

## Profiling a Periodicals Collection

*Libraries faced with budget cuts and rising book and periodical prices cannot afford to be without solid information upon which to base collection development decisions. Evaluative methods are needed to determine the scope, quality, accessibility, and usefulness of the existing collection so that development can proceed in a direction parallel with the current needs and future goals of those whom the library serves. Specific methods for obtaining such data about a periodicals collection are described. Several approaches were used, including analysis of unmet user needs as shown in interlibrary loan requests, comparison with major bibliographies, analysis of the accessibility of the collection through available abstracts and indexes, and determination of the relationship between the collection and the academic programs it is designed to support.*

IT SEEMS A PARADOX that librarians these days must often use their expertise not so much to develop their collections as to identify those areas that can safely be left undeveloped. The days of openhanded spending are over; few institutions can now afford to purchase materials without a carefully formulated, comprehensive developmental plan. The problem remains: how to evaluate the collection in terms of assigning priorities for the purchase of materials.

Since the price increases of periodical subscriptions have been among the most staggering of the blows to library funding in recent years, much of the interest in collection development has focused on this area. A growing body of literature has developed describing procedures for identifying lesser used periodicals for the purpose of subscription cancellations. Studies such as those by Holland, Windsor, and Maxin attempt to objectively measure actual periodical use and relate user patterns to the cost of servicing apparent needs.<sup>1,2,3</sup> Various methods of citation analysis, such as those described

by Chambers and Healey and Scales, measure ascribed use to determine the research needs of the user community.<sup>4,5</sup>

While literature of this nature provided a background of ideas for methods of determining specific use characteristics in a given collection, our objective was to obtain a more comprehensive view of our periodicals holdings. Cancellation of subscriptions was one welcome result of our study, but the major goal was to evaluate our collection as a functioning unit.

Such a study seems particularly appropriate at this point in our institution's history. In the early 1970s James Madison University entered a period of rapid growth and change: within five years the student population almost doubled to reach 8,000, the faculty increased accordingly, and many new academic programs on both the bachelor's and master's level were developed. The collection grew from 160,000 to 232,000 volumes; periodical subscriptions increased to 1,875. When statewide budget cuts made every penny important for collection maintenance, the need for reappraisal became pressing.

The profile of the periodicals collection was composed of four major elements: data on the library's currently received periodicals; data on the periodicals holdings

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supporting each of the twenty-six academic departments on campus; an analysis of the interlibrary loan periodical transactions for the previous calendar year; and the analysis of journal citations in master's theses in three academic departments over the past five years. Each of these phases, described in detail below, entailed various kinds of research which produced a large amount of very specific information.

The periodicals office was responsible for compiling the data for the first two phases, while other staff members were called upon to help with the third and fourth phases. The project was coordinated by the dean of libraries. Since the periodicals department is perhaps the most understaffed area in our library, the project necessarily often had to be set aside and, therefore, took close to eight months to complete; less time would have been needed, however, had more intensive work been possible.

#### DATA ON CURRENTLY RECEIVED PERIODICALS

The first phase of our study attempted to gain an overview of our currently received periodicals (1,875 titles) through several kinds of analysis: a definition of the extent to which these periodicals were accessible through the subject indexes and abstracts available in the library; a comparison of our current holdings with Farber's and Katz's bibliographies;<sup>6,7</sup> and a delineation of our back-file situation.

We began by assigning code letters to each of our subject abstracts and indexes, and as the lists of periodicals covered by each abstract/index were checked against our shelf list, the appropriate code letters were marked on the shelf list. As we progressed in this endeavor, we found that we were actually identifying two sides of the same coin: not only were we tallying the number of titles in our current collection covered by specific abstracts or indexes, but we were also discovering the specific abstract/index in which each title could be found. Having this last bit of information on the shelf list is of continuing benefit, since it enables us to help patrons who need to know which index to use in locating articles in a particular journal.

At the same time that the shelf list cards

were coded, the list of periodicals covered by each abstract/index was marked, so that we were able to determine the percentage held of the titles in each abstract/index.

For the checking of Farber and Katz, the shelf list cards were photocopied (forty entries to a sheet) and entries were marked F or K. Our holdings were also put on these sheets, and from that information we were able to color code each currently received title according to whether we had two to five years of back-files, more than five years of back-files, or complete back-files. Fundamental to statistical accuracy in phases 1 and 2 was the determination of a cut-off date (September 1975) after which newly ordered or newly arriving titles were not considered.

Data obtained through these procedures were concisely stated on one page, (see figure 1). While only the more general or comprehensive abstracts and indexes were included on this sheet, those that pertained to specific subject areas were listed on the data sheets for related academic departments. In reviewing the results of this phase of the study, it was apparent that the science and technology journals were the least well represented in the collection. The staff had felt intuitively that this was the case; that feeling was now documented.

