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## Patron Approaches to Serials: A User Study

*Although many catalog use studies have been reported, those limited to patron success with locating serials have been uncommon. This study, conducted at a separate serial card catalog in a major research library, measures the success of more than four hundred patrons in the bibliographic retrieval of serials. The authors interviewed patrons and then analyzed the data in an attempt to determine how patrons approach a card catalog when searching for serials, their success rate, and reasons for their successes and failures.*

**B**IBLIOGRAPHIC CONTROL of serials, whether manual or automated, has long plagued librarians, and evaluation of user success with this control is seldom, if ever, undertaken. While many studies have been reported on patron usage of card catalogs, none of the published user studies has been limited to patron access to serials within a card catalog. Studies involving serials have focused predominantly on usage of actual items and titles, with an emphasis on collection development and control, rather than on bibliographic retrieval of those serial titles.<sup>1</sup> One study conducted by Peterson did investigate patterns of serial usage according to type of patron and type of citation; however, he did not query specifically the success with which a patron located any serial bibliographically.<sup>2</sup> The recent Murfin study on periodical retrievability focused primarily on locating a volume on the shelf, but did summarize user success with the "periodical directory." Murfin found that "only 50 percent of those who used the directory were able to use it correctly."<sup>3</sup>

One explanation for the small number of usage studies limited to serials may be the wide variance in the handling of serial files. Computer-produced serial lists in printout,

microfilm, or book format are not uncommon, nor are cardex title entry files or internal files of one sort or another serviced by library personnel. A separate serial card catalog that is accessible to the public and includes main entries, added entries, cross-references, and holdings invites a study of its users, their approaches to serials, and their successes and failures in finding them. This study was conducted at such a catalog, located at the University of Illinois, Urbana campus, where nearly 100,000 serial titles are included in the serial catalog.

During an age of rapid automation one may question the usefulness of another card catalog study, even a study limited to a previously unexplored area. However, we cannot hope to develop successful interactive online catalogs without a thorough understanding of the usage made of our present manual files. In her article "The Performance of Card Catalogs: A Review of Research," Hafter summarized current thinking by saying, "There appears to be a feeling that on-line systems can and should be designed by analyzing patron behavior at the card catalog."<sup>4</sup> Those developing online catalogs must know the major access points needed to ensure the highest probability of user success. It is doubtful that any online catalog will have the necessary access points to ensure 100 percent user success. Trade-offs will undoubtedly come because of costs of central memory core. Important access points may not be included due to lack of awareness on the part of

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the librarian. In fact, we may well discover that the most important access points have not been included in our traditional card catalogs and need to be uncovered for inclusion in future catalogs, whatever their form.

The research reported here is a first attempt at an exploratory study to determine how patrons who are looking specifically for serial publications approach a card catalog. Successful serial searches were analyzed to determine what factors contributed to the patrons' success, while failures were analyzed to determine what, if anything, could be done to improve the probability of success. The problems of frequent name changes, form of catalog entry versus the patron's bibliographic citation, and the use of cross-references were explored to judge their relevance to serial bibliographic retrievability, as was the impact of user instruction. The probable influence of AACR2 and increased title entry of serials was also investigated.

#### METHODOLOGY

The methodology selected for any user study has a profound effect on the data generated. As Hafter observed, "Almost all of the catalog use surveys are flawed by inadequate sampling procedures."<sup>5</sup> Lancaster devoted an entire chapter to "Studies of Catalog Use" in *The Measurement and Evaluation of Library Services* and notes that "the most valuable studies of catalog use have been conducted through interviews with users at the time they search the catalog" rather than by survey afterward.<sup>6</sup> The problems of constructing and administering the interviews are well covered by Hafter.<sup>7</sup>

With the interview approach in mind, a questionnaire was designed and pretested on thirty library patrons. Discussion between the researchers and with the University of Illinois Survey Research Laboratory led to the questionnaire employed in this study (see appendix 1). The testing instrument was designed to be straightforward, unambiguous, and easily coded. Days and times for the administration of the questionnaire were selected randomly between March and May of 1980, a period including both heavy and light use. A minimum of four hours were selected randomly for each test day and the questionnaire was administered over the total hour selected. A total of twenty-five weekdays and

ten weekend days using the hours between 9 a.m. and 11:59 p.m. produced a sample size of 452 of which 445 were usable (see table 1 for the composition of the sample).

