

# Keeping Track

## The Development of an Ongoing Journal Usage Survey

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### Introduction

Most journal use studies are undertaken in order to find out

1. which journals are used most frequently
2. which journals are seldom, if ever, used.

The escalation in journal prices and the accompanying financial pressure felt by many libraries has made it imperative that libraries subscribe only to those journals which are truly necessary to the research, teaching or public service carried out by the library's patrons.

The information gained can also be helpful in lobbying for extra funds or space. Research programs change and the needs of a library change. Use patterns fluctuate. There is change over time as journals rise and fall in popularity and as some areas of research are dropped for more current or vital areas of interest.

The pattern of journal use can be helpful in deciding which titles to store or discard and as a means for keeping library staff informed of the value of the collection to library users.

But because journal usage changes over time, and each year decisions concerning selection, cancellations, storage or disposal must be made a continuous method of ascertaining usage with minimal expenditure of labour would be useful. Many methods of surveying journal use have been described in the literature and a summary of these can be found below. Most of these address the problems of use during a specified period. Bensman (2) in a review which discusses at length "the problem of exponential growth in the numbers of journals and the inflationary surge in their prices" concludes that "academic libraries should establish systems for constantly monitoring both their external and internal journal usage."

Two previous surveys had been carried out in the Library at Rothamsted Experimental Station; one

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which collected statistics on current use only, using the method described in point 1 below. The Librarian was conscious that both surveys were restricted in their usefulness. The results provided a 'snapshot' of the situation at one time and could not be considered for any other time or type of use. This was a serious drawback in a situation where extensive reorganisation and restructuring of research was taking place and where research emphases were radically changing. In these circumstances it was important to devise a method that would monitor use on a continuing basis and which would, because of staff constraints, require a low input of labour.

### Methodology

The extensive literature on journal use was searched for methods which took account of the limitations of short-term surveys. None were found. Some examples of existing methodology are briefly summarised below.

#### 1. Questionnaires and user surveys

These methods survey users and their opinions. Typically, library users are informed of the problem, which is usually financial, and are asked to rank, or classify, a list of journal titles (21). Readers can also be asked to list the titles necessary for their work (8) or be given a set number of votes to cast for the titles they think important (7). As with all surveys, response can be variable and second and third reminders may be necessary. Few respondents are as recalcitrant as those encountered by Sir John Sinclair in 1791. "He used, in all, twenty-three different circulars in addressing the less willing of the ministers, proceeding from request to entreaty, from entreaty to remonstrance, from remonstrance to expostulation, and, finally, writing in red ink!" (17)

#### 2. Citation studies

Citation counts assume that the journals which are cited most frequently are the most important (5). Ranking journals according to their citation frequency was made practicable when computers became commonplace in the publishing industry. The Institute for Scientific Information, started by Eugene Garfield, produces and sells the *Science*

*Citation Index* and other citation indexes and also produces lists of ranked journals which are generated from the indexes. These lists can be used by libraries as an aid in deciding which journals to subscribe to.

The value of citation counts as a measure of use has been challenged by several writers (15), (14), (12), (13). In her review of journal use studies Smith (18) questions the use of citation counts as a sole indicator of use and concludes that "Citations are indicators of use but there is probably a need for multiple indicators as demand does not strictly parallel citation."

### 3. Direct use studies

There are several different types:

a) **Observation.** An observer stationed in an appropriate area of the library may record which books and journals are consulted by library patrons (9), (3). The definition of 'use' must be decided upon before the exercise commences.

b) **Loan Counts.** Where written records are kept of loans these may be accumulated and counted (20).

c) **Use Counts.** In libraries where journals may not be borrowed, patrons may be asked not to reshelve material so that library staff may record what is left on tables and trolleys (21). Alternatively an adhesive coloured spot may be placed on the spine or front of journals that have been removed and these spots may then be counted at a later date (16), or slips of paper inserted to verify use (11).

### 4. Publishing activity

The journals in which users publish their own work may be monitored. These published papers can be examined, in turn, to discover which journals library users are citing (6) (19).

### 5. Professional experience

Library managers may decide on new subscriptions and cancellations on the basis of their own experience and expertise (11).

