How Biomedical Investigators Use Library Books*

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ABSTRACT

Relatively few studies have been concerned with the use of biomedical books. This paper reports an investigation into use made of library books by biomedical investigators. Based on cancelled charge slips collected at the Yale Medical Library circulation desk, telephone appointments were made to interview those research investigators whose books had been returned the previous day. The interviewer obtained answers from the investigator to a questionnaire to discover how the investigator had learned of a book, if the book had been useful, and, if useful, how it had been used. During the six-month study period, 30.4 percent of researchers' volumes returned were monographs. Almost four-fifths of books borrowed supplied information wanted, and about four-fifths of books used had been printed in the previous decade. Nine-tenths of the use of books was research-related, the other tenth being for lecture preparation.

THE overwhelming majority of papers reporting quantitative studies of literature usage have been concerned with journal articles. Such investigations have analyzed citations, library usage, and data developed by questionnaires and "diary" techniques. Surprisingly little is known of book usage, for only a few studies have been concerned with books, and still fewer, even in part, with biomedical books (1–3). This paper reports an investigation into use made of library books by biomedical investigators and provides at least some answers to the question, "For what purposes do biomedical research people use library books?"

Materials and Methods

A list was compiled of individual research workers in schools and departments using the Yale Medical Library. This list comprised 437 names of faculty members, including post-doctoral fellows; it did not include the names of interns, residents, and technicians.

Each day, charge slips cancelled on the previous day at the Circulation Desk of the Yale Medical Library were inspected to obtain charges for books which researchers on the list had borrowed. Individual researchers were then called by telephone and appointments made to interview them on the use to which they had put the books returned the day before. Using a questionnaire, the interviewer asked a borrower questions as to how he had known about the existence of the book before he borrowed it from the Library, the use to which he put the book, and whether or not he obtained what he

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wanted from the book. The questions were designed to be answered "yes" or "no."

Answers to the questions were transposed on coding sheets together with the sequential number of the interview, Library of Congress classification of the book, year of publication, language of the book, individual code number for the borrower, his academic rank, the subject area of his research, his department, and whether or not his department was nonclinical, clinical, or other. Subsequently, these coding sheets were keypunched on 80-column IBM punched cards with each interview being recorded on a single punched card.

Out of 831 charges identified as being for books borrowed by researchers on the list, it was possible to obtain a total of 430 interviews. In other words, of the 831 possible interviews, 51.7 percent was actually conducted. Reasons for interviews not being held included the researcher's being on vacation, on an extended trip, or "too busy." In addition, some indicated after several interviews that they did not wish to participate further. Of the 437 individuals on the list, 130 were included in the 430 interviews.

Charge slips were collected during the period 19 March through 14 August 1964. Each day the number of serials and the number of monographs returned were counted. Also, the number of serials and monographs returned by researchers on the list was recorded. The total number of items recorded during the period was 13,704.

Results

Of the 13,704 items returned, 7,718 were serials and 5,986, or 43.7 percent of the total, monographs. Researchers returned 2,735 items, of which 831, or 30.4 percent, were monographs.

In 1961 the Yale Medical Library published a nonjournal study (3), the results of which approach very closely the results of the present study. In comparing and discussing the two papers, differences in the definitions of materials and borrowers studied should be noted. In the 1961 study it was reported that 42.9 percent of volumes lent were "books," defined as being all items which were not journals, i.e., serials published four times a year or more often. Nonjournal serials comprised about 2 percent of the total, so that, had books been defined as monographs as in the present study, the percentage would have been approximately 41 as compared with 43.7 in this study. In the 1961 paper, "faculty" included technicians, and the paper contained data showing that full-time clinical and nonclinical faculty loans included 31.6 percent books, as compared with the 30.4 percent found in the current investigation.

Table 1 contains a summation of replies on the questionnaire designed to elicit information as to how investigators learned of books they borrowed. Replies totaled 484 during the 430 interviews, because in this, as in other areas of the questionnaire, it was possible to have multiple answers. According to the interviewers, the majority of the researchers who stated that they found the book by chance had discovered the volume on the classified book shelves of the library. In other words, the book was "browsed."

Table 2 summarizes replies to questions in section 2 of the questionnaire. There were nearly two replies in this section for each interview. Table 3 is a frequency distribution of books returned by the year of publication. Nearly four-fifths of the books were published in the past decade.