During the designated testing hour, patrons who approached the serial card catalog and pulled out a drawer to begin a search were asked to participate in the study. Only eighteen people elected not to answer the questions, a high rate of success no doubt due to the unique cooperativeness of a college campus. Patrons not employing the serial card catalog in an attempt to locate serial publications were not interviewed. Each participant was questioned and the appropriate answers were circled by the interviewer. The average interview time was approximately five or six minutes.

Any interviewer must guard against biasing the sample in the selection of subjects for interview. Friendly faces or slower users are more likely to be selected for interviewing if no control mechanism is employed. To ensure random selection of subjects within any given hour, interviewers approached the first person to pull out a drawer after the start of the hour. Upon completion of that interview, the next patron to approach the file and pull out a drawer was questioned. Thus, users already in place at the start of an hour were discounted, as were patrons who approached the file while an interview was in progress. Unbiased selection of candidates was ensured. Anywhere from two to nine interviews were conducted during the hour. Each patron was observed until the conclusion of the serial card catalog search. For example, if patrons were referred elsewhere in the serial card catalog, the interviewer noted this and observed the second or even third search.

By its nature, any obtrusive study lends itself to some interviewer bias. By only approaching a patron after he/she had already selected the drawer (and had therefore for-

TABLE 1  
CHARACTERISTICS OF THE SAMPLE

|                     | Number | Percent |
|---------------------|--------|---------|
| Freshmen/sophomores | 109    | 25      |
| Juniors/seniors     | 121    | 27      |
| Graduate students   | 153    | 34      |
| Faculty/staff       | 39     | 9       |
| Other*              | 23     | 5       |
| Total               | 445    | 100     |

\*Includes visitors and students from other schools.

mulated an initial search strategy), the interviewer did not influence this initial search strategy. Also, no guidance on where to look next, what entry to use next, or how to correct spelling errors was given to the patron until the questionnaire was completed. These attempts to limit interviewer intrusion helped to minimize the adverse effect of being observed on the user's performance.

#### RESULTS AND ANALYSIS

The strategy used by patrons when searching a card catalog for serial publications and their success or failure in finding those publications within a catalog will be developed using inferential and descriptive statistics. Success is defined in terms of bibliographic success, that is, the patron locating the entry in the catalog for the item he/she wanted. If the catalog contained the entry the patron desired but not the specific issue of that publication, this was counted as a successful search since the failure was the fault of the library's collection and not the user's ability to employ the catalog. Patron failure was defined as the inability to find an entry in the catalog to match the citation in hand. Failures were analyzed to discover sources of problems and their possible solutions. No attempts were made to determine if the patron actually retrieved the item after using the catalog or if that item was actually on the shelf in the library.

The serial card catalog was employed by patrons to locate what the researchers defined as four types of serials: journals and magazines, proceedings, annual reports, and government documents (see table 2).

English was the predominant language of the publications sought, with only twenty-seven of the serials searched (6 percent) written in other languages. Except for three annual reports and two proceedings, all the foreign language publications were for journals or magazines.

TABLE 2  
TYPE OF SERIAL SEARCHED

|                     | Number | Percent |
|---------------------|--------|---------|
| Journal or magazine | 374    | 84      |
| Proceeding          | 19     | 4       |
| Annual Report       | 23     | 5       |
| Government document | 29     | 7       |
| Total               | 445    | 100     |

Corresponding to the high number of journals and magazines searched, 43 percent of the sample stated that they had used an index, abstract, or bibliography to obtain their citation (see table 3). Forty-three different indexes and abstracts were used. The *Readers' Guide* was the citation source for fifty-four magazines (28 percent of the magazines searched), while the *Business Periodicals Index* was a distant second citation source for only seventeen magazines (9 percent). Bibliographies and footnotes in both journals and books accounted for 29 percent (or 127 citations). Forty graduate students and faculty members had citations that were generated via computer-assisted literature search of some database. This nearly equaled the forty-two (mostly undergraduate) students who had used a class reading list for their citations.

The diversity in the sources of patron citations did not seem to influence the overall success rate. Over 83 percent of the searches were successful in matching a bibliographic entry to a catalog entry (see table 4). Approximately 72 percent of those successful searches found the cataloging entry for the item sought in the first drawer selected from the serial catalog. Thirty-six patrons who were unsuccessful using the first drawer they selected persisted in conducting a second, third, and in one case, a fourth search. In most of these self-directed multiple catalog searches, the patron had made a mistake in the initial drawer selection because he was unaware of the drawer's alphabetical limitations (e.g., he wanted *New York* while the drawer chosen covered *New to New T*). Other multiple searches were necessary due

TABLE 3  
SOURCE OF CITATION

|                                  | Number | Percent |
|----------------------------------|--------|---------|
| Class reading list               | 42     | 9       |
| Index, abstract, or bibliography | 192    | 43      |
| Bibliography in book             | 36     | 8       |
| Bibliography in journal          | 30     | 7       |
| Footnote in book                 | 30     | 7       |
| Footnote in journal              | 31     | 7       |
| Online literature search         | 40     | 9       |
| Other*                           | 20     | 4       |
| Blank†                           | 24     | 5       |
| Total                            | 445    | 100     |

\*Includes recommendations by friends or teachers and looking items up for other people.

