



# Research Notes

## Book Availability at the University of California, Santa Cruz

Terry Ellen Ferl and Margaret G. Robinson

*A standardized methodology developed by Paul Kantor for the Association of Research Libraries was used to investigate book availability at the McHenry Library, University of California, Santa Cruz. The 61 percent success rate experienced by Santa Cruz users compares well with the 50 percent figure frequently found at academic libraries. Most books not found by McHenry users were unavailable for a few, clearly identifiable reasons: the library's failure to acquire an item, combined with prior charge-out of an item to another library user, accounted for over 60 percent of the not-found material.*

Availability studies at large academic libraries indicate that users fail to locate promptly about 50 percent of the materials they seek. The present study was conducted to document the rate of user success and failure in finding known items at a medium-sized, open-stack academic library. A standardized methodology developed for the Association of Research Libraries was used. Results were expected to shed light on availability problems, suggest areas that need improvement, and provide data for comparison of local performance with that of similar institutions.

### SETTING

McHenry Library is the main library serving the Santa Cruz campus of the University of California. The academic community consists of 6,600 undergraduate students, 600 graduate students, and 500 faculty members. McHenry houses approximately 585,000 volumes in the social sciences and humanities, as well as substantial backruns of serial titles that the smaller, overcrowded science library can no longer accommodate. Bibliographic access to the collections is provided by a microfiche catalog of UCSC holdings, supplemented monthly and cumulated annually, and an online catalog that includes most UCSC monographs published after 1973, as well as partial holdings of other UC campuses. A computerized circulation system was installed in 1980. Automated circulation functions are well controlled. Security is provided by staff at a turnstile exit rather than by an electronic detection system, and has been widely, if subjectively, perceived to be an area where more control is needed. Shelving backlogs have typically accumulated at peak service periods in the academic year. Some staff who have frequent con-

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tact with users view these backlogs as a major impediment to user satisfaction.<sup>1</sup>

### METHODOLOGY

The techniques used in the present study are based on those published in Paul Kantor's *Objective Performance Measures for Academic and Research Libraries*.<sup>2</sup> In Kantor's manual, *availability* is defined as a measure of the extent to which patron needs for specific documents are promptly satisfied. The data for the study—a sample of several hundred citations—are collected from actual user searches for specific desired items. Items reported by users as "found" and "not found" are tallied. The gross measure of availability (MAV) is thus a fraction: MAV = the number of items found ÷ the number of items sought. To obtain more detailed information, the not-found items are traced promptly through the library system and assigned to one of five condition categories:

- DACQ = the book is not in the collection
- DCAT = the book is in the collection but not found in the catalog by the user
- DCIRC = the book is charged out to another user
- DLIB = the book is not on the shelf and not charged out
- DUSER = the book is in the right place on the shelf but the user overlooked it

The prefix *D* stands for "disservice"; an item that falls in a particular category is considered a "disservice event" attributable to failure related to that category.

### UCSC Study

The present study examined several subcategories of the five principal measures of availability. Kantor notes that while subdivisions of the main categories will not prove statistically significant with a sample of 400 to 500 items, they can be "useful for thinking about what is going on."<sup>3</sup> Because many performance subcategories were being examined, a tracing form separate from the user-survey form was designed (see figures 1 and 2).<sup>4</sup> Serials were excluded from this project since bibliographic access for them varies consider-

ably from that for books.

Four student assistants with previous library experience were employed to collect the data, primarily throughout the month of November 1984, a period of high library activity in the academic cycle. A total of 33¼ hours was used to distribute 363 forms to users, an average of 11 forms per hour. Distribution was done during the peak-use hours between 10 a.m. and 3 p.m. and was always curtailed early enough for student assistants to complete the tracing of the returned forms. The return rate of 42.9 percent yielded 156 valid forms with 408 usable citations, in accord with Kantor's estimates. Of the total forms distributed, 207 were either not returned or not usable. The unusable forms were eliminated primarily because the item sought was a serial.

The more detailed tracing process in the present study required, on the average, about twenty-five minutes per citation. Returned forms were batched and traced as quickly as possible, usually within two hours of collection of the data. Groups of items being traced were rigorously excluded from the study if the tracing process was interrupted, for example, by on-line system failure or student assistant failure to complete all tracing steps for each item in the group.

