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ABSTRACT

This study describes materials used by secondary school students in preparing independent study papers and other types of assignments calling for library use, including the use of home collections and school, public, college, and special libraries. Bibliometric methods were used to provide measurement of the nature and currency of books, magazines, encyclopedias, newspapers, government documents, and pamphlets referenced by students. A sample of 15 high schools representing five school districts and two independent schools provided data on 1,845 students from 73 classes. Four major sources of data were (1) bibliographies (or reference lists) of student papers; (2) a questionnaire survey of students describing facilities used; (3) a survey of teachers on assignments, instructions given students, and type of library skills provided; and (4) interviews with school librarians on user services and collection policies. Book reports were examined as a separate investigation, and a separate analysis was performed to describe lists of recommended titles included in 19 bibliographic publications used as selection tools by high school librarians. Among these tools were the Senior High School Catalog, the Junior High School Catalog, the National Association of Independent Schools list, and lists of award books. (Author/PAM)

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A Quantitative Inventory of Resource Development and Utilization for Metropolitan High School Students

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PREFACE

The investigations which are the subject of this report are not a single piece of research. They are a series of separate but closely related studies. In keeping with this the conclusions of each study have been reported at the end of each chapter of this report. The overall implications of these studies have been dealt with in the Executive Summary section. It is important to keep in mind that these studies are not independent. The subject matter is similar and the sample populations are highly intermeshed.

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Significance

There are two aspects to the significance of this research:

- This study is the first large-scale description of actual behavior of high school students as information users.

- The methodology of this study is straightforward, rigorous, and replicable. The techniques can be used by teachers and libraries on the building or district level.

The data collected was very concrete. Some of it was taken directly from the bibliographical references copied from student papers. When the students were questioned, the questions dealt with specific factual information. This approach means that the nature of the data can be clearly defined and that variation in observation or measurement has been controlled.

The large size of the sample has numerous advantages. It provides a wide variety of situations which can be examined for patterns of effect on student behavior. The large sample also permits the study of relatively rare events. (For example only one out of ten student papers makes any reference to newspapers, yet this study collected 287 instances of newspaper references.)

The method of collecting and analyzing data is simple and self-explanatory. The emphasis on specific factual questions makes it relatively easy to adapt the questionnaire to specific situations (for example, the main questionnaire was adapted for use with the book report portion of this study). The analysis of the data is based mostly on simple tables rather than statistical analysis. It is possible to do all necessary computation using only the simplest hand calculators. While simple and straightforward, the data collection methods draw upon standard techniques of bibliometrics and sociometrics. Thus many of the people familiar with these areas can serve as resource persons in assisting with studies of this type.

Sample

The sample was a purposeful sample, selecting first districts and then schools within districts. Within schools teachers were

selected and for each teacher specific classes were identified for data collection. This process of sequential stages allowed the sample to be shaped, not in a strict statistical sense, but in order to provide a mix of assignment types, topics, student levels (both grade and achievement), school sizes and resources, and community characteristics. Clearly, at every stage of the sampling process, individuals or institutions could choose not to participate. The actual refusal rate was very low, but there is undoubtedly some bias towards better classes, more secure teachers and principals, and less paranoid school districts.

The final data collection involved 1,845 students from seventy-three classes. This involved fifty-five teachers from fifteen schools. The schools represented five districts plus two independent (private) schools. Overall the data collected can be categorized into three groups.

- 1,178 Bibliographies (or reference lists) of student papers containing a total of 8,279 references.

- 1,298 Questionnaires completed by individual students describing the facilities they used in obtaining materials for a specific assignment.

- 532 Student questionnaires on book report assignments--the book selected and how and where it was chosen.

The students contributing the bibliographies are largely the same individuals who completed the facilities questionnaires. Slight sample size differences are due to student absences, late papers, and similar difficulties. It is important to remember that in order to preserve the personal privacy of the students the questionnaires are not identified with specific bibliographies.

Method

There were four major sources of data for this study:

- Examination of the bibliographies (reference lists) of student papers.

- Questionnaires on facilities used completed by the students.

- Questionnaires on the assignment and materials and facilities recommended completed by the teachers.

- Interviews with school librarians on collection policies and assistance provided to teachers and students.

The first two sources of data--the data which came directly from the students--formed the principal basis for this study. The data from teachers and librarians served to define the context within which the students operated.

Data collection began with a meeting in each school with teachers who had been identified by the principal or department heads as giving assignments in which each student had an individual topic and which required the use of materials beyond the classroom and text. The project was explained and those teachers willing to cooperate were identified. At the time the assignment was due a member of the research team met with the class to administer the questionnaires. At this time the bibliographies were photocopied. At every stage of the research two principles guided interaction with students and teachers: first, that the research be presented and explained in an honest and straightforward way, with no "trick questions" or "hidden intentions." Second, that all research records and reports protect the privacy and anonymity of the people involved.

Analysis of the bibliographies began with classifying and coding the entries on a paper-by-paper basis. The information collected included:

- Type of materials--books, magazines, encyclopedias, etc. The number of each type as well as the total number of references was recorded.

- Age of materials--oldest date, most recent date and median date were recorded for the entire bibliography and for each type of material.

- Special characteristics--these included the number of different journal titles used, and the number of journal titles referenced which were indexed by Readers Guide to Periodical Literature.

The data was keypunched and analyzed using the SPSS package of statistical programs. Coding permitted grouping by class, teacher, school, or district.

The student questionnaires focused specifically on the facilities which the student had used for this particular assignment. This approach, which in survey research is called the critical incident technique, is aimed at obtaining the most factually accurate data. The questions asked for specific information about what the students actually did. Questions were pretested for clarity. Among the topics covered by the questionnaire were:

- Facilities used in looking for materials. (A list was provided and students checked all appropriate entries.)

• Facilities from which materials were actually obtained. (Repeated list above)

• Libraries in which the staff provided direct assistance to the student.

• Other sources of assistance (parents, friends).

The presence of an investigator while the questionnaires were administered and various checks for internal consistency indicate that student cooperation was very good.

Overview of Findings

Facilities

The most striking finding with respect to facilities is that high school students have a strong tendency to use several sources in obtaining materials for these types of assignments.

