

## THE UTILITY AND EFFECTIVENESS OF ABSTRACT CARDS IN TECHNICAL REPORTS\*

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The Department of Defense, since 1957, has required that abstract cards shall be included in all technical reports published within its jurisdiction. These cards must be printed four to a sheet, the number of sheets being determined by the number of cards required. The cards contain a complete citation, an abstract, subject headings, and uniterms. The cards were intended originally to provide librarians with a tool similar to the Library of Congress catalog cards.

To determine what other uses these cards may be serving, the Picatinny Arsenal Library decided to poll a representative group of Ordnance Corps library users. Five hundred questionnaires were distributed within the Arsenal, and fifty questionnaires were sent to each of eight other Army Ordnance installations.

Distribution, collection, and return were left to the Librarian at each installation. Of the 900 questionnaires distributed, 429 (48%) were returned.

Each respondent was asked to keep a record of all reports received for one week. He was then to indicate the number of these which contained abstract cards and also the number that did not, but did include an author's abstract. These results showed that 43% of the reports contained abstract cards, 19% contained only an author's abstract, and 38% contained neither. Thus, 62% of all the reports examined contained some type of abstract or abstract card.

Perhaps the most significant hypothesis indicated by this study was that a correlation exists between the degree of use of the abstract cards and the vocation of the user. All but one of the 429 respondents gave their vocations: 259 were engineers, 61 were chemists, 41 were physicists, 22 were mathematicians, and 18 were administrators who did not otherwise identify themselves. The remaining 27 indicated miscellaneous vocations.

Of the 428 respondents who indicated their vocation, 354 found some use for abstract cards. Correlating vocations with reported use (Table IA), we obtain a relationship varying from 95%

for chemists to 59% for mathematicians. The remaining correlations were: 84% for engineers, 73% for physicists, and 72% for administrators.

TABLE IA		TABLE IB
Correlation Between Use of Abstract Cards and Vocation	Vocations	Use of Author's Abstract When There Is No Abstract Card
95% (58 out of 61)	Chemists	74%
84% (216 out of 259)	Engineers	70%
73% (30 out of 41)	Physicists	64%
72% (13 out of 18)	Administrators	67%
59% (13 out of 22)	Mathematicians	55%
89% (13 out of 22)	Others (miscel.)	
83% (354 out of 428)	Total	

It was also questioned whether the author's abstract was used if an abstract card was not included. These results have also been related to the vocation of the respondents. In Table IB we see almost the same relative use as before, except for the administrative group. However, there was only a 1% difference between physicists and administrators in Table IA; and the 3% difference between them here is not considered significant.

Next, each person was asked to indicate how he obtained his reports from the library. The replies showed that 44% visited the library, 38% requested reports by mail, 10% by telephone, and 9% indicated no particular method at all.

If we compare (in Table II) personal visits with mail requests as the method for obtaining reports, we find that the preferences by vocation form two distinct groups. One group includes the chemists and mathematicians, who, conceivably, prefer, two to one, to visit the library, search through the catalogs and indexes, and then obtain the desired materials across the desk. The second group consists of the engineers, physicists, and administrators, who are evenly divided between borrowing Library materials in person and by mail. Here again, a correlation can be made between the vocation of the user and the method used to obtain reports.

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TABLE II  
CORRELATION BETWEEN METHOD FOR OBTAINING LIBRARY  
MATERIAL AND VOCATION USER:

GROUP 1:		
Personal Visits		Mail Requests      Phone Requests
<u>Chemists:</u>		
125		59      22
	2:1	
<u>Mathematicians:</u>		
44		23      11
	2:1	
GROUP 2:		
<u>Engineers:</u>		
246		268      85
	1:1	
<u>Physicists:</u>		
49		49      18
	1:1	
<u>Administrators:</u>		
22		21      21
	1:1	

The main objective of this study was to determine the reasons for use of the abstract cards. Of those replying to the four choices given, 33% indicated they used abstract cards to request the report at a later date, 34% used them in compiling a personal bibliographic file, 71% used them as a substitute for reading the report itself, and 44% used them as a preliminary to reading the actual report. (This 44% is comparable to the 46% obtained in 1950 by Gray<sup>1</sup> who surveyed use of author's abstracts in the physics literature.) The percentages include multiple answers given by some respondents.

A final question was designed to elicit constructive criticism from those respondents who did not indicate any use of abstract cards. Nevertheless, even a few of those who do use them at times gave criticisms. Probably they would use abstract cards extensively if some changes were made.

