered by courier to their local library. Delivery generally takes one to three days for loans between member academic libraries. As librarians and users have gotten accustomed to Prospector, they have grown to count on it in many ways. Librarians make decisions about what to buy based on Prospector holdings, and users have come to rely on it to borrow materials not available locally. Because Prospector serves already as a shared collection, it seemed worthwhile to consider Prospector in terms of collection development decisions at the point of the approval plan.

The Project

The Colorado Alliance shared approval plan discussions were initiated in response to a perception that there was too much duplication of materials across collections in the state.[11] The first task of the planning group, to analyze collection overlap and uniqueness, turned out to be a rather difficult undertaking. The group looked at small samples of titles published between 2001 and 2004 and held by the then ten Alliance members[1] in four call number ranges representing chemistry (199 titles), computer science (200 titles), economics (199 titles), and philosophy (186 titles) and found that 16.1 percent of the economics titles, 16.5 percent of the computer science titles, 34.0 percent of the philosophy titles, and 34.7 percent of the chemistry titles were held by four or more libraries. Analysis of circulation, both in the libraries represented on the planning group for the project and for Prospector as a whole, was conducted for some of the titles in this sample. A snapshot of Prospec-

tor usage was taken for some of the subjects in early December 2005. Of the 35 economics titles held by four or more libraries, fourteen were then available for borrowing at all of the owning libraries, and fifteen were available at all but one. In no cases were all of the titles unavailable. Of the 22 computer science books held by five or more libraries, twelve were available at all of the owning libraries, and three others were available at all but one. None were completely unavailable. Patterns were similar for the other subject areas. And circulation patterns at each library showed that many of these commonly-purchased titles had never been used, or had been used only rarely. Though these data were hardly complete, it seemed clear that the group could better control duplication of books across the collections.

In an interesting study on collection overlap for four subject areas at Duke University, North Carolina State University, and the University of North Carolina, Chapel Hill, Kim Armstrong and Bob Nardini find that collection overlap for the three libraries is only 14 percent for approval books but hits 64 percent with all types of ordering. Only 4 percent of the titles ordered were judged to be "high-circulation," while 54 percent circulated one time or less. They conclude, however, that it would be difficult to eliminate overlap using approval plans and that the benefits of setting up a shared approval plan would likely not outweigh the added effort.[13] This assumption is based at least in part on the belief that "if approval plans indeed focus on a 'core,' then sharing would seem out of the question."[14] However, if libraries decide that it does make sense to share access to core materials, then the data from this study suggest a large percentage of unnecessary duplication.

Based on the preliminary usage and overlap data, the planning committee determined that it would be worthwhile to go forward with a pilot project that would decrease duplication of books across the Alliance academic libraries, allowing for an increase in the total number of titles available, and thus improving overall collection quality. Participating libraries could opt to maintain current spending levels, thus purchasing roughly the same number of books overall but expanding the range of titles covered, or could decrease spending, allowing money to be funneled into other areas of collection need.

The group decided to cover four subject areas for the pilot project: economics, mathematics, political science, and religion. These were chosen in order to have coverage in all of the broad disciplinary areas of the humanities, sciences, and social sciences. Mathematics

was selected specifically because it is relatively heavily dependent on monographs, something unusual in the sciences. Two vendors, Blackwell's Book Services and YBP Library Service, were selected, with mathematics and political science to be covered by Blackwell's and economics and religion going to YBP. Having two vendors allows the Alliance libraries to compare service and subject coverage.

Though there are eleven libraries in the Colorado Alliance of Research Libraries, only eight chose to join in the pilot. Auraria Library, serving the University of Colorado at Denver, Metropolitan State College, and the Community College of Denver, (3 subject areas); Colorado College; Colorado State University; Regis University; University of Colorado at Boulder; University of Denver; University of Northern Colorado (1 subject); and University of Wyoming (3 subjects) are participating. Of the remaining Alliance libraries, Colorado School of Mines will join if the project expands to cover engineering or related topics; University of Colorado at Colorado Springs is a new member of the Alliance but has expressed interest in participating in the future; and Denver Public Library, as a public library with a different collecting mission, is not a logical participant. Approximately $200,000 is being contributed to the project by the eight libraries for the four subject areas. Contributions are shown in table 1.