†Includes those who did not remember or were not sure.

TABLE 4  
SUCCESS RATE AND CATALOG ACCESS POINTS

|   | Number | Percent | Title | Corp. Author |
|---|--------|---------|-------|--------------|
| User entry same as catalog's entry                            | 319    | 72      | 298   | 21           |
| User conducted a second search                                | 25     | 6       | 5     | 20           |
| User conducted a third search                                 | 10     | 2       | 4     | 6            |
| User conducted a fourth search                                | 1      | .2      | 0     | 1            |
| Catalog had a cross-reference<br>from the user's first entry  | 7      | 2       | 3     | 4            |
| Catalog had a cross-reference<br>from the user's second entry | 4      | 1       | 3     | 2            |
| Total   | 366    | 83      | 313   | 54           |

to spelling errors by the patron or because the patron was not sure of the form of the entry in the catalog. The cross-reference system in the catalog was not an important factor as only eleven patrons (3 percent of the sample) encountered a cross-reference. Those cross-references employed were from an abbreviation to a complete entry in the catalog (nine cases) or because of a name change (two cases).

Table 4 also shows that most of the patrons who were successful used a title entry. There were 303 successful title searches versus only fifty-eight successful searches by corporate entry. Twenty-four of twenty-seven patrons who conducted second or third searches had initially searched by a title that did not warrant a title-added entry under rules prior to AACR2 (i.e., proceedings or annual report of a corporate body). These patrons were forced to look under corporate entries. AACR2, with its emphasis on title entry, would have allowed twenty searches to be successful without the need for a second or third search.

Sixty-three of the successful searchers came to the catalog with only an abbreviated form of the entry. Most of the abbreviations were of the type one might find in an index or abstract (e.g., *Rev Soc Stud* for *The Review of Social Studies*), but some patrons employed a type of mnemonic memory device of their own creation (e.g., *PSQ* for *Political Science Quarterly* or *USN* for *U.S. News and World Report*). The use of an abbreviated entry and the subsequent transposition to a complete cataloging entry was employed by all groups of serial catalog users. The actual incidence of associating abbreviated entries with complete cataloging entries is probably much higher as there was no way of ascertaining the use of this phenomenon by patrons who did not have a written citation (25 percent of

the sample). If this phenomenon is proven to exist on a very large scale, future interactive online catalogs might choose to incorporate these abbreviations into their searching strategy, or perhaps offer a method of mapping the user's abbreviation to the correct entry.

Eighty-three percent of the searches studied were successful. Numerous factors contribute to the success of any one search in a card catalog. In an attempt to isolate some of those factors in this study, four general hypotheses were tested using the chi-square statistic calculated via *The Statistical Package for the Social Sciences*.

It could be hypothesized that a patron who frequently uses a catalog might be more efficient than a patron who uses it infrequently. A frequent user should be more accustomed to filing quirks and the general makeup of that catalog. Table 5 shows the relationship between the amount of serial catalog usage and whether or not a search was successful. The chi-square test shows that the success rate of the frequent catalog user was not significantly different (sig. = .10) than the success rate of the infrequent catalog user in this study. By itself, the number of times a patron used the serial catalog was not a determinant of whether the search would be successful.

Another factor that might influence the success of any catalog search is whether or not the patron has written down the citation. A

TABLE 5  
USE AND CATALOG SUCCESS

|           | Entry Found | Entry Not Found | Total |
|-----------|-------------|-----------------|-------|
| Frequent* | 167 (46%)   | 31 (48%)        | 198   |
| Seldom†   | 199 (54%)   | 33 (52%)        | 232   |
| Total     | 366         | 64              | 430   |

$\chi^2 = .01$   $df = 1$  sig. = .10

\*Frequent includes daily or once/twice a week usage.