## Aims and Objectives

None of the above methods give value to the type of use and most are labour intensive. We decided therefore to devise a method which would be useful to other librarians in a variety of circumstances and which would:

1. make use of software already available
2. not request feedback from users
3. record as many types of use as possible
4. require little time and effort
5. and, most importantly, record use on a

continuing basis.

We recognised that some types of use would go unrecorded, e.g. in the Library at Rothamsted in-house use is difficult to record because there is free access to all materials. It has been suggested, however, that "the ratio of in-library use to at-home use tends to remain relatively constant" (11). In addition, because photocopying is done by library users who reshelve the journals used, there is no way of recording this type of use separately. Loan requests made to other libraries were not incorporated as a separate 'use' initially although provision for their later inclusion was made.

## Background

Any methodology will have to take some account of the peculiarities of practice in different libraries. Before describing the method we developed at Rothamsted it is sensible therefore to give some account of the context within which the work was done.

**Rothamsted Experimental Station** is the oldest agricultural research institute in the world, having been founded in 1843 by John Bennet Lawes. The Station is financed through the Agricultural and Food Research Council by grants from the department of Education and Science and the Ministry of Agriculture Fisheries and Food. In 1986/7 there were five scientific divisions and approximately 600 scientific and support staff. At that time the Soil Survey of England and Wales and the Commonwealth Bureau of Soils were also housed at Rothamsted and made use of the Library.

The Library at Rothamsted is divided among several sites. This division partially reflects a subject division. There are approximately 100,000 bound volumes. Three-quarters of these are journals - 7,000 titles of which 1,800 are currently received. Periodicals are listed in two hardcopy catalogues which also exist as machine readable files.

There is free access and all items can be borrowed except for reference materials and new journals on display. Once the latter are removed from display they are circulated to departments and to individuals on request. The departmental circulation list on a Rotadex is reviewed annually. Individuals may request any item on display to be circulated to them by completing a reservation slip and attaching this to the cover of the journal.

Library users are responsible for recording their own loans on three-part forms, pre-stamped with

the date due. In comparison with a university or college library serving a student population, annual loans are low - 15-20,000 per year.

There is no way of detecting in-house use other than by direct observation of library users. In a research library like Rothamsted this may well represent the highest proportion of use. Further consultation of the literature and of library users has failed to elicit a method to take account of this type of use which did not demand considerable co-operation from readers and which was not labour intensive.

The Library also maintains a database of publications and receives, as a matter of course, copies of each paper published by a member of the staff.

## Method

In 1986/7 Rothamsted's computing needs were serviced by two VAX 11/750 computers, part of the AFRC X-25 network. A database was created in consultation with the Rothamsted Computing Unit using VAX Datatrieve software which was already available. This software allows enquiry, modification and maintenance of the information stored as well as reporting in many formats.

Data was recorded in seven fixed length fields (characters in brackets):-

### 1. Journal title (30)

This was abbreviated by using the first three letters of each title word and ignoring 'stop-list' words. Where the title consisted of one word this was used in full. A stop-list and abbreviations authority list was created. The authority list was matched against the 'List of Current Serials', which existed as a separate file, for reporting purposes.

### 2. Volume and year (10)

Inclusion of the year allowed easy estimation of the spread of use over time (4)

### 3. Month (4)

This was used where no volume number was specified.

### 4. User's name (15)

### 5. User's department (5)

This was abbreviated and an authority list prepared.

### 6. Type of use (2)

Volume of use was recorded here not "amount of use" as defined by Lancaster (10). No qualitative evaluation was made and no attempt was made to give 'weight' or value to any particular type of use.

In all seven types of use were taken into account, each represented in the record field by a single letter.

We recorded

- a) reservations (C)
- b) loans (L)
- c) departmental circulation (R)
- d) observed use (O)
- e) journal in which a paper was published (P)
- f) journals cited in e) (S)
- g) inter library loan requests to Rothamsted (I)

## 7. Number of uses (3)

Input to the database is simplified by a procedure which prompts for input by field name. Further procedures were written to allow reports to be produced on usage (and non-usage) by title, by department and by user.

Reports can also be generated for those titles which do not occur in the 'List of Current Serials'. These can indicate, for example, differences between journals received and those in which staff publish, or how much use is being made of those titles no longer received.