Discussion

Of the 430 researchers interviewed, 338 or 78.6 percent stated that they had obtained what they wanted from the book. Among the various reasons for not obtaining information desired was "didn't have time to use the book." Nevertheless, it appears that nearly four-fifths of the books taken out by research workers supply the

TABLE 1

How Investigators Learn of Library Books

	Number	Percent
Personal recommendation	60	12.4
Previous use	72	14.9
Citations from another published source	97	20.0
Library	117	24.2
Monthly accessions list	(22)	(4.6)
Card catalog	(77)	(16.0)
New book shelf	(15)	(3.0)
Asked librarian for help	(3)	(0.6)
Chance	104	21.5
Miscellaneous	34	7.0
Totals	484	100.0

TABLE 2
HOW INVESTIGATORS USE LIBRARY BOOKS

	Number	Percent
General information	232	28.0
Fact finding	105	12.6
Bibliographic use	75	9.0
Lecture preparation	91	11.0
Research	292	35.2
Looking for ideas	(47)	(5.7)
Looking for specific information on theory	(78)	(9.4)
Looking for specific information on methodology	(61)	(7.4)
Looking for information on results	(40)	(4.8)
Part of background or exhaustive search for information before beginning or continuing research	(51)	(6.1)
Substantiating personal point of view	(15)	(1.8)
Miscellaneous	35	4.2
Totals	830	100.0

TABLE 3
FREQUENCY DISTRIBUTION OF BOOKS BY YEAR OF PUBLICATION

Year	Number	Cumulative Percent
1964	15	3.5
1963	77	21.4
1962	69	37.5
1961	40	46.9
1960	42	56.6
1959	20	61.3
1958	26	67.4
1957	19	71.3
1956	16	75.5
1955	13	78.6
1954	18	82.7
1953 and before	74	100.0

information desired. This observation substantiates the contention that analyses of recorded library circulation have a high validity in the sense that four-fifths of the volumes withdrawn are supplying useful information.

The fact that the percentages of monographs in this study and the 1961 study (3) are so close lends confidence to the results of this type of investigation. Sabina M. Wagner obtained similar results in the study of a biology library at the University of Chicago. From her data, it appears that faculty, including those having research assistant and research associate appointments, withdrew volumes of which 30 percent were books (4). Further, Margaret Slater, of Aslib's Research Department, reported in her study of users and their demands in English technical libraries, published in 1964, that of the documents used in academic libraries, about two-thirds were periodicals and one-third were monographs (5). However, such percentages may vary depending upon the type of library, for El-Sayed El-Sheniti found in a study of the University of Chicago Library that faculty loans of volumes classified as biology contained 48.7 percent books (6). It is apparent that research workers obtained a significant amount of useful information from monographs other than that found in handbooks used within a library for simple fact-finding.

Examination of Table 2 reveals that 11 percent of books withdrawn were used for lecture preparation and that the other 89 percent appears to be associated with research activities. Investigators reported that 28 percent of their use of books was to acquire general information to keep up with the field. It has been generally assumed that journals, not books, are involved in the communication of scientific information, but this finding suggests that books should also be included in studies of such communication.

About 35 percent of book use is directly related to research. The itemization in Table 2 of this research use shows that a significant portion is related to conceptual aspects of research. It appears that another fruitful field for further investigation would be the exploration of the use of books, as well as journals, to furnish ideas and stimulate thought. From this study it appears that about 15 percent of the use of books is related to the intellectual aspects of scientific activity.

Unlike the findings of at least one other study (7), the Library was a significant agent in bringing information about a book to the investigator. Of 484 "sources," the Library was 117 or about 22 percent. If the majority of the chance findings occurred on the classified book shelves, then the Library can be credited with having supplied a third of the information concerning the existence of books used.

Citation studies consistently produce a low percentage of books, but from this study and from those cited it is clear that books enjoy

significant amounts of research use. This discrepancy between use studies and citation studies raises questions concerning the justification of the assumption, when it is made, that citations reflect usage.

Because the collection of data ceased on 14 August 1964, few 1964 imprints as compared to those of previous years could be included in the study. Nevertheless, data for 1964 are included in Table 3. The frequency distribution of books by year of publication reveals that nearly three-fifths borrowed appeared in the last five years and four-fifths in the last decade. Just as researchers borrow fewer books than the average user, so do they use more recent books (1, 8).

Conclusion

This study demonstrates that nine-tenths of the use of books by academic investigators is research related. Over a quarter of their use is to obtain general information, and about 15 percent is associated with the intellectual aspects of scientific activity. Nearly four-fifths of the books withdrawn supplied information wanted, and about four-fifths of the books were printed in the previous decade.

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