†Seldom includes none, once, or monthly usage.

written citation precludes an incorrect entry due to forgotten or transposed words and allows the patron to concentrate on understanding the arrangement of the catalog and matching the catalog entry. The hypothesis to be tested is that the patron who has written down a citation will be more likely to conduct a successful search than the patron who has not. Inspection of table 6 shows that there was no relationship between whether a citation was written (significant at .99 level) and the success of a search.

When a patron asks a librarian or some other library staff member if the library owns a specific serial, he/she is sometimes referred to the catalog to check under a specified entry. At Illinois, the referral might also have been from the main card catalog to the serial card catalog. Patrons who had been referred might have been expected to come to a catalog with a more correct or complete entry (i.e., they are told what to look under), thereby improving their chances for success. Table 7 shows the relationship between a patron who has been referred to the catalog and the success of his search. The chi-square test shows that the success rate for those who were referred was not significantly different (sig. = .65) than the success rate for those patrons not referred.

Librarians, instructors, and one's own friends all might attempt to provide instruction in how to use a card catalog. This instruction might range from a formal class discussion to a librarian offering hands-on instruction at the file. It might be hypothesized that students who have had any type of instruction in how to use the serial catalog would be more successful than students who have not had any type of instruction. Table 8 shows that there was some relationship between instruction (sig. = .07), but it was very weak ( $\phi = .09$ ).

Four factors were tested to see if any one

TABLE 6  
WRITTEN CITATIONS AND SUCCESS RATES

|                      | Entry Found | Entry Not Found | Total |
|----------------------|-------------|-----------------|-------|
| Citation written     | 246 (70%)   | 52 (69%)        | 298   |
| Citation Xeroxed     | 13 (4%)     | 3 (4%)          | 16    |
| Citation not written | 93 (26%)    | 20 (27%)        | 113   |
| Total                | 352         | 75              | 427   |

$\chi^2 = .0196$   $df = 2$  sig. = .99  
Note that one cell equals 3.

TABLE 7  
SUCCESS AND REFERRAL TO SERIAL RECORD

|              | Entry Found | Entry Not Found | Total |
|--------------|-------------|-----------------|-------|
| Referred     | 142 (40%)   | 33 (43%)        | 175   |
| Not referred | 214 (60%)   | 43 (57%)        | 257   |
| Total        | 256         | 76              | 432   |

$\chi^2 = .1944$   $df = 1$  sig. = .65

TABLE 8  
INSTRUCTION AND STUDENT'S CATALOG SUCCESS

|                 | Entry Found | Entry Not Found | Total |
|-----------------|-------------|-----------------|-------|
| Had instruction | 104 (32%)   | 14 (21%)        | 118   |
| No instruction  | 213 (68%)   | 53 (79%)        | 266   |
| Total           | 317         | 67              | 384   |

$\chi^2 = 3.148$   $df = 1$  sig. = .07  $\phi = .09$

significantly influenced the success of a given search in the serial card catalog: (1) frequency of serial catalog use, (2) written citations, (3) referral to the serial catalog, and (4) previous serial catalog instruction. None of these factors alone were significant indicators of whether a search would be successful. However, due to the interrelationships of all four factors, it is possible, for example, that a person with previous instruction was also referred to the serial catalog, and due to a confounding effect, one factor influenced the other. It is also possible that the presence of instruction or referral or previous usage varied greatly from one patron to the next. However, through the use of partial correlation analysis, one is able to see the effect of one of these factors on the independent variable success, assuming other things are equal.

Table 9 is a matrix of partial correlations. Squaring the partial correlations (figure in parentheses) gives the proportions of the variance in successful searches that can be explained by each of the dependent factors. Instruction and frequency of use accounted for the most variance, 23 and 16 percent, respectively, while a written citation and referral to the catalog accounted for only 3 and 9 percent, respectively. Although no one factor significantly influenced the probable success of a search, all these factors together accounted for approximately 50 percent of the variance in successful searches.

#### FAILED CATALOG SEARCHES

Successful catalog searches and the factors

TABLE 9  
PARTIAL CORRELATIONS

|                                | Successful Search | Frequency of Serial Record Use | Written Citation | Referred | Previous Instruction |
|--------------------------------|-------------------|--------------------------------|------------------|----------|----------------------|
| Successful search              | 1.00              | .47 (22%)                      | .19 (3%)         | .31 (9%) | .41 (16%)            |
| Frequency of serial record use | .37               | 1.00                           |                  |          |                      |
| Written citation               | .17               |                                | 1.00             |          |                      |
| Referred                       | .31               |                                |                  | 1.00     |                      |
| Previous instruction           | .39               |                                |                  |          | 1.00                 |

contributing to them present only a partial analysis of card catalog usage. The reasons for unsuccessful searches need to be explored. Three causes for an unsuccessful catalog search are (1) collection failure, where the library does not own the publication and no entry could be expected to be found in the catalog; (2) catalog failure, where the material being sought is in fact owned by the library, but the catalog fails to inform the patron of this fact; and (3) user failure, where the patron has an entry that is in the catalog in the proper place, but the patron has failed to find it. An analysis of the latter two types of failures offers a true diagnostic evaluation of a catalog and is needed to improve our future catalogs.