Type of Library	Percentage of Students Using	Percentage of Students Using Who Found Information	Percentage of Students Using Who Received Library Staff Help*
School	84	77	36
Public	75	86	39
Community College	3	69	21
College/university	16	83	36
Home	59	83	--
Other (private or special)	7	93	18

*Help from families and friends was reported in about 22 percent of the cases.

• The typical student uses two or three different libraries. (70% of all students are in this group)

• About one-third of the students reporting use of a library received some form of staff help.

- The use of home collections is high regardless of the school or school district. Home use cuts across socioeconomic lines.

- Active encouragement and training of the students by the teacher and school librarian can increase the use of academic and special libraries.

- Access factors such as the age of the students and availability of transportation may affect the variety of libraries used.

The fact that students use a wide variety of libraries is important to all librarians concerned with student access to information, regardless of their institutional affiliation. Students need library instruction which is not limited to a single local resource. They need the basic skills which will be applicable to a wide range of collections. The fact that students report help in different types of libraries suggests that they would benefit from question-asking skills which would allow them to express their needs clearly to the staff of any library.

Librarians who wish to encourage student use of a variety of facilities must be willing to take an active role. Activities should include: communication and coordination among a diversity of area librarians; assistance to teachers in the design of assignments and in the preparation of instructions for students; and contact with and encouragement for parents and parent groups in the selection of materials for home collections.

Materials

The major finding with respect to the use of materials is that students are strongly book oriented. Aside from books and magazines, all other forms of materials are little used.

Type of Resource	Percentage of All References	Used in Percentage of Papers
Books	62	88
Magazines	19	39
Newspapers	4	10
Encyclopedias	7	36
Govt. Docs./Pamphlets	3	14
Nonprint	1	4
Other	4	17

• Books are both heavily and widely used. Over three-fifths of all references are to books and nearly nine out of ten students use books.

• Magazines are both less used and used by fewer students.

• Observed patterns of magazine use conform to Bradford's Law, i.e., a few journal titles are responsible for many references while a great number of titles supply very few. For example, 4 titles (Newsweek, Time, US News and Sports Illustrated) accounted for 25 percent of all journal references; 20 titles accounted for 50 percent of journal use; 57 titles for 75 percent of all journal use; and 296 titles for 100 percent of use reported.

• Materials other than books and journals are seldom used. All other materials combined (i.e., newspapers, encyclopedias, government documents, pamphlets, nonprint resources, etc.) account for 19 percent of the references.

• Materials references are not particularly current. Within individual papers there is an average span of fifteen years between the most current date referenced (median 1975) and the oldest date (median 1960). Only 20 percent of all papers have at least one-half of their references within five years of the date of the assignment. Even when the currency index is extended to ten years only 42 percent of the papers have at least one-half of their references within ten years.

There is a strong preference for monographs over other types of materials, regardless of the subject of the assignment. Materials other than monographs or journals are rarely used. Neither monographs or journals referenced are particularly current. References do, however, cover a broad time span, even within individual papers.

One wonders if these features do not, in fact, suggest that students are not using the best materials available. The materials' use pattern suggests that they do not view resources in all formats as of equal importance, e.g., monographs and journals are used as separate entities rather than as part of an integrated approach. Perhaps the separate modes of accessing these materials (monographs through the card catalog and journals via indexes) are unconsciously producing this search behavior. Training may be needed to assist students in achieving a subject, rather than a format, approach.

The patterns of materials use seem to be pervasive. They hold true across schools and school districts. These patterns are only slightly affected by the school library collection, the socioeconomic

level of the community, or the levels of school library funding. There are great individual to individual differences among students. These differences are found in every school. There are also differences due to different assignments but more important than the assignment is the training given to the students by the teachers and the school librarian. The most important conclusion is that students such as those in this study have basic patterns of information use. These patterns are more affected by library staff than by library collections.

Book Reports

The book report is a special case of the general type of assignment covered in this study. The book report requires only one reference. Because of this difference, book reports were not included in the assignments studied in the main part of this research. However 532 book reports were examined as a special investigation. Among the major findings were:

- Compared to other assignments studied, the use of the school library for book reports seems most affected by differences in the services provided by the school library for students with this particular type of assignment.

- Browsing is by far the most popular method of selecting books for reports (reported by 46% of the students).

- Recommendations from friends are reported by more than twice as many students as report such an influence from either teachers or librarians in selecting the title of the book read.

- Regardless of the particular library source of the books, students show a strong preference for paperback materials. Nearly three-fifths of all book reports were based on paperbacks.

- Students prefer fiction. Analysis of students without any restrictions on selection showed that 88 percent read fiction.

- There is little overlap in the titles selected. 532 students read 407 unique titles. Only 33 titles were read by 3 or more students.

The strongest effect on students' selection of materials was the type of assignment and the degree of restriction placed on students. In cases where assignments were carefully restricted, book talks, recommended lists, and library visits appeared to have a large influence on student book selection. In cases with an unrestricted

book choice, students tend to make their own selections, with a moderate degree of influence from friends. Unrestricted students do not seem to be significantly influenced by teachers and librarians. In all cases, browsing was an important factor in book selection. Since browsing is the predominant selection behavior reported by students (and the school library is their most frequent choice for actual selection) the school librarian does exert some control over student selection by controlling the collection.

The public library is not a particularly important facility in book report assignments, although in communities where public libraries are more accessible, there is a slight increase in their use by students. The use of bookstores and home collections is not overwhelming, but some students do use these sources. The use of bookstores and home collections does not seem to be related to the socioeconomic level of the community. Public libraries, bookstores and home collections probably serve to supplement the school library collection, rather than compete with it.

There are some student preferences which seem to be generalizable to the high school population as a whole. In general, students tend to prefer fiction to nonfiction, and paperbacks to hard cover books. The titles selected are diverse and range widely as to date. Titles which are frequently selected tend to be those from teacher lists.

Implications for Practice

This study was conceived as descriptive rather than evaluative. As such, the measurements themselves can neither be considered good or bad. However, after seeing the work of almost two thousand students some general evaluative comments may be in order.

Overall, the students in this sample performed very well. They showed an ability to use a variety of facilities, to locate materials, and to reference these materials in papers. Students at the high school level show that they have already developed their own styles and habits in seeking and using information. Clearly, any instructional program must take into account the students' present behaviors.