Altogether, there were 238 replies indicating reasons for non-use or less frequent use of abstract cards (Table III). Nineteen per cent. of these indicated they would use the cards if some changes were made, 15% specified definitely that they had no use for abstract cards, and 11% did not know that abstract cards could be detached from the reports. All reasons cited are given in Table III.

Of 429 questionnaires returned, 83% of the respondents considered the cards useful. Chemists use the cards most, then the engineers, physicists, administrators, and mathematicians.

There is a definite relationship between the degree of use of abstract cards and the vocation of the user. Our data suggest a situation

TABLE III  
REASONS FOR NON-USE OR LESS-FREQUENT  
USE OF ABSTRACT CARDS:

Would use if some changes were made . . . . .	19%
Have no use at all for abstract cards . . . . .	15
Did not know abstract cards could be detached . . . . .	11
Poor abstract . . . . .	8
Not enough copies . . . . .	7
Prefer to read report itself . . . . .	7
Poor citation . . . . .	6
Abstract cards not used universally . . . . .	4
Avoided use because of security classification . . . . .	4
Did not know abstract cards were available . . . . .	4
Poor format . . . . .	2
Other reasons . . . . .	13
TOTAL . . . . .	100%

analogous to the conclusions reached by other investigators. Thus, Herner<sup>2</sup> and Maizell<sup>3</sup> tried to relate the use of the literature to the creativity of the scientist. They concluded that the creative scientist preferred to browse in the library, use the indexes, and then select his own material. On the other hand, the less-creative scientist preferred to obtain a digest or abstract of the original to save time and meet required deadlines. Since he can do this at his own place of work, he may not need to visit the Library but can order his selections by mail or telephone.

Abstract cards do meet a specific need of the user. Thirty-four per cent. of the respondents stated they used abstract cards in compiling a personal bibliographic file. Maizell<sup>3</sup> reported that chemists prefer to maintain their own personal index concurrent with the one maintained by the library. He further suggested that copies of cards used in the Library should be distributed to chemists to help them maintain their own personal files.

Additional confirmation can be found in a recent Scandinavian study<sup>4</sup> which reported that 50% of the respondents maintained personal indexes. Törnudd<sup>4</sup> found that 67% of his respondents kept personal indexes.

Thirty-three per cent. of the respondents to this question also indicated that these abstract cards are used to request the same report at a later date. This can be considered an additional reason for maintaining a personal file.

Last of all, 71% of this group indicated that the abstract cards are used as a substitute for the report itself. Maizell<sup>3</sup> reported that 58% of the most creative group and 59% of the middle group thought that a good abstract could eliminate the need to look at the original publication; 44% of the least creative group had the same opinion. Since these results were merely opinions expressed by the respondents, as compared to data on actual use requested in our survey, the 10 to 20% differences in the results do not seem unreasonable.

## REFERENCES

- (1) D. E. Gray, American Journal of Physics, 18, 417 (1950).
- (2) S. Herner, C & E News, 2317 (1956).
- (3) R. E. Maizell, "Information Gathering Patterns and Creativity: A Study of Research Chemists in an Industrial Research Laboratory," New York, Columbia University, 1957, p. 141.
- (4) International Conference On Scientific Information, "Proceedings," Washington, D. C., National Academy of Sciences--National Research Council, 1959, p. 812.

## WORLD'S SCIENTIFIC PERIODICALS

Scientific and technical serial publications of the world will be the subject of a study to be conducted by the Science and Technology Division of the Library of Congress through support from the National Science Foundation. The study has two objectives: a compilation of a bibliography of sources on scientific and technical serials and, based on a study of these sources, a count of the current serial titles of the world by country and by subject. The bibliography and the census will serve the purpose of bringing under bibliographical control a body of literature essential to librarians in planning acquisitional and informational services.

At the present time, the World List of Scientific Periodicals, published in 1952, is

the basis for estimates of the number of scientific serials currently being published throughout the world. The distinction between the present study and such publications as the List and the 1956-57 UNESCO study, Statistics of Newspapers and Other Periodicals, is that the present study will serve as a source both for information concerning the most recently published bibliographies of scientific serials and for a verifiable statistical count based on these sources.

This 1-year study will be under the direction of Charles M. Gottschalk, Head of the Reference Section in the Science and Technology Division. Preliminary results are expected to be published in six months.