As noted above, most schemes for cooperative collecting of monographs have focused on specialized materials, with participating libraries agreeing to collect extensively in some subject areas, allowing others to collect heavily in other areas. The Colorado Alliance project takes the opposite approach, choosing to focus on core undergraduate materials. This decision was made for two reasons: 1) because these are the books most likely to be heavily duplicated, and 2) because it seems probable that undergraduates, more so than graduate students or faculty, are more likely to want any book on a subject rather than a specific title. Because of this latter consideration, it made sense to have as many different undergraduate-suitable titles in the state as possible, without as much need to ensure that particular titles were at particular libraries. In addition, the Alliance experience with Prospector had shown that students and faculty were willing to request books from other local libraries.

Before profiling could begin, it was decided that all of the books in each subject area would have to be covered by the same vendor. Though the pilot covers undergraduate materials, the designation of undergraduate status varies between vendors. For Blackwell's, each book is assigned a variety of "academic levels," one of which is "undergrad lib." Though somewhat rare as the only description of readership level, "undergrad lib" shows up frequently combined with a higher level such as "univ/research lib." The group determined that any books with the "undergrad lib" designation would be included. YBP uses a narrower "content level" designation of "general-academic," which refers to lower-level undergraduate materials. Given the varying definitions of undergraduate readership between the vendors, it was crucial not to have coverage within the same call number range between the vendors. Dividing coverage in this way could lead to duplication or gaps in the collection. For instance, in religion, all libraries are using YBP for the undergraduate pilot project. If those libraries with existing approval plans with Blackwell's had maintained that coverage for graduate-level materials, then there would have been gaps because of the larger number of books that Blackwell's would designate as suitable for undergraduates. With an undergraduate plan with Blackwell's and a graduate plan with YBP, an overlap in coverage would occur between the plans. By bringing all of the books in a given call number range under the coverage of a single vendor, these problems are avoided. Only the undergraduate portion of the plan is considered to be part of the pilot, however.

In developing the plan, several factors were considered to be absolute requirements. 1) The plan had to control duplication, and must do so in a way that did not generate more work for selectors. The Alliance wanted decisions about duplication to rest with the vendors. 2) The plan had to allow for direct billing to each library. No one wanted billing to be funneled through the Alliance or through one of the member libraries. 3) The plan had to allow for current institutional practices

Table 1. Contributions to the project—Total of $202,800	
Auraria Library (3 subjects)	11.8%
Colorado College	17.3%
Colorado State University	16.6%
Regis University	4.3%
University of Colorado at Boulder	19.0%
University of Denver	27.3%
University of Northern Colorado (1 subject)	1.5%
University of Wyoming (3 subjects)	2.2%

for materials processing. Some of the libraries receive books fully shelf ready, using the PromptCat service and having the vendor mark the books. Others are fully manual, and some are somewhere in between. Libraries that have extra services agreed to pay for those on top of the amount contributed for the pilot. Several of the libraries participating in the project opted to take the opportunity to pilot shelf-ready services. 4) It had to be a purchase plan; because eight libraries were going to rely on one another to share collecting responsibilities, no one could return books purchased as part of the pilot.

It was also essential that institutional priorities be maintained. No one wanted a situation in which libraries were forced to collect books that did not fit curricular needs or would end up missing titles that were needed. The eight participating libraries each have their own particular requirements; all of which are equally important. In religion, for instance, Regis University, as a Jesuit institution, collects heavily in Catholicism. The University of Denver campus, meanwhile, practically surrounds the Iliff School of Theology, with which it shares some programs and full library access. Because of this, the University of Denver does not want to duplicate materials held at Iliff. Similar situations exist across all of the subject areas and needed to be recognized. Profiling at each library was conducted with each vendor according to these institutional priorities. These profiles did not take into account the fact that they would ultimately help shape a shared purchase plan.

The piece that allows this project to work, and that makes it more than just a series of interlinked approval plans, is based on anticipated usage of the various call number ranges in the profiles. Based on usage levels, each call number range was assigned a cap, an upper limit on the number of copies of a book that could be sent within that range. This cap is applied after the individual profiles run. For example, if these profiles indicate that all eight libraries want a book, but analysis of past usage shows that books in that range do not generally circulate, then a cap of one may be applied. In this case, the vendor would determine which single library would receive a copy of that book based in part on what else was being sent that week, in part on what had been sent in the past, and in part on how much money that library had pledged for the project. The cap is supposed to be an upper limit; if only one library wants a book, but the cap is three, only that one library will receive a book.