Written guidelines were developed for the use of student assistants unfamiliar with the automated circulation system or other internal files. Questions were occasionally raised by the student assistants regarding the interpretation of user responses, e.g., What exactly constitutes an incorrectly transcribed call number? or, What if the book sought by the user is on the shelf but only very slightly out of call number order? Project directors needed to be available to handle such questions and assure that citations were not rendered unusable because of delay in tracing.

Distribution of the survey forms to users took three times longer than expected, due mainly to institutional size and the fact that many entrants were not looking for library materials but were instead visiting administrative and instructional units located in the library building. Kantor's estimates on distribution time apply to larger academic libraries with heavier cat-

**Are You Finding the Books You Want?**

We are studying the availability of books in McHenry Library. Please help us by using this form for scratch paper when you look for books.

Write in the blocks below the authors and titles of all the books you want to find. If you locate any of these books in the catalog or MELVYL, write the complete call number in the column so labeled. If for any reason you don't find the books you want, put an X in the column headed "Can't Find."

Please leave this form at the Exit Desk at the end of your visit. Thank you for your cooperation.

Check Status:  UC undergraduate     UC grad student     UC faculty     Other

| Author and Title | Call Number | Can't Find |
|------------------|-------------|------------|
|                  |             |            |
|                  |             |            |
|                  |             |            |
|                  |             |            |
|                  |             |            |
|                  |             |            |
|                  |             |            |
|                  |             |            |

**FIGURE 1**  
User Survey Form

alog use. Another factor that slowed the distribution rate was the considerable number of users seeking subject information rather than known items.

### RESULTS

One hundred and forty-five users participated in the survey. Among those re-

porting their status, 70.4 percent were undergraduates, 10.6 percent graduate students, 5 percent faculty members, and 13.6 percent campus (but not library) staff or community members. Not surprisingly, graduate students were disproportionately represented compared to their numbers in the total academic commu-

Tracer \_\_\_\_\_

Date \_\_\_\_\_

Complete 

Fill out one of these forms for each citation on the User's List that has a check in the can't find box. Go through each step for each citation **until** instructed to "Check the **COMPLETE** box." (A tracing form may be "Complete" at any point between steps 1 and 10, depending on the status of the item you are tracing.)

Author \_\_\_\_\_

Title \_\_\_\_\_

Call Number \_\_\_\_\_

**Reference Area**

1. If you can't read the citation, check line 1 and check the **Complete** box. 1. \_\_\_\_\_
2. Look up the citation in **each** part of the catalog and record the full UCSC call number exactly as you find it:

Fiche Cumulation \_\_\_\_\_

Fiche Supplement \_\_\_\_\_

Online Catalog \_\_\_\_\_

If the user recorded a call number, check here \_\_\_\_ and continue to 3.

If the user **didn't** record a call number and you found one, check line 2 and check the **Complete** box. 2. \_\_\_\_\_

If you don't find the citation in any catalog, check here \_\_\_\_ and continue to 4.

3. If the call number recorded by the user is incorrect or incomplete, check line 3 and check the **Complete** box. If the user's call number is correct, check here \_\_\_\_ and continue to 5. 3. \_\_\_\_\_

**Acquisitions Area**

4. Look up the citation by title in the Order File, check the appropriate line and check the **Complete** box:
- |                                    |            |
|------------------------------------|------------|
| 4(a) Not in Order File             | 4(a) _____ |
| 4(b) On order but not yet received | 4(b) _____ |
| 4(c) Received                      | 4(c) _____ |
| 4(d) In accessioned backlog        | 4(d) _____ |
| 4(e) Order cancelled               | 4(e) _____ |

**Bib Records Area**

5. Check Shelf List and record number of copies on line 5. If more than one copy, account for each one as you proceed through steps 6-10. 5. \_\_\_\_\_

**Circulation Area**

6. Look up citation by call number in automated circulation system (CLSI) and if book is charged out, check the appropriate line and check the **Complete** box:
- |  |            |
|--|------------|
| 6(a) User (6 letters, 3 numbers, or 9 numbers) | 6(a) _____ |
| 6(b) Reserves (RB**MCH*, RB**SCI*)             | 6(b) _____ |
| 6(c) Interlibrary Loan (ILLUCB, ILLUCD, etc.)  | 6(c) _____ |
| 6(d) Stored at NRLF                            | 6(d) _____ |
| 6(e) Library process (Code: _____)             | 6(e) _____ |

If CLSI says "On Shelf," check here \_\_\_\_ and continue to 7.

If title record is not yet in CLSI, check line 6(f) and continue to 7. 6(f) \_\_\_\_\_

7. Look up citation by call number in the paper Circ files. If there, check the appropriate line and check the **Complete** box. If not, check here \_\_\_\_ and continue to 8.
- |  |            |
|--|------------|
| 7(a) Bindery File                      | 7(a) _____ |
| 7(b) In process for storage            | 7(b) _____ |
| 7(c) File of items to be keyed in CLSI | 7(c) _____ |

**Stack Area/Circ Area**

8. If the book is on the shelf in its proper location, check line 8 and check the **Complete** box. 8. \_\_\_\_\_
9. Look for the book in the following shelving locations arranged by call number. Check the appropriate line if found, and check the **Complete** box.
- |   |            |
|---|------------|
| 9(a) Booktrucks on appropriate floor      | 9(a) _____ |
| 9(b) Sorting shelves on appropriate floor | 9(b) _____ |
| 9(c) Booktrucks outside of Circ           | 9(c) _____ |
| 9(d) Sorting shelves in Circ              | 9(d) _____ |
10. If citation is still unaccounted for, check line 10 and check the **Complete** box. 10. \_\_\_\_\_

**FIGURE 2**  
Book Availability Tracing Form

nity. Project results could not be analyzed by user status because of the small number of survey participants in most individual user categories.

The results are given in tables 1 and 2.<sup>5</sup> Among 408 books sought, 61 percent were found by users. Of the 39 percent not found, 35.5 percent were already charged out, 24.6 percent were never acquired by the library, 11.7 percent were unaccounted for, 8.8 percent had call numbers incorrectly copied by the user, 5.3 percent were in place on the shelf but not found by the user, and 4.4 percent represented catalog entries that the user failed to locate. These factors collectively accounted for 90.3 percent of the items not found. The remaining 9.7 percent were in other categories that were individually not statistically significant.

**TABLE 1**  
PERFORMANCE DATA TOTALS

|                 | Number | Percent |
|-----------------|--------|---------|
| Items sought    | 408    | 100.0   |
| Items found     | 250    | 61.3    |
| Items not found | 158    | 38.7    |

**TABLE 2**  
PERFORMANCE DATA FOR ITEMS NOT FOUND

|  | Number*                        | Percent |
|--|--------------------------------|---------|
| Illegible citation                           | 1                              | .6      |
| Never ordered                                | 39                             | 24.6    |
| Ordered but not received                     | 1                              | .6      |
| Order canceled                               | 0                              | 0.0     |
| Catalog entry not located by user            | 7                              | 4.4     |
| Call number copied incorrectly by user       | 14                             | 8.8     |
| Charged out to user                          | 56 <sup>1</sup> / <sub>6</sub> | 35.5    |
| Charged out to reserve desk                  | 1 <sup>1</sup> / <sub>2</sub>  | .9      |
| Charged out to interlibrary loan             | 0                              | 0.0     |
| Charged out to regional storage facility     | 0                              | 0.0     |
| Charged out to library unit or process       | 4 <sup>1</sup> / <sub>2</sub>  | 2.8     |
| Title not yet loaded in circulation database | 0                              | 0.0     |
| Received and in process                      | 0                              | 0.0     |
| In accessioned backlog                       | 0                              | 0.0     |
| At bindery                                   | 0                              | 0.0     |
| In process for regional storage facility     | 0                              | 0.0     |
| Item not yet added to circulation database   | 3 <sup>1</sup> / <sub>3</sub>  | 2.1     |
| On booktruck in public area                  | 2                              | 1.2     |
| On sorting shelf in public area              | 1                              | .6      |
| On booktruck in circulation work area        | 0                              | 0.0     |
| On sorting shelf in public area              | <sup>1</sup> / <sub>2</sub>    | .3      |
| Unaccounted for                              | 18 <sup>1</sup> / <sub>2</sub> | 11.7    |
| On shelf but not found by user               | 8 <sup>1</sup> / <sub>2</sub>  | 5.3     |
| Total  | 158                            | 100.0   |

\*When multiple copies of a work exist in the collection, the copy traced is represented by a fraction:  $\frac{1}{3}$  = one of 3 copies,  $\frac{1}{6}$  = one of 6 copies, etc.

## ANALYSIS

Results may also be expressed in a branching diagram, which shows the relationship between independent performance components that contribute collectively to the outcome of a user's search for a known item. The figures for the branching diagram were obtained by transferring the raw data in a prescribed manner to an availability analysis form reproduced in Kantor's manual (figure 3). The branching diagram (figure 4) is interpreted as follows. Of the total of 408 books sought, 368 had been acquired by the library, a performance of 90.1 percent. Of those 368, the users failed to find 21 books listed in the catalog, a performance of 94.2 percent. Of 346 books located in the catalog, 63 were already checked out, a performance of 81.9 percent. The investigators could not account for 25 books that users weren't able to find, a performance of 91.0 percent, and users overlooked 9 books on the shelves, a performance of 96.7 percent. These factors combined to depress book availability—the chance of finding a specific book—to 61 percent.

# Availability Analysis

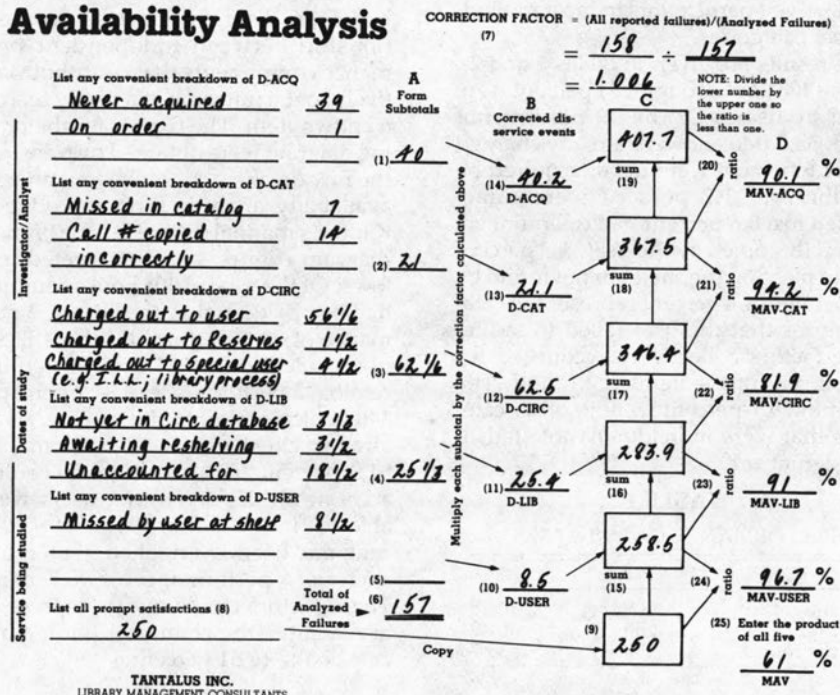


FIGURE 3  
Availability Analysis Form

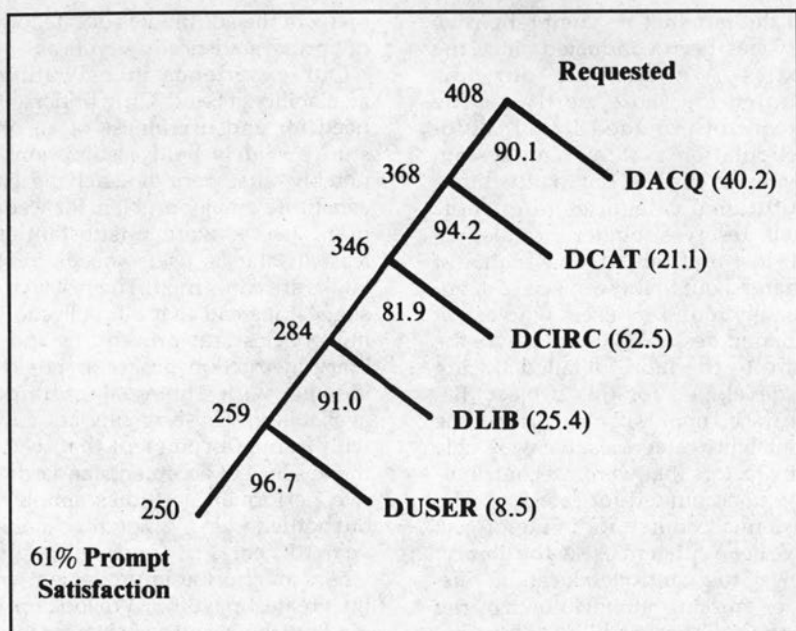
## CONCLUSIONS

As a young institution with recently developed collections, adequate shelf space, and smoothly functioning automated systems, McHenry Library displayed a high document-availability rate of 61 percent. This compares well with the 50-60 percent MAV range that Kantor characterizes as "quite typical" of research libraries conducting similar studies and with the "lower values" that, he adds, "are often found at quite respectable institutions."<sup>16</sup>

Materials sought unsuccessfully by McHenry users were unavailable for a remarkably small number of reasons: 6 out of 22 traced factors accounted for 90.3 percent of unavailable items. Such potential

institutional bottlenecks as processing shelves in the acquisitions and cataloging departments, accessioned backlog, the bindery, and the circulation department's numerous sorting and holding shelves proved to be virtually insignificant barriers to the satisfaction of user needs for known items. Two factors—the library's failure to acquire an item, and prior charge-out of an item to another library user—combined to account for more than 60 percent of unavailable materials.

Because UCSC is a research-oriented institution with less than comprehensive collections, because UCSC faculty and graduate students have traditionally depended heavily on borrowing from neighboring UC Berkeley's vast collections, and



**FIGURE 4**  
Branching Diagram

because primary access to McHenry's collections is provided by an online union catalog of UC-wide holdings, we were not surprised by the high incidence of users seeking material not owned by the library. We were, however, surprised by the large number of users wanting materials already in circulation. While we were pleased to uncover this problem, we have not found an obvious solution. Kantor identifies duplication of materials and adjustments to the library's loan period as the most common approaches to lowering high scores in the DCIRC category.<sup>7</sup> Some McHenry materials unavailable because of circulation status had already been acquired in multiple copy. Our automated circulation system cannot currently produce listings of specific books based on the number of times they have circulated—a listing that could be very useful in determining what needs to be duplicated. Additionally, the existing two-week undergraduate loan period is too short to permit further reduction, and the substantially more generous faculty loan period is determined by an essentially administrative

process unlikely to be influenced by an objective performance study alone.

The two highest performance scores were user related. Remarkably few users failed to locate the desired items in the catalog: only 4.4 percent of not-found items were unavailable for this reason. We were surprised, however, that a small but significant number of items (8.8 percent) were unavailable because users copied the call numbers incorrectly, often reversing key numerical elements. Finally, user failure to locate the desired item when it was on the shelf accounted for a low 5.3 percent of unavailable items. We have conveyed these discoveries about user failure to McHenry's library instruction coordinator for integration into our active user-education program.

We were pleased with the comparatively low percentage of materials that remained unaccounted for after analysis of results: 11.7 percent of the not-found items, representing only 4.5 percent of all items sought by users. This figure is particularly impressive, given McHenry Library's lack of an electronic security sys-

tem and the fact that no comprehensive inventory has been conducted since the late sixties. We attribute our low unaccounted-for score partly to the greater control provided by our automated circulation system. The system tracks materials charged out to fifty different institutional categories (e.g., new book shelf, reserves, bindery, cataloging revision, lost and billed). The status of books charged out to these special categories is readily found by users who ask at the circulation desk. We also attribute the low figure to the more detailed tracing process developed for this project. Because we traced many subcategories of the main availability categories, we were able to identify factors that were *not* contributing to the unaccounted-for category. The few books unaccounted for in the project must have been either in use in the library; on their way to a controlled location; misshelved; or, missing but not known by the library to be so. The capability of narrowing the range of unaccounted-for materials leads us to recommend use of the expanded tracing process wherever feasible—despite the fact that it is time-consuming, and that results recorded in

many of the additional subcategories may not prove statistically significant.

Our experience investigating book availability at Santa Cruz underscores the need for and usefulness of an objective study. Widely held assumptions—most notably, that periodic shelving backlogs constitute a major problem for academic library users—were unsubstantiated, at least insofar as users' needs for known books are concerned. The research results suggest instead that our collection building policies and procedures and our library instruction program should be reviewed with the goal of improving availability. These results are consistent with Kantor's comment that, because of the absence of accepted standards, objective performance studies simply "point out bottlenecks . . . monitor changes from year to year . . . [and] pinpoint areas where an effort at improvement will give the greatest payoff."<sup>8</sup> We look forward to reading the results of comparable availability studies conducted at similar institutions that will help us further interpret our results and use them to improve service to the academic community.

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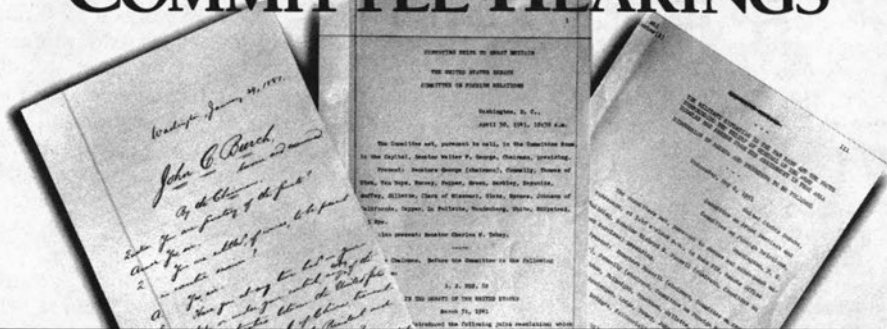
#### REFERENCES AND NOTES

1. Statistics and conditions described are those of Fall-Winter 1984.
2. Paul B. Kantor, *Objective Performance Measures for Academic and Research Libraries* (Washington, D.C.: Assn. of Research Libraries, 1984).
3. *Ibid.*, p.54.
4. The user survey form was adapted from one developed for an availability study conducted at the University of California, San Diego. The authors wish to thank Jill Fatzer, now at Ohio State University, and Judith Herschman of UCSD for their advice in conducting such studies.
5. The sampling techniques used and the relationship between sample size and reliability of results—the subtle concept of *confidence levels*—are fully explained by Kantor, *Objective Performance Measures*, p.17-23.
6. Kantor, *Objective Performance Measures*, p.49.
7. *Ibid.*, p.50.
8. *Ibid.*, p.49.



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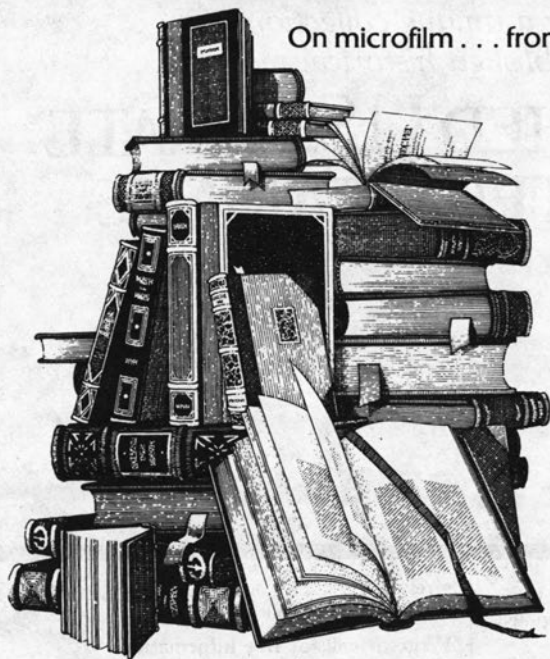
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