Table 10 shows the number of unsuccessful searches and the three reasons for failure. An unsuccessful search was one in which the user failed to match a citation to an entry in the serial catalog. The twenty-four serials not owned by the library were checked in *New Serials Titles*, *Ulrich's International Periodicals Directory*, and other reference tools to determine if the patron was seeking material that in fact existed in print. Twenty titles were verified as correct in spelling and existing in print. Four titles could not be found to exist in print in the form of the citation the patron presented at the serial catalog. Since libraries do not own everything in print,

TABLE 10

## UNSUCCESSFUL SERIAL RECORD SEARCHES

|  | Number | Percent* |
|--|--------|----------|
| Not owned by library                           | 24     | 5        |
| In serial record, but not found                | 39     | 7        |
| In main card catalog, but not in serial record | 16     | 6        |
| Total  | 79     | 18       |

\*Figures are rounded off.

there will always be collection failures, but the relatively small level at Illinois is indicative of the size of the collection.

The thirty-nine serials that were in the serial catalog but were not found represented either a user or catalog failure. As table 11 demonstrates, 49 percent of the failed searches were because of user failures. The primary type of patron failure recorded was caused by the patron failing to locate a citation that had in fact an exact match in the serial catalog. Nineteen undergraduate students and graduate students fell into this category. Because of the very small sample size of user failures, no detailed statistical analysis could be reasonably attempted. However, one possible contributing factor to these failed searches might have been the user's inexperience with the catalog. Sixteen of these twenty-two patrons stated that they had never before consulted the serial catalog. Patron carelessness and nervousness caused by being observed might also have contributed to user failure.

The second type of failure was caused by incomplete entry and accounted for only 9 percent of the searching failures. One typical example of these failures was *American Hospital Statistics* instead of *Hospital Statistics*. The users committing this type of failure did so because of a "sloppy citation," one in which they did not write down the complete entry. Interestingly, all five of these patrons had written down the sources of their cita-

TABLE 11

## PATRON AND CATALOG FAILURES

|                             | Number | Percent of Failed Searches* |
|-----------------------------|--------|-----------------------------|
| Patron missed entry         | 22     | 40                          |
| Patron had incomplete entry | 5      | 9                           |
| Serial record failures      | 28     | 51                          |

\*Does not include collection failure.

tions and could have gone back to those sources to correct their citation.

Errors in the serial catalog accounted for 51 percent (or eighteen) of the unsuccessful searches. Two reasons for this type of failure were misfiled cards (two cases) in the serial catalog, and serials that had a card in the main card catalog, but not in the serial catalog (sixteen cases). Because of the number of different filers in the serial catalog and the inclusion of different filing rules at different stages of the serial catalog development, mistakes due to filing error are inevitable. The sixteen serials found in the main card catalog but not found in the serial catalog were caused by local problems associated with the creation of the serial card catalog. Disturbingly, only four of the sixteen patrons indicated to the interviewer that they would check the main card catalog after their serial catalog search failed. Multiplicity of catalog files within a library and the failure of linkage from one to another directly caused twelve failures in locating a serial publication owned by the library.

#### CONCLUSION

The patrons sampled were successful in 84 percent of their searches. Almost 72 percent of these successful searches had no difficulty using a traditional card catalog as they matched their bibliographic citation to the correct catalog entry in the first drawer selected. Patron persistence by conducting second and third catalog searches resulted in the remaining 12 percent of the successful searches. This finding substantiates Hafter's conclusion that "users have a very high success rate at the catalog."<sup>8</sup> Implementation of title access to serials under AACR2 would mean that twenty out of forty-seven second and third searches (43 percent) would have been unnecessary.

An interesting phenomenon was employed in 17 percent of the successful searches. In these searches, sixty-three patrons ap-

proached the serial catalog with only an abbreviated form of the entry they were searching and were still able to conduct a successful search. Since online catalogs have the potential for access via an abbreviation or keyword, more study of this phenomenon is necessary, including how these abbreviations are derived and used.