Usage levels across the collections were determined through the use of Spectra Dimension, a collection analysis tool developed by Library Dynamics. The par-

ticipating libraries loaded the holdings and circulation data for the past seven years (1999–2005, including some early 2006 imprints) into Dimension. In order to compare at the title level, data for paper and cloth versions of the same book were combined. This tool allows comparison of holdings and usage across all of the participating libraries, between one or more libraries, or to other data sets, such as books reviewed in *Choice*. Though there are dozens of measures available, it was determined that four were most relevant for this project. For a given call number range, it is possible to determine the annualized use per title—the usage for a particular title divided by the number of years since it was cataloged. This allows normalization across libraries that may have cataloged the same book in different years. This figure is then expressed as an average for the entire call number range. This measure is valuable for looking at the relative use of various call number ranges. Another measure, the percentage of books in a given call number range that have never circulated, is useful for determining absence of use. A third measure, the number of copies per title on average for the range, shows what level of duplication has occurred in the past. And a final measure, the number of titles in the range, shows the utility of the previous three measures, since a very high or low number of titles might warrant further study. These numbers were then used to set the cap for each call number range.

Because the call number ranges used by Dimension and the vendors did not match exactly, it was often necessary to do some further analysis at the title level in order to make decisions about usage and set limits. See table 2 for an example of how the data were used and applied for a subset of economics. In most cases the YBP call number ranges were narrower than those used in Dimension. In the HB1-70 and HB501-521 ranges, for example, the match was close enough to use the data for the range as a whole. For the others, patterns were determined at the title level leading to some subjective decisions on the part of the selectors. Similar decisions were made across all of the call number ranges used in the pilot.

The shared profiles, combining the individual profiles with the usage-based limits, varied from subject to subject. As the economics selectors began to discuss their shared profiles, they determined that the YBP "general academic" designation would not deliver enough books, so they decided to open the economics profile to all books, regardless of the content level. The only exceptions would be books priced over $125, refer-

Table 2: Example of utilization of usage data to set limits on number of books to be received.						
Dimension call no.	YBP call no.	Annualized use per title	Number of copies per title	% zero usage	Number of titles	Limit
HB		0.31	2.42	41.04%	2566	
HB1-70	HB1-71	0.05	1.11	80.93%	367	1
HB71-74	HB72	0.32	3.09	28.86%	149	2
	HB73					1
	HB74-74.4					2
	HB74.5-74.9					1
HB75-130	HB75-76	0.27	2.79	32.40%	429	2
	HB77					1
	HB78-79					2
HB501-521	HB501-521	0.46	3.21	21.92%	146	3

ence books, and books blocked because of call number or non-subject parameter. Therefore, even though the original intent of the pilot was to cover just undergraduate books, economics is covering all books. The religion selectors, also working with YBP, decided to follow the original plan to cover just undergraduate materials, as did the selectors working with Blackwell's. The mathematics group, working with a smaller number of more expensive titles, decided that they would prefer an upper limit of four copies and a lower limit of two. All other subjects used a range of one to three.

Assessment

Because this is a pilot project, it is important to be able to assess its successes and failures. The group could decide to expand or narrow the project, focus on particular subject areas, work with a single vendor, or end it entirely based on a combination of qualitative and quantitative measures of the project's success.

In order to assess the project properly, the participants have asked for multiple reports. On a monthly basis, each vendor will send a list of the titles sent and to whom. This will be used to determine whether distribution of titles seems reasonable given the profiles, the spending contributions, and the limits; and whether the titles sent match each library's institutional priorities. A second monthly list, of titles sent to no one, will be used to determine whether the group profile is catching all of the books relevant to all of the libraries. Based on these reports, the profiles—group and individual—could be adjusted.

Those libraries that had approval plans prior to the start of the pilot project have requested that their exist-

ing vendor send them lists of titles that would have been sent had they continued with their previous arrangement. This will allow direct comparison of the coverage of the pilot with the approval plan and will sometimes allow vendor-to-vendor comparisons.

Much of the assessment will be conducted using Spectra Dimension. At the start of the project and at six-month intervals various reports are being generated in Dimension. Data will be stored in Dimension in case it becomes clear at a later point that some as-yet-unimagined report is necessary. One report that will be produced is the number of copies per title for the call number ranges used in the pilot. This may or may not change over time. It could be the case that some of the areas in which libraries had not previously duplicated holdings are actually high-use sections. In these cases it would be expected that the number of copies per title would increase. It should be the case, though, that the number of copies per title should more closely match usage. Over the first year or so of the project, these amounts should change only slightly given the large number of books already in the system versus the relatively small number added annually.