#### DATA ON THE PERIODICALS SUPPORTING ACADEMIC PROGRAMS

The second phase of the study focused on the support our current titles gave each academic department. To begin to determine this, we needed to assign each title to an academic department. This proved to be the most difficult part of the study because so many journals fit equally well into several areas of study. Records for subscriptions that had been entered in the last several years contained the name of the requesting department, but those formed only a small percentage of the current titles and did not always help since faculty sometimes requested titles outside their field.

For each academic department, three lists were prepared: titles assigned primarily to that department, with the expiration date and the cost (cost was broken down to an annual rate); titles supportive of the department's program but primarily assigned

Number of periodical titles currently received on subscription	1,875
No. of titles with more than 2-year back files	480
No. of titles with more than 5-year back files	1,280
No. of titles with complete back files	437
Cost of current subscriptions on annual basis	\$81,480.30
Number of currently received titles not indexed by any subscription service	448
Number of currently received titles indexed by at least one	1,427
Number indexed by 3 or more subscription services	883
Percent held of titles listed in the following:	
Farber - Classified List of Periodicals for the College Library	62 %
Katz - Magazines for Libraries	20 %
Readers' Guide	78 %
Humanities Index	72.5%
Social Sciences Index	64.3%
Applied Science & Technology Index	17.8%
Biological & Agricultural Index	34.7%
Chemical Abstracts - 100 Most Cited Journals	53 %
Education Index	79 %
Business Periodicals Index	49.6%

Fig. 1  
Profile of Periodicals Collection of James Madison University  
(Sept. 1975)

to other departments; and supportive titles received on government depository and other free items.

Once the lists had been made, a data sheet similar to that for the entire current collection was prepared for each department. The number of currently received titles primarily supporting that department, the number and kind of back files, the annual cost, and the percentage held of titles covered by the appropriate abstracts and indexes—plus the alphabetical lists of titles—were sent to each department. Thus each department was provided with some means to judge the adequacy of the periodicals collection in supporting its academic program, and each was asked to study the list and report back titles that could be dropped.

Departmental responses varied. While most gave evidence of careful consideration, some found it difficult to part with anything,

some felt that certain titles should be assigned to other departments, and others had no response. We had not set a percentage goal for cancellations as was done at Western Washington State College.<sup>8</sup> Our departmental responses resulted in the cancellation of forty-two titles, the dollar reduction amounting to approximately \$1,510.

Beginning with 1975-76, a system of departmental allocations was implemented, bringing about a change in the payment of subscriptions. Each department is charged the initial cost and the renewals of all its subscriptions requested since July 1, 1975. The library is charged for all that had been requested before that date. This caused some departments to curtail their periodical requests, and even though we have added 179 new titles between July 1, 1976, and June 30, 1977, it is clear that most departments have been exercising greater selectivity than before. This brings our total

number of titles currently received to 2,216, of which 148 are free and/or depository items. In checking with a number of other colleges of similar size, we find that our number is on a par with others.

#### ANALYSIS OF INTERLIBRARY LOAN PERIODICAL TRANSACTIONS

While the in-depth description of the library's periodicals holdings provided essential information about the scope, quality, and accessibility of the collection, it did not indicate the ways in which the collection may or may not be of value to the library's clientele. It was felt that an analysis of the interlibrary loan periodical transactions would provide one means of arriving at an assessment of the usefulness of the collection. The interlibrary loan (ILL) analysis, as well as the study of the journal citations in master's theses, was carried out with the aid of the campus computer center.

The analysis of outgoing ILL periodical requests was designed to investigate several aspects of periodicals use:

1. The types of users, indicating the level of research for which the periodicals were requested.

2. The disciplines in which periodicals were most often requested, indicating possible weak areas in the collection.

3. The number of requests for individual periodicals, indicating any journals used extensively enough to warrant purchase of a subscription or back files.

4. The nature and size of the institutions that filled the requests, indicating any journals consistently supplied by institutions of less scope than ours that could possibly be considered for inclusion in our own collection.

Each of the outgoing requests was noted on a standard ILL request form to which the ILL librarian had added information concerning the fulfillment of the request. Those requests that were cancelled (i.e., could not be filled) were omitted from the study because the many different factors relating to the reasons for cancellation made it impractical to attempt to include them.

The data from the ILL request sheets were arranged in simple code form on "Mark Sense" computer cards in the following fields:

1. Identification number. Each request form was numbered.

2. Year. Initially it had been planned to analyze several years' worth of requests, but staff and time limitations made it possible to consider only the previous calendar year.

3. Requester. Faculty member, graduate student, and undergraduate were the three possible categories. Since undergraduates must have the signature of a faculty member to request ILL materials at our institution, it was expected that requests in this category would form a small percentage of the total requests.