The single factor most related to the actual behavior of the students was the set of goals (either explicit or implicit) which the teacher had for the assignment. For example, in classes such as science and health the searching and use of the literature was a less emphasized goal of the class. Students in these classes referenced significantly fewer items. On the other hand, in a class in English composition where the use of a variety of materials was stressed, the students responded by identifying a larger and more diverse set of sources.

This finding is tremendously encouraging. It indicates that teachers and librarians can have a significant impact in shaping the information seeking and use patterns of their students. The effect of professional guidance and direction is more important than the availavility of resources, the intellectual orientation of the community, or the socioeconomic level of the school district. (The reader is cautioned that to say that the professionals are more important is not to say that resources and environment are unimportant.) This means that planned actions, directed by a clear set of goals, can have immediate and positive effect. Indeed, the best performances among classes in this study stemmed from exactly such efforts.

The specific programs will depend greatly on the local situation and on the priorities assigned to various goals and objectives. However, based upon the specific results of our survey the following are some program ideas which might be tested in developing student information awareness:

1. A concrete program in school/public library cooperation might set aside a specific time that the public library would reserve for intensive assistance to students in research topics for school assignments. For example, a Saturday morning might be designated during which specific reference tools were made especially accessible and library staff were assigned to active roles in offering assistance to students in relation to specific assignments.

   In order to offer such assistance it is important that the school and public librarians agree on the objectives for the students' learning. Is the focus on the students' ability to find information, or on the students' ability to produce a paper once the information has been found? Cooperative contacts could also include descriptions of the preparation which students had received in the classroom or school library.

   This particular recommendation grows out of our observation that students will be heavy public library users, but that many do not specifically seek assistance.

2. A second possible action is a cooperative effort involving the local parent-teacher organization. The focus would be the upgrading of home library collections and increasing parent sensitivity to their own role in shaping the information-seeking habits of their children. A program of this type could be undertaken either in the school or public library, or both in concert. Specifically, this program might include: lists of recommended reference books for holiday and birthday giving; recommendations of pertinent criteria for selecting books or magazines for the home; programs designed to remind parents of the availability of librarians for professional advice; and other presentations aimed

at developing in parents an appreciation of the importance of information skills in modern society.

This recommendation comes out of our finding of frequent use by students of home collections, and especially, that home collections were often used in conjunction with both school and public library holdings.

3. A third plan of action would deal with shaping the assignment and the preparation given to the students by their individual teachers. One way of encouraging students to try new facilities and new information-seeking approaches is by giving them clear and concrete suggestions in the classroom. The identification of specific facilities within the community and instruction in the use of specific locating tools (i.e., indexes, etc.) may be more within the regular experience of the school or public librarian than the teacher who is, by necessity, more concerned with the subject matter. Therefore, close cooperation between librarians and teachers in identifying appropriate subjects and where materials are available on these subjects will encourage the student to explore new information sources.

   This recommendation is derived from our finding that active involvement of the teacher and librarian was an important factor in the use by students of a variety of facilities. Our interviews with teachers showed that this effect was particularly strong when students were given specific written instructions and detailed recommendations to community resources (including addresses and hours of operation, etc.).

4. A fourth plan of action would aim at aiding students in developing more sophisticated selection strategies. The major focci of this training should be diversity and selectivity. For example, students should be encouraged to think beyond the book format in a more content oriented approach. Library collections could be arranged to make magazines, vertical files, and nonprint materials more visible. Indexes for accessing these materials should be easily available, clearly explained, and, where possible, integrated or cross-referenced. Students should be more aware of the age of materials which they use. They should seek current materials for rapidly changing subjects and older materials contemporary to the time frame of their topics. Librarians can facilitate this by weeding outdated materials and by highlighting appropriate historical sources (such as selected runs of magazine back issues). Teachers should incorporate age sensitivity into assignments and into grading criteria.

These recommendations are based on the finding that students depend heavily on books while showing light use of many kinds of

special materials. Data showed that students often used material which was quite old and showed wide variety in terms of age of materials.

In the final analysis, improvement of information services for high school students is the responsibility of the individual professional. Librarians and teachers concerned with actively participating, cooperating, and interacting with peers and students will have a far greater impact on selection behavior than the collection available. Objective evaluative techniques, such as those described in this study, can serve as effective tools in better providing guidance and services to high school students.

METHODOLOGY

The present study presents an inventory of the variety and nature of materials for which students turn to libraries of all types -- school and public libraries, as well as academic, private and special collections. The inventory is based on an analysis of the students' search behavior. This analysis is derived from a composite picture of materials and facilities used -- a picture built from four related sources of data: 1) the bibliographies or written records of papers completed by students to meet the requirements of a specific assignment; 2) a questionnaire survey of the students who prepared the papers: 3) a questionnaire survey of the teachers involved; and 4) interviews with the librarians in each of the schools from which student papers were included in the analysis.

The study differs from former studies in its use of bibliometric techniques to examine the high school student's use of information. These techniques are employed to analyze the referencing patterns of users to produce an inventory of actual use. This inventory is the product of an analysis of materials and facilities used by a varied group of students to meet the requirements of specific school assignments.

Selection of the Sample

There seems to be no economically feasible way to draw a truly random sample of papers produced by high school students in meeting the requirements of their school assignments. We therefore chose to select a purposeful sample of schools that could provide a reasonably representative selection of papers or projects.

A sample of 15 high schools within 100 miles of a major metropolitan area was selected for inclusion in this study. Within these schools student assignments were collected from 73 classes, supervised by 55 teachers (some of the classes included were responsible to the same teacher). Five public school districts and two independent schools cooperated in the study. All schools were promised anonymity; therefore, the names of the cooperating schools are not included in this report. The schools were selected to vary in terms of size, location, basis of support, type of student and type of community. The largest school in the sample had a student body of approximately 4800 students, while the smallest had under 200 students enrolled. Most (11) of the cooperating schools ranged in size from 1500 to 3000 students, two were larger (3100 and 4800 students), and two were small schools (under 200 students). The schools were located in two neighboring states. Eight were situated in one of the nation's largest metropolitan cities. This city has extensive information resources available and a system of public transportation that makes it feasible for students to use a variety of area resources. Two other schools were located in a "bedroom" or commuting suburb of this city. Students in these schools also had access to public transportation and thus could access, if they wished, the major area resources of the city. In addition, these suburban students had local area resources available to them. Four other schools were in a less centrally located area. Students in these four schools live and attend school in a more rural environment. Although these students (and their families) are in what many consider the greater metropolitan area there is little public transportation available. In fact, access to major area resources is

difficult, particularly for students who are unable to arrange private transportation. It should be noted, however, that many families of students in three of the four rural-suburban schools work in the metropolitan area. These students share a cultural bond with the city students in terms of exposure to the same newspapers, television and radio broadcasts. (The fourth rural-suburban school is a private boarding school).