Another set of Dimension reports are the annualized use per title and the percent of titles with zero usage. Both of these reports measure usage, but at different ends of the scale. Annualized use per title looks at how often books in a call number range circulate, while the zero usage report indicates the percentage of books in the range that are never checked out. These may not change at all. What should change is the relative number of copies per title in sections such that low-use sections should have less duplication than high-use areas.

A final set of Dimension reports looks at the percentage of *Choice* and Library of Congress English-language titles in the shared collection. Dimension allows comparison of Alliance or individual library holdings with preexisting data sets including *Choice* and the Library of Congress. *Choice*, as a major reviewing source for books suitable for undergraduates, provides a useful data set of books judged to have some scholarly significance. The Alliance already owns close to 94 percent of the titles reviewed by *Choice* so an increase would be marginal. It is possible, considering that reference books were removed from the Alliance data set, but not from the *Choice* set, that coverage of *Choice* titles would not increase at all. An analysis of the missing *Choice* titles would then need to be done on a title-by-title basis to make sure that nothing had been missed. Any increase, however, could be judged a success in expanding the range of the collection. The collection of Library of Congress English-language books is a huge set of materials. Even with great success, the Alliance will only own a relatively modest percentage of these books, but that percentage should go up if the project is successful in broadening the range of materials available in the state.

In addition to the Dimension usage data, which tends to look more broadly at a set of materials, the group plans to look at usage of the specific books that come in on the project (all of which are being coded in both the bibliographical and item records) within each library. Uneven usage of books between libraries could show that the distribution of books needs to be changed. Extremely high usage in one library might indicate that that library needs to receive one copy of every book in that call number range. Extremely low usage could indicate to a library that it can rely on the other institutions for books in that range.

A final measure of usage comes from Prospector. Though there is no easy way to pull usage data for all of the books that come in on the project, snapshots of Prospector will be taken at various points in time for sample data to show how often every copy of a book is checked out simultaneously and how often there are holds on books. It is possible that even with relatively low usage, some books will be in high demand at the same point in the year, leading to a need for more copies than pure annual usage would indicate necessary.

Some assessment of user and selector satisfaction will be necessary as well. Faculty and student satisfaction can be measured formally, through focus groups and surveys, and informally, by asking librarians and staff at reference and circulation desks about any comments or complaints about the need to borrow more books through Prospector or the availability of more or fewer relevant books in the home collection. It will be important that at least some of the formal feedback received is based on general questions about satisfaction with collections rather than pointed questions about the pilot which might sway opinions. Selectors will be asked about their opinions on the books being received versus what would have been received as well as any feedback they may have received from faculty and students.

It will likely take two years or more to get a good sense of the impact of the project. Considering the large size of the existing collection versus the relatively small amount of books being added through the pilot, and given the fact that it takes time for usage data to build up, it would be premature to make any decisions before the two-year point.

Scalability

Setting up the project took a tremendous amount of work. Acquisitions departments needed to learn new workflows and develop relationships with new vendors. Systems offices needed to develop new loaders. Profiling needed to be done for PromptCat for a new vendor. Selectors needed to be trained on Spectra Dimension and one or two vendor platforms. Vendors needed to meet with multiple selectors to reprofile. And vendors needed to develop processes, all manual at this point, to correctly distribute books to multiple libraries. Clearly this was a lot of work for just four subject areas. An obvious question, then, is whether this project could be scalable to all of the subject areas for the entire consortium and beyond that to other library groups. In theory, it could be. Much of the work up front would need to be done for one subject area or 100. Thus expanding to more subjects would not impact libraries as dramatically as did initial setup. The vendors would be impacted much more. Reprofiling across all subjects for eight libraries would take a tremendous amount of time. The biggest barrier at this point to expansion of the project, however, is the fact that all of the distribution decisions made by the vendors are fully manual. To make such a project possible at a larger scale, distribution would need to be automated.