4. Periodical requested. Each periodical was identified by a code number based on its location in the 1975-76 edition of *Ulrich's International Periodicals Directory*.

5. Discipline represented by the periodical requested. For the sake of convenience, we used our academic departments as a basis for a subject breakdown, with one code for general interest magazines. The problems that arose when a periodical fit into more than one department's programs would have been alleviated by a more detailed subject structure.

6. Type of institution that filled the request. The categories used were (a) academic library (b) public or special library, (c) national library. Public and special libraries were grouped together because so few of the requests were sent to either of these types. If the request was filled by an academic library, a further breakdown was made by size.

Through computer manipulation of the data, subsequent print-outs gave a detailed picture of library user needs that had not previously been available in any form. It was most interesting to see exactly which subject areas drew the greatest number of requests and to isolate the specific journals that were most often requested. Science and technology titles drew the most requests, a fact that correlated with our findings on that area of the collection in the first phase.

Interlibrary loan records included a total of 322 requests for 218 different periodical titles. Six titles only were requested six or more times, but no record was maintained of the dates of the issues involved. In view of the recent interlibrary loan guidelines to



the new copyright legislation,<sup>9</sup> it would seem on the basis of this experience that no one journal was requested often enough to warrant entering a subscription for that title.

While the results of an analysis such as this may become dated fairly quickly—especially if the institution is still growing—the data on collection use, in conjunction with an understanding of the goals and the direction of the institution, could provide a valuable tool for long-range collection development planning. The new copyright legislation may make this kind of analysis a commonplace in the future.

A much less elaborate study of incoming ILL periodical requests was also undertaken as a means of investigating the value of the periodicals collection to researchers in the wider academic community. While this information did not relate directly to collection development, it served to round out the total picture of the ILL function with regard to periodicals.

#### ANALYSIS OF JOURNAL CITATIONS IN MASTER'S THESES

The analysis of journal citations in master's theses was undertaken as a means of measuring the research value of the periodicals collection to one specific and—through the theses—easily identified segment of the library's clientele. A great majority of the theses produced over the last five years fell within three academic departments; these were the theses selected for the study. Because the academic programs of the university have changed greatly in the past several years, it was felt that five years was a sufficient time period to gain a meaningful view of the graduate student use of the collection.

The study was designed to obtain the following information:

1. The percentage of journal citations available at the library, indicating the extent to which the need for periodical literature was met by the library.
2. Identification of those journals cited most often for which the library had the title but not the issue, indicating the periodicals for which back files are most in demand in the areas considered.

Since the library has added many journal

titles to the collection in the recent past, our study concentrated mainly on those periodical citations for which the library had the title but not the issue. Identification of those journals cited most often that were not available at all in the library was not included in the study, but could easily have been incorporated using the location in Ulrich's as a code in the same way as was done in the ILL analysis.

The bibliography of each thesis was examined and checked against the periodicals shelf list, and a previously prepared standard work sheet was filled out. Information about each was then arranged on "Mark Sense" cards in the following fields:

1. Identification number.
2. Year.
3. Department.
4. Total number of citations.
5. Total number of periodical citations.
6. Number of periodical citations available in the library.
7. Number of periodical citations not available in the library.
8. Number of periodical citations for which the library had the title but not the issue.
9. Periodicals cited for which the library had the title but not the issue.

The print-out achieved through computer manipulation of the data was organized to give the total numbers of citations in each of the categories described above. In the final report that was compiled from the data in the print-out, one could see at a glance not only the specific title for which back issues had been needed, but also the statistical information detailing the extent of that need as well as a delineation of the gaps in the library's holdings for each title.

Results of the profiling effort have been used in such collection development activities as the application of a grant under the College Library Resources Program, Title IIA of the Higher Education Act, for microform periodical back files.

Most important, the library was now able to deal in concrete terms with the faculty concerning the periodicals collection. Pinpointing the weaknesses of the collection has made it possible for our librarians to attempt to guide faculty requests toward a better balanced collection and one that

realistically supports the actual curriculum.

While the specific statistical results obtained in our profiling work are of local interest only, the methods used to arrive at these data may be of benefit to others striving to develop high quality collections in the face of often severe budgetary limitations. The four phases of our periodicals project were, naturally, designed to meet our own needs, but each phase could easily be expanded or adapted to suit other situations.

There are also many other activities that

could be pursued in conjunction with those described here to further illuminate various facets of the periodicals collection and its use. Surveys attempting to more definitively isolate lesser used items, for example, would be a necessary step if actual elimination of periodicals was the goal. The basic point is that methods must be formulated that will give concrete, accurate information to guide decision making. Library management today must be grounded on such methods.

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