The most geographically removed school in the sample was located in a small urban area approximately 50 miles from the city that provided the focus of the study. This area has its own varied local information resources. It is also an area of diverse socio-economic groups, including students from outlying agricultural families. This school was intentionally included in the experimental design, since the intent of the study was to focus on the strong similarities of behavior of a diversity of students. The schools, in this regard, act as "markers" and were selected to represent a variety of neighborhoods and situations.

Within each school the contacts were made with principals, heads of departments and librarians to explain the study and to determine which teachers were currently responsible for directing students in preparing assignments that fit the criteria of this design. The essential element was the presence of a written record of the resources used by a student. In a few cases the study was presented to the school library supervisor and the superintendent as well.

The purpose of the study was explained briefly by telephone and arrangements were made to visit each school. During the first visit the intent of the study and all procedures to be followed were discussed. In schools in which teachers were unionized it was essential to include the union representative in this explanatory phase. Depending on the situation, the initial contact included the superintendent of the district, the school library supervisor, the principal, where appropriate, department heads and school librarians. As a result of these meetings, teachers were identified who were either teaching, or had recently taught, classes in which students had prepared papers suitable for this research.

Within the two independent schools initial contact was by telephone to the librarians. In each case the librarian secured the necessary permissions and identified a teacher within each school who would cooperate. Confirming letters were sent to the administrative offices of both schools.

Meetings with the teachers were arranged by letter and telephone in all schools. Appointments for actual collection of student papers and administration of student questionnaires were confirmed by letter.

Cooperation on the part of teachers was totally voluntary. No teacher suggested by the administration and approached by the investigator refused to participate. In preliminary discussions with teachers the following process was explained:

1. Bibliographies of papers produced by students would be collected and copied by the investi-

gator on the school premises. No papers would be removed from the school. Analysis would describe student use of resources only. The quality of the papers would not be assessed in any way.

2. A brief questionnaire would be completed by teachers describing directions given to students in preparing their papers.

3. Students would complete a questionnaire indicating where they located information and their source of assistance.

Finally, the interview process was discussed with the school librarians. They were told that the interview would focus upon the use of resources by students to meet the requirements of their assignments, and were shown the detailed format describing areas to be covered in the interview.

The study was openly discussed with all interested staff members in the cooperating schools, including teachers and librarians. If they wished, teachers were shown the questionnaires that would be used. The possibility that this would affect teacher behavior in making the assignment and helping students was considered. It was decided, however, to risk this in order to gain full cooperation; in any case, this did not become a problem. No student questionnaires were administered before the papers to be analyzed were collected.

The actual data collection procedure varied slightly according to the availability of papers within schools. The initial visits were used to identify at what time papers would be available or if completed papers were already available from teachers. Preliminary schedules for data collection were then established.

Data included in the analysis was collected over a twenty-one month period of time, from June, 1977 to March, 1979. Papers were collected as available from teachers. Questionnaires were administered personally by the investigators to students and teachers in classes when possible. There were, however, a few exceptions dictated by circumstances. For example, some papers had been completed and were available because teachers had saved them, but attempts at locating the students for administration of questionnaires were only partially successful. At times, students were absent when questionnaires were administered. Teachers sometimes inadvertently returned papers before the bibliographies were copied by the investigator. In most cases, however, data collection proceeded as initially scheduled.

The student uses studied were those in which students used outside or non-textbook sources in preparing reports, papers, or projects and in which there was a written record by the student of the sources used. This written record was usually in the form of a bibliography, although in a few cases footnotes or written note cards were accepted as sources of information. One large group of assignments included book reports on

individual titles. These book report assignments were handled as a separate unit of analysis.

A total of 1830 students completed questionnaires on the use of libraries to meet the requirements of school assignments. These assignments ranged from the selection of a single book for a book report (by 532 students) to assignments calling for extensive resources to document thesis statements. Table 1 shows the number of responses within each unit of analysis.

A total of 1,178 assignments (not including book reports) in which students used outside or nontextbook sources were collected. These assignments represented a variety of subject areas including English, history, science, debate, political science, economics and health education. Papers from classes in English or history accounted for 58% of all papers. Students in a variety of science classes accounted for 23%; and student papers completed in political science, economics, social studies, and health education accounted for 19% of the total. Students included in the sample were in grades 9 through 12. It is not possible to describe exact numbers by grade level since some classes included students from more than one grade. A variety of student levels was provided for in the sample design. Students ranged from those described by their teachers as in academic, advanced placement levels, through regular and lower track students. The sample includes, however, mainly students in regular and rapid or advanced levels, with only a small number of assignments from students described as slow or below average.

Analysis was directed toward a description of the number , types and currency of materials referenced. All student papers were aggregated for analysis. In separate analyses papers were also considered within broad subject groups (humanities, science, social science), by school district, and by school. (Not all of these analyses are presented in this report).

Objective description of library use emerged from four sources of data: 1) the bibliographies, footnotes, or note cards pertaining to students' papers or projects were analyzed to produce a description of the number, type and currency of the materials referenced by students; 2) a questionnaire survey of the students preparing such papers or projects described the types of libraries students tried in their search for information and identified when they successfully found information; in the case of book reports, the questionnaire identified the title, author, and date of the book read, as well as the factors influencing selection and the libraries used; if they received assistance and any special way they gathered information; 3) a questionnaire completed by teachers described the assignment specifications and the instructions and assistance given students; and 4) interviews with professional librarians in each school provided an overview of the types of services offered to students in relation to assignments, and the size and type of collections available in the school libraries.