Conclusions

Cooperative collection development of monographs has been frequently attempted, but with only moderate success. The Colorado Alliance of Research Libraries pilot of a shared purchase plan takes a different ap-

proach than almost all past attempts, focusing on core, undergraduate monographs rather than on specialized materials. By controlling duplication of these books, the consortium hopes to build a stronger shared collection. Though it is much too early to judge whether the project is a success, several factors make success a possibility. Foremost among these is the presence of Prospector, a shared catalog, easily accessible to users at all libraries. Students and faculty at the Alliance libraries have grown accustomed to borrowing books from other local libraries and librarians have gotten used to counting on each other to purchase books for the state. This culture of collaboration, combined with the need of many libraries in the state to cut monographic spending, makes true cooperation possible.

Though simple in theory, this project was not easy to set up. It took a tremendous amount of work from all involved. Some of that effort, such as establishing workflows for new vendors, would not need to be repeated if the project were expanded, but some of the steps, such as profiling each subject area at each institution, would have to be done multiple times if the pilot were to grow. That, combined with the fact that the vendors need to figure out how to automate their processes, makes it imperative that the participants can judge success. Thorough assessment of the quality and use of the books received is essential. If the project does work, and the vendors can create automated systems for distributing books, then the pilot has the potential to be a model for other consortia considering similar projects.

Notes

1. Joan Lamborn and Michael Levine-Clark, "Cooperative Monographic Collection Development Part II: The Colorado Not-Bought Project—Cooperative Collection Development without a Shared Approval Plan," in *Charleston Conference Proceedings 2005*, ed. Beth R. Bernhardt, Tim Daniels, and Kim Steinle, 27–29 (Westport, Conn.: Libraries Unlimited, 2006).

2. The libraries involved in planning the project were Colorado State University, Regis University, the University of Colorado at Boulder, the University of Denver, and the University of Northern Colorado.

3. See, for example, Joseph J. Branin, "Cooperative Collection Development," in *Collection Management: A New Treatise*, ed. Charles B. Osburn and Ross Atkinson (Greenwich, Conn.: JAI Press, 1991), 87–89; and Ross Atkinson, "Introduction for the Break-Out Sessions: Six Key Challenges for the Future of Collection Development," Paper presented at the Janus Conference on Research Library Collections, Cornell University, October 10, 2005): 14–15. http://hdl.handle.net/1813/2608 (accessed December 12, 2006).

4. The most comprehensive overviews of the plan are Ralph D. Wagner, *A History of the Farmington Plan* (Lanham, Md.: The Scarecrow Press, 2002) and Edwin E. Williams, *Farmington Plan Handbook*, rev. and abridged ed. (Ithaca, N.Y.: Association of Research Libraries, 1961). A useful brief overview is Edwin E. Williams, "Farmington Plan," in *Encyclopedia of Library and Information Science* ed. Allen Kent and Harold Lancour (New York: Marcel Dekker, 1972), 8: 361–68.

5. For the work of the TRLN see, for instance, Patricia Buck Dominguez and Luke Swindler, "Cooperative Collection Development at the Research Triangle University Libraries: A Model for the Nation," *College & Research Libraries* 54, no. 6 (Nov. 1993): 470–98; and Luke Swindler and Terry B. Hill, "Using Common Vendors, Joint Approval Plans, and Shared Acquisitions Databases to Enhance Cooperative Collection Development," *Against the Grain* 16, no. 1 (Feb. 2004): 26–30.

6. Edward Shreeves, "Is there a Future for Cooperative Collection Development in the Digital Age?," *Library Trends* 45, no. 3 (1997): 377.

7. Robert P. Holley, "Cooperative Collection Development," in *Encyclopedia of Library and Information Science*, 2nd ed., ed. Miriam Drake (New York: Marcel Dekker, 2003), 1: 699.

8. Carol Pitts Diedrichs, "Designing and Implementing a Consortial Approval Plan: The OhioLINK Experience, *Collection Management* 24, no. 1/2 (2000): 37.

9. *The Colorado Alliance of Research Libraries—Alliance Members*. http://www.coalliance.org/index.php?option=com_content&task=view&id=26&Itemid=43 (accessed December 13, 2006).

10. *The Colorado Alliance of Research Libraries—Prospector*. http://www.coalliance.org/index.php?option=com_weblinks&catid=22&Itemid=42 (accessed December 13, 2006).

11. Here and throughout this paper, "the state" includes the University of Wyoming.

12. The University of Colorado at Colorado Springs joined the Colorado Alliance of Research Libraries after the project began.

13. Kim Armstrong and Bob Nardini, "Making the Common Uncommon: Examining Consortial Approval Plan Cooperation," *Collection Management* 25, no. 3 (2001): 87–105.

14. Ibid., 93.