Allowance has been made for the addition of yearly costs and the frequency of publication to the 'List of Current Serials'. This will enable a report to be generated which will indicate the cost-effectiveness of specific titles.

Additional reports can be produced easily.

## Conclusions

In 1980 an American Library Association Report (1) recommended that the following information be collected to assist in selection and cancellation of titles:-

1. How often the material was used
2. By whom
3. Usage over time
4. Cost
5. Publication patterns

The database we have developed contains this information and requires little more than 45 minutes per day of staff time.

It is too early to assess the long-term value of the data that is being collected. Already it has been possible to identify a number of titles that are never used and also those journals frequently cited and in which Rothamsted staff publish but to which the Library does not subscribe. To draw further conclusions at this stage would be unjustified.

Much of the current literature is, as we have said above, concerned with small sets of data gathered at specific times in particular circumstances. The two-fold purpose of this project was to devise a methodology that might be applicable in a range of circumstances and that would record information on a continuing basis. This we have done and set in motion a long-term study in which the value of the cumulating data can only accrue.

### References:

- (1) ALA. 1980. Library Effectiveness: A State of the Art. *Papers from a 1980 ALA Preconference. June 27-28. Library Administration and Management Association/ALA. N.Y.*
- (2) Bensman, Stephan J. (1985) Journal collection management as a cumulative advantage process. *College and Research Libraries* 46: 13-29.
- (3) Brember, V.L. and Leggate, P. (1985) Linking a medical user survey to management for library effectiveness. I - The user survey. *Journal of Documentation* 41, 1-14.
- (4) Eardley, D. and Eatwell, R.F. (1977) Surveys of journal use in the Library of the University of Surrey, 1972-1975. A Methodology. In *Developing Library Effectiveness for the Next Decade*. Edited by Nancy Fjallbrant and Kerstin McCarthy. Goteborg, Sweden: IATUL, pp. 161-71.
- (5) Garfield, E. (1972) Citation analysis as a tool in journal evaluation. *Science* 178, No. 4060, 471-79.
- (6) Garfield, E. and Weinstock, M. (1975) What is the literature cited by agricultural scientists? *Current Contents* No. 20, 19 May.
- (7) Horwill, C. and Lambert, P. (1987) 1 Man --- 100 votes: a new approach to reviewing periodicals subscriptions at the University of Sussex. *ASLIB Proceedings* 39, 7-16.
- (8) Hutchinson, S. (1986) Identification and selection of core journals. In *Biennial Conference of AFRC Librarians and Information Officers, Warwick: University of Warwick, 1986*, pp. 1-19.
- (9) Kent, A. et al (1979) Use of library materials: The University of Pittsburgh Study. New York: Marcel Dekker.
- (10) Lancaster, F.W. (1977) The measurement and evaluation of library services. Arlington, VA: Information Resources Press, 1977.
- (11) Lancaster, F.W. (1982) Evaluating collections and their use. *Collection Management* 4, 15-43.
- (12) Line, M.B. (1984) Changes in rank lists of serials over time: interlending vs citation data. *Interlending and Document Supply* 12, 145-147.
- (13) Line, M.B. (1985) Use of citation data for periodicals control in libraries *College and Research Libraries* 46, 36-37.
- (14) Rice, B.A. (1979) Science periodicals use study. *Serials Librarian* 4, 35-47.
- (15) Scales, P.A. (1976) Citation analysis as indicators of the use of serials *Journal of Documentation* 32, 17-25.
- (16) Shaw, W.M. Jr. (1978) A Practical journal usage technique. *College and Research Libraries* 39, 479-84.
- (17) Sinclair, W.M. (1896) Sir John Sinclair - Founder and President of the first Board of Agriculture. *Journal of the Royal Agricultural Society* 7, 1-21.
- (18) Smith, L.C. (1981) Citation analysis. *Library Trends* 30, 83-106.
- (19) Stankus, T. and Rice, B. Handle with care: use and citation data for science journal management. *Collection Management* 4, 95-110.
- (20) Strain, P.M. (1966) A Study of the usage and retention of technical periodicals. *Library Resources and Technical Services* 10, 295-304.
- (21) Wenger, C.B. and Childress, J. (1977) Journal evaluation in a large research library. *Journal of the American Society for Information Science* 28, 293-99.