Sources of Data

(Units of Analysis)

1. Bibliographies (or other written records) from student papers or reports

TABLE 1-1

UNITS OF ANALYSIS: NUMBERS OF RESPONSES

WITHIN EACH UNIT

Units of Analysis	Number of Responses
Student papers	1172
Student questionnaires	1293
Student book report questionnaires	532
Teacher questionnaires	55
Librarian interviews	14

Bibliographic references recorded by students were taken from the bibliographies of student papers collected from the 15 sample schools. In a few cases written note cards or footnotes were accepted in lieu of a written bibliography. All written bibliographic references were photocopied on school premises from the student's complete assignment. For most assignments this was done in the school library the day assignments were collected by the teacher. Papers were returned to teachers the same day.

Variables coded or computed from the bibliographic references within student papers or reports were selected for two reasons: 1) they were similar to those used in bibliometric analysis of other fields and were thought applicable to a description of this user group (i.e., high school students); and 2) the data was relevant for library management decisions. For example, knowing the types and ages of materials used by students may help librarians in collection decisions (e.g. weeding). The variables selected for analysis are described below.

Total References

This variable is a count of the total resources used by a student. It included monographs, journals, encyclopedias, newspaper articles, government documents, pamphlets, letters, wills, various primary sources of all types, and nonprint resources including interviews. It is the single variable that points to the total number of resources a student used.

Five Year Index/All Materials

This variable measures the percentage of all references dated within the five immediately preceding years. It is a measure of the currency of the materials used to prepare a paper.

Ten-Year Index/All Materials

This variable is similar to the one above. It measures the percentage of all references dated within the ten immediately preceding years.

Current Date

This is the most current date of any material referenced in a paper.

Old Date

This is the oldest date of any referenced material.

Total Monograph References

This is the total number of monographs referenced by a student.

Five-Year Index/Monographs

The percentage of all monographic references within five years of the date of the papers are measured by this variable.

Ten-Year Index/Monographs

This is similar to the other index measures. It covers the percentage of all monographic references within ten years of the date of the papers.

Median Monograph Date

This is the date of the monographic references representing the midpoint in age of all monographs references within a paper.

Encyclopedia References

This variable provides a count of the number of references to encyclopedia articles.

Newspaper References

This variable provides a count of the number of references to newspaper articles.

Government Documents/Pamphlets

A total number of references to government documents and/or pamphlets is provided in one summary variable.

Nonprint References

The number of references to nonprint resources includes all types; interviews are also coded as nonprint references.

Total Journal References

This variable measures the total number of references to journal articles used by a student. However, since knowledge of journal references has many management applications a series of other variables were also coded and analyzed for journal use. A description of these variables follows.

Five-Year Index/Journals

This is the percentage of all journal references within the five prior years.

Ten-Year Index/Journals

This is the percentage of all journal references within the ten immediately prior years.

Median Journal Date

This measure indicates the date of the journal reference representing the midpoint in age of all journal references in a paper.

Unique Journal References

The number of unique journal titles within a student paper is a measure of the variety of journal titles used, rather than a measure of all separate references to journals. For example, a student who referenced six articles in Time magazine would have a Total Journals References count of six, but a Unique Journal Reference count of one.

Percent Unique Journal References

This is the percentage of Total Journal References within a paper represented by the number of unique titles.

Percent Journal References

This is the percentage of Total References that are to journal titles.

Readers' Guide References

This measures the number of journal references within a paper indexed in the Readers' Guide to Periodical Literature.

Percent Readers' Guide

This is the percentage of journal references represented by indexing in the Readers' Guide to Periodical Literature.

Periodicals for School Libraries References

This is the number of references to journals that are recommended by Periodicals for School Libraries or the updated version, Periodicals for School Media Programs.

Percent Periodicals for School Libraries References

This is the percentage of all journal references represented by journals recommended by Periodicals for School Libraries or the updated version, Periodicals for School Media Programs.

2. Questionnaires Completed by Students

Two questionnaire instruments were designed to determine how students located information for assignments in general, or how they selected books for book reports. Book questionnaires determined how students located information, i.e., what types of libraries they used; which libraries were most useful to them; in which assistance was provided; in which people other than the library staff assisted them; whether surrogate searchers obtained information or books for them; and for general assignments, any special ways they gathered information, such as interviews. Students were asked what they did, not why they did it.

In cases where questions specified choices, provision was also made for free choice. In these cases responses were examined and assigned to new categories coded according to the choices supplied. For example, space was provided for students to indicate the names of institutions used. These could then be coded for type of library and added to the appropriate category.

The internal consistency of the questionnaire was tested by examining the response choices from one set of variables to another; e.g., if a student checked as successful the use of a public library in question #2, had he checked trying a public library in question #1? No formal check was made, but a few instances of student confusion were found and isolated. They do not affect the analysis.

Questionnaires were administered personally by the investigator where possible. In a few situations in which this was not possible questionnaires were administered by the school librarian or the classroom teacher. The procedure followed by the investigator was used in all cases. The investigator introduced and explained the purpose of the study as stated at the top of the

Student Questionnaire on Libraries and Research Papers, i.e., "to help determine to what extent you used various libraries in preparing your research papers and if libraries met your needs." The explanation given for the student questionnaire on Book Reports was to "describe how you selected the book you used"... to "help us to understand how students choose books." Confidentiality and anonymity were stressed. A copy of both questionnaires is included as an appendix to this report. The variables coded and analyzed are summarized below.

Libraries Used

This includes all libraries consulted, whether or not material was found for student research papers. Students were offered choices that included the school library, neighborhood public library, large regional public library, community college library, college or university library, private library (student specified names), home or personal library, or other (names of libraries specified by student). In the case of book reports, choices also included bookstore. Total libraries used was computed by summing individual types indicated.

Libraries Used Successfully

This includes all libraries in which students found materials for their papers, or, in the case of book reports, the place the book was selected. The same list of choices was presented: school library, neighborhood public library, large regional public library, community college library, college or university library, private library (student specified names), home or personal library, other (names of libraries specified by student). The book report questionnaire included bookstore as a choice. Total libraries used successfully was computed by summing individual types used successfully.