In an attempt to determine the causes for our high success rate, four factors were isolated and tested. Frequency of serial catalog usage, written citations, referral to the serial catalog from another source, and previous instruction were by themselves not significant indicators of whether an individual search would be successful. However, as a group these factors accounted for almost 50 percent of the variance in a successful search.

There are several questions that the study did not answer. For instance, was the high success rate of the sample due to the high number of journals and magazines sought (as opposed to continuation-type entries)? Is the high rate of journal usage indicative of the type of serial searching done in most catalogs? Do card catalog users and users of present online catalogs search for serials in a manner consistent with our sample's searching patterns? These questions need to be addressed in future use studies to determine what factors contribute to patron success or failure in searching a catalog for a serial publication.

As is the case in many user studies, more questions were raised than answered by this research. With the current trend toward automated catalogs in many college and university libraries, the need to know the methods of searching our present catalogs for serial publications becomes imperative. The research reported here was the first step in understanding our present system. More studies are needed so that the catalog of the future will be responsive to as many patron demands as possible.

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  - F. W. Lancaster, *The Measurement and Evaluation of Library Services* (Washington, D.C.: Information Resources Press, 1977), p.20.
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## APPENDIX I: SPECIAL USER STUDY

Quest. #

Date

Time

Initials

- What is your association with the university?
  - Freshman .....1
  - Sophomore .....2
  - Junior .....3
  - Senior .....4
  - Graduate student .....5
  - Staff .....6
  - Other .....7
  - Faculty .....8
  - Dept. \_\_\_\_\_
- What is your major field of study? (State) \_\_\_\_\_
- Have you ever used this serial record before?
  - Yes (Go to Q.4) .....1
  - No (Go to Q.7) .....2
- Approximately how many times do you use this serial record?
  - Daily .....1
  - Once or twice a week .....2
  - Once a month .....3
  - Only once before .....4
  - Other .....5
- Have you ever been shown how to use this serial record?
  - Yes (Go to Q.6) .....1
  - No (Go to Q.7) .....2
- Who gave you this explanation? (Circle all that pertain)
  - Librarian .....1
  - Friend .....2
  - Teacher .....3
  - Other .....4

- Were you referred to the serial record from another source or catalog?
  - Yes (Go to Q.8) .....1
  - No (Go to Q.9) .....2
- Were you referred from (Circle all that pertain)
  - Circulation desk .....1
  - Reference room .....2
  - Information desk .....3
  - Undergraduate library .....4
  - Main card catalog .....5
  - Shelflist .....6
  - Other .....7
- What are you looking for today? (Record citation exactly)
 

|  |   |   |   |   |
|--|---|---|---|---|
|  | 1 | 2 | 3 | 4 |
|--|---|---|---|---|
- Language of item searched?
  - English .....1
  - German .....2
  - French .....3
  - Russian .....4
  - Spanish .....5
  - Other .....6
- Was the citation in number 9 written down?
  - Yes .....1
  - Xeroxed .....2
  - No .....3
- Where did you get this citation?
  - Class reading list .....01
  - Index/Abstract .....02
  - Bibliography .....03
  - Bibliography in book .....04
  - Bibliography in journal article .....05
  - Footnote in book .....06
  - Footnote in journal article .....07
  - Online literature search .....08
  - Recommended by teacher or friend .....09
  - LCS .....10
  - Other .....11



13. What is the name of this source?  
 Written .....1  
 Xeroxed.....2  
 Orally stated .....3  
 Don't remember.....4
14. Have you ever seen or used this material before today?  
 Yes.....1  
 No.....2
15. How did the user look up item? (List approaches)  
 Same as Number 9 .....(xref?) 1  
 Other entries:.....(xref?) 2  
 \_\_\_\_\_(xref?) 3  
 \_\_\_\_\_(xref?) 4
16. Did you find what you were looking for?  
 Yes (Go to Q.18) .....1  
 No (Go to Q.17).....2
17. What will you do next? (Circle all that apply)  
 Forget about item,  
 abandon search .....1  
 Contact interlibrary loan .....2  
 Ask someone for help.....3  
 Check LCS .....4  
 Nothing today,  
 come back again .....5  
 Try main card catalog.....6  
 Other.....7
18. What will you do with this information?  
 Retrieve piece.....1  
 Check LCS .....2  
 Other.....3
19. Have you participated in this study before?  
 Yes .....1  
 No.....2  
 Don't remember .....3  
 Think so.....4