Staff Assistance in Libraries

Students answered "yes" or "no" to whether assistance was provided by a member of the library staff. If "yes," where assistance was offered was written in. These choices were coded in the same categories as those for Libraries Used and Libraries Used Successfully.

Other, or Family/Friend, Assistance in Libraries

Students answered "yes" or "no" indicating whether assistance was provided by persons other than those considered by students to be staff members. If "yes" the type of place in which assistance was provided was specified. These were coded in the same categories as those used for Libraries Used and Libraries Used Successfully.

Surrogate Searcher

Students answered "yes" or "no" indicating whether someone else used a library or other resource for them. If "yes," type of place in which this use occurred was specified. These were coded in the same categories as those used for Libraries Used and Libraries Used Successfully.

Special Information Gathering

Students (other than those with book report assignments) were requested

to list other special ways they gathered information. Replies were not coded for analysis as such, but gathered for reporting as illustrative material.

In addition to the variables indicated above, the Book Report questionnaire provided information on the additional variables described below:

Author

Students supplied the author's name of the book they read. In cases where students were unable to supply this the investigators provided the name using OCLC records.

Title

Students indicated the title of the book used for their book report. Titles were verified against OCLC records.

Date of Publication

Dates of publication for specific titles read by students were recorded by the investigators using OCLC records. In all instances the earliest date of publication was used.

Influences on Selection

A checklist was provided of possible alternatives influencing the selection of a title. The list of choices included: selecting the title from a list presented by the teachers; from a list in the school library; read other books by the same author; got the idea from television or the movies; found the book while looking at books in a library or bookstore; book suggested by teacher, by a friend, by school librarian, by the librarian of a public library, or other, please specify.

Binding of Book Selected

Students indicated whether the book selected for the book report was read in hard cover or paperback.

3. Questionnaires Completed by Teachers

Questions to teachers were designed to provide information about aspects of the students' assignment relevant to library services and resources. Two questionnaires were designed to provide this information. One, a general questionnaire was used to cover all assignments <u>except</u> book reports. A special questionnaire was prepared and used with teachers responsible for book reports. The general questionnaire is the first one discussed below.

The general questionnaire to teachers was divided into four parts:

1) choices offered students in selecting a topic; 2) suggestions presented to students of library and non-library sources for materials, as well as type of library use instruction provided; 3) teacher interaction with other members of the teaching staff and other libraries in the area in conjunction with student papers; and 4) teacher contacts to organizations other than libraries. In cases where questions offered specific choices, provision was made for free choice as well.

Teacher questionnaires were completed at the same time as those of students. No verbal instruction was given. Explanation and instructions were printed on the questionnaire. The questionnaire as applied is attached as an appendix to this report. The variables coded and analyzed are described below.

Topic Selection

Teachers selected from among a group of choices the one that best described how students selected a topic for their papers. These choices included: unrestricted choice; unrestricted choice, subject to teacher approval; selected from a list of broad subject areas; selected from a list of specific topics; topic assigned by teacher; other, written in by teacher.

Instructions on Locating Information

Suggestions of Libraries

Teachers indicated suggestions offered students of places to locate information, including: school library, public library, community college library, college or university library, private library (name written in), none (as listed above), all (as listed above), other (choices written in by teacher).

Suggestions of Non-Library Sources

Queries were also directed to non-library sources.

Teachers indicated suggestions made to students including: personal interviews, written or personal contacts to individuals, other (suggestions written in).

Providing Instruction in Library Use

Teachers indicated how instruction in library use was offered by checking as many of the suggested ways as applied. Choices included: general classroom instruction provided by the teacher; classroom instruction by the teacher on specific tools (e.g., Readers' Guide); arrangement with school librarian to provide instruction; instruction to students given at a public library (i.e., teacher accompanied students and presented instruction there); instruction provided at a public library by the library staff (teacher accompanied students); none of the above apply; other (choices written in by teacher).

Teacher/Library Interaction

With the School Library

Teachers described interaction with the school library by indicating which of the following applied: planned with library before assignment given; notified library of assignment before given; did not notify library of assignment; knew from past experience what could be researched in the

school library; requested school library to purchase particular materials for assignment; arranged for school library to borrow materials for students from other sources; other (choices written in by teachers).

With the Teaching Staff

Teachers indicated which of the following ways, if any, were followed in sharing student topics with the teaching staff: discussed topics at a staff meeting; discussed topics at a curriculum meeting; discussed topics informally; other, specified by teacher.

With Libraries Outside the School

Teachers indicated arrangments made with libraries other than the school library. Provision was made for free choices, in addition to the following specifics: discussed assignment and topics with, public library, college or academic library, or other area libraries (names written in); accompanied students to other libraries (names specified); borrowed materials personally for students; lent their own materials to students; other (choices specified by teachers).

Teacher Contacts of Non-Library Organizations

Teachers listed contacts to organizations other than libraries.

A special questionnaire was designed for the book report analysis. The explanation provided on the questionnaire stressed that "this questionnaire is concerned only with the selection of a suitable title by a student and their use of libraries or other facilities to locate a book." No other instructions or explanation were offered. Teachers completed questionnaires in the classroom at the same time students did.

The book report questionnaire for teachers requested information in 3 parts: 1) choices offered by teachers to students in selecting a title to report on; 2) places suggested to students as sources of suitable books; and 3) the purpose of the assignment and any printed instructions or book lists issued by students. (A copy of the questionnaire is included as an appendix to this report). The variables coded and analyzed are described below.

Title Selection

Teachers indicated from among a group of choices the one that best described how students selected a title for their book reports. These choices included: student had unrestricted choice of title; student had unrestricted choice of title <u>with</u> teacher follow-up and approval of specific title; an optional list of titles was presented from which students selected on, or had unrestricted choice of title;

an optional list of titles was presented from which students selected one, or had unrestricted choice of title with teacher follow-up and approval of specific title; a list of specific titles was presented from which a student selected one; a specific title was assigned to each student; or other (choice specified by teacher).

Suggestions of Sources for Books

Teachers indicated which sources of books they suggest to students from a list of possibilities that included: school library, neighborhood public library, regional public library, community college library, college or university library, home or personal library, bookstores, none of those suggested, or other (source supplied by teacher).

Assignment Specifications

Space was provided for teachers to indicate the purpose of the assignment. These responses were not coded for computer analysis, but were collected and are reported as anecdotal evidence. In addition, if book lists were issued to students these lists were collected for analysis.

4. Interviews with School Librarians

Librarians were included in the initial contact with most (13) schools in the sample. A dialogue was the first vehicle in the communication between the investigator and the school librarian. The purpose of the study and the procedures to be followed were explained at this time and questions were answered.

Initial contact was followed by a letter reviewing the purpose of the study and the process that would be followed to collect information at the school. This letter included a description of the following areas to be covered in the librarian interview: 1) planning with teachers; 2) selecting magazines for the collection; 3) indexing services available; 4) use of standard lists for book selection; 5) budget constraints; 6) services and materials available in relation to assignments; and 7) any topics the librarian felt should be included in this investigation. In addition, a form outlining the order of subjects to be covered in the interview was enclosed. This form enabled the librarian to think about topics to be covered and to prepare, in advance, a list of current magazine subscriptions.

The interview looked toward describing the role of the school library in relation to a variety of assignments as well as toward a description of the library in general. The questions considered in the interview are discussed below. With the exception of a few requests for numbers (e.g., budget and number of volumes in the library), replies were not coded for analysis, but, rather, were gathered to be reported as anecdotal or illustrative evidence of the role of the particular school library in the process being investigated. (The interview instrument

is attached as an appendix to this report). Areas discussed in the interview are described below. In all cases, the investigator noted choices in addition to those suggested on the printed format.

Notification Process: Teacher to Librarian

Librarians discussed when, where and how they discover that students are working on assignments that require resources other than textbooks, and the extent to which teachers discuss the process with them.

Library Assistance to Students

Discussion of assistance offered to students included the following: 1) how resources are introduced; 2) the librarian's opinion of when to teach research skills; 3) how assistance is provided in selection of specific materials; 4) the issue of borrowing from other libraries for students; and 5) suggestions offered to students on the use of other libraries. In addition, the interview covered how the assistance was offered, i.e., whether it was offered to groups of students or individual students or both. The interview also covered the timing of the offer of assistance, i.e., if it was offered when papers were assigned, or later in the process.

Librarians were asked to describe what they consider the ideal situation, i.e., what assistance libraries should offer students engaged in preparing research papers. They were then asked to describe how their situation differed from the ideal, and how they coped with differences.

The Magazine Collection

Discussion of the selection of magazine titles for the collection covered the following points:

1) general criteria for selecting specific titles; 2) use of standard lists of recommended titles; 3) criteria for deciding which titles to retain, and length of time to retain them; and 4) availability of indexes to magazine titles. A list was obtained of the current magazine subscriptions.

The Book Collection

Discussion of the selection of book titles for the collection included general criterial for selecting specific titles and the use of standard lists.

The Materials Budget

Budget information included the yearly materials budget and the division of funds in terms of selection of types of materials.

Library Schedule: Hours of Operation

Information was requested as to the hours of operation of the school library and a comparison of these hours to the regular school schedule.

Assisting Students

Opinion was solicited as to the amount and type of help offered to students. Questions focused on the degree to which students should be instructed in finding materials on their own, as opposed to, or in lieu of, providing the information to students.

Additional Concerns of School Librarians

The interview concluded with a request for librarians to offer suggestions of other areas that should be included in the interview, or in the study itself.

Fourteen interviews were completed. It was not possible to conduct an interview at one of the cooperating schools. An extended illness of the school librarian during the data collection phase made it impossible to schedule an interview at this particular school. It was possible, however, to collect available information that described the collection.

PATTERNS OF MATERIALS USED

This study of the materials used by high school students covers a broad range of assignments and topics. This sample required that the assignment have three general characteristics: 1) students are required to go beyond text and classroom materials, 2) each student has an individual topic (as opposed to the same topic assigned to the entire class), 3) students must provide a written list of references to materials used. Classes covered a wide range of courses, including: English, history, science, debate, political science, economics, social studies and health education.

Upon examination, the papers were grouped into three broad classes for analysis. The classes are Humanities, Social Science and Science. In particular, English and history were combined to form the humanities group because the specific topics chosen by students in these courses were very similar.

There is some subject effect in the type of material used. Humanities and science topics tend to be quite similar in terms of materials used. The only difference is that science papers draw somewhat more heavily on encyclopedias. Social science papers draw somewhat more on magazines and less on books.

The subject differences are not great especially when the high student to student variability is considered. It is thus useful to step back for an overview of student papers without regard to situational variables. The size and diversity of the sample mean that average performances present a good general picture of the students' use of materials.

Quantity of Materials

The median for the number of references per paper was 5.65. The distribution of references per paper was somewhat skewed by a small fraction of the papers which had a high number of references. (The mean was 7.02 with a standard deviation of 5.65.)

The median value (about five and one-half references) gives a general feeling for what a "typical" student would use. This value is indicative of the performance one would expect from any individual student. The value of the mean (slightly over seven items) is influenced by that small group of students who used a great number of

references (the highest number of references for a single paper was forty-seven).

The mean is useful for overall planning purposes. The total number of students with this type of assignment multiplied by the mean gives an estimate of the total demand which will be placed on community information resources.

Table 2-1 shows the distribution of references per paper divided into rough quartiles. This helps to highlight the student to student differences present in this sample. For example, about one-quarter of the students referenced three or fewer items. On the other hand, over one-quarter of the students referenced nine or more items. It is clear that librarians and teachers must be prepared to deal with a diversity of students.

Type of Materials

In terms of type of materials referenced, the book predominates. Table 2-2 shows that over three out of every five (62%) items referenced are books. Magazines make up another one-fifth of the materials referenced, while a variety of materials including encyclopedias, newspapers, and pamphlets make up the remaining one-fifth. This preponderance of books is not surprising. The collections which the students use are predominantely book collections; the access tool with which they are most familiar (the card catalogue) is book oriented; and books are the type of material most likely to be mentioned in a teacher's assignment. In fact, if a student paper citing five references followed this overall pattern it would reference three books, one magazine, and one other item. Such a reference list would, we judge, show good diversity in the use of materials by a high school student.

The overall pattern of materials used may be a useful guide in planning information services. However, when individual students are considered this pattern changes considerably. The last column of table 2-2 shows the fraction of students using each type of material. Nearly nine out of ten students (88%) referenced at least one book. Only four out of ten students referenced even one magazine. One student out of ten referenced a newspaper. The analysis of all references shows a diversity of materials used, but many individual students do not show such diversity. Training of students should be aimed at directing them towards a subject rather than format oriented approach.

Encyclopedia use is an interesting and complex issue. It is complex because of the mixed attitudes which teachers seem to have towards encyclopedias. Some teachers in this sample required encyclopedia use (although not all of their students followed this

TABLE 2-1

DISTRIBUTION OF REFERENCES WITHIN
STUDENT PAPERS
(N = 1,178)
(%)

N of References	% of Papers
1 through 3 references	22.6
4 or 5 references	25.9
6 through 8 references	24.3
9 or more references	27.2

TABLE 2-2

TOTAL REFERENCES IN 1,178 STUDENT PAPERS
(N = 8,279)

Type of Resource	% of All References	Used in % of Papers
Books	62	88
Magazines	19	39
Newspapers	4	10
Encyclopedias	7	36
Govt Docs/Pamphlets	3	14
Nonprint	1	4
Other	4	17

requirement) while others proscribed such use. Intellectually, encyclopedias may have a somewhat negative aura of "condensed scholarship." On the other hand, librarians who teach search strategy often suggest that an encyclopedia article is an excellent starting point.

If this latter advice were followed one would expect to see encyclopedias used in a higher percentage of the papers. The use of encyclopedias as a fraction of all references would remain small since students would reference only one or two encyclopedias.

The use of non-print materials is low. In fact, the non-print figures are inflated by the fact that interviews were coded as non-print sources. Interviews were the predominant form of non-print usage reported by students in this sample. The use of interviews was controlled almost entirely by the assignment. Students reported interviews where teachers required or strongly recommended them. Other non-print usage (films, records, tape recordings) was very low. The holdings of the specific school library did not seem to affect non-print usage. That is, those school libraries which has the most extensive and well-integrated non-print collections did not generate greater student use. It appears that simply holding these materials is not enough. If use of these types of items is an educational goal, then students must be instructed and actively encouraged in that use.

Government documents and pamphlets show a relationship between holdings and use which is similar to that for newspapers and non-print materials. The pattern again is that the level of holdings of these materials is not reflected by the use by students in this sample.

Age of Materials

The materials used by students ranged over a great time span. The oldest item referenced was from 1726, while a number of papers referenced materials from 1979. The median of the oldest date referenced in each of the papers was 1960 while the median newest item was 1975. This fifteen-year span is indicative of the pattern of age of materials used.

Students show relatively little sensitivity to age when selecting materials. This is shown by the above data on age spread and by a paper by paper examination. The observed insensitivity to age seems to be more of an oversight rather than conscious selection strategy. For example when the median age of books cited is examined by subject, science materials are slightly older.

Median Date of Monographs

Humanities	Science	Social Science
1965	1963	1970

Quite the opposite of what we would expect from studies of adult scientists which show a great concentration on current materials. Even the social science assignments, which included "current events" type topics, are using materials written ten years ago.

Some of the use of older material may be due to what is available in the collections which the students are using. To the extent that this is the case it emphasizes the importance of continual weeding and evaluation of collections. On the other hand, questionnaire data shows that for these assignments the median student used between two and three libraries (median 2.55). This indicates that student selection played some role in the observed age distribution. Students were not limited by a single collection.

As with all measures in this study, the age of materials used varied considerably from paper to paper. One way of portraying this is by grouping papers according to what percentage of their references are relatively current materials. Tables 2-3 and 2-4 present this kind of information. In table 2-3, current materials are considered those published within the past five years. Almost three-quarters (72%) of the papers had less than half of their materials this current. In the extreme, over a quarter of the papers (28%) referenced nothing as current as five years. On the other hand, a small number of papers (12%) made very heavy use of current materials with over three-quarters of their references published within five years. A similar although not so pronounced pattern appears when the definition of current materials is extended from five years to ten years.

The age of materials used is not strongly related to the number of items cited. That is, it is not the case that papers with shorter lists of references tend to cite newer material. There is, however, a tendency for papers with a greater percentage of current materials to cite proportionately fewer books and more magazine articles and other materials.

Overall the use of older materials by the students in this sample raises some questions of instructional goals. Because the age of magazines used is discussed more completely in a later chapter these remarks are confined to books. Several points suggest that the students in this sample are not appropriately sensitive to the age of the books which they reference. If disciplines were ranked according to the importance of currency to adult scholars science would be first followed by social science and then humanities. This is not the pattern shown by students. Further, the wide spread of ages of books within student papers shows that they are not focusing on any time period (as might be appropriate in dealing with a historical topic).

The reasons for this lack of age sensitivity may be several. These include failure of libraries to weed collections, lack of

TABLE 2-3

DISTRIBUTION OF MATERIALS REFERENCED
WITHIN FIVE-YEAR PERIOD
(N = 1,178)
(%)

% of Materials Within 5 Years	% of Papers	Cumulative % of Papers
No materials within 5 years	28.2	28.2
1% through 25% of all materials within 5 years	24.6	52.8
26% through 50% of all materials within 5 years	19.4	72.2
51% through 75% of all materials within 5 years	8.9	81.2
76% through 100% of all materials within 5 years	12.5	93.6
Missing data, percentage not coded	6.4	100.0

TABLE 2-4

DISTRIBUTION OF MATERIALS REFERENCED
WITHIN TEN-YEAR PERIOD
(N = 1,178)
(%)

% of Materials Within 10 Years	% of Papers	Cumulative % of Papers
No materials within 10 years	10.1	10.1
1% through 25% of all materials within 10 years	16.6	26.7
26% through 50% of all materials within 10 years	24.5	51.2
51% through 75% of all materials within 10 years	14.0	65.2
76% through 100% of all materials within 10 years	28.4	93.6
Missing data, percentage not coded	6.4	100.0

emphasis on age in making assignments and evaluating them, and the possibility that, at the level at which these students are investigating their topics, the change of knowledge or point of view over time is slight. To the extent that the latter is the case, age of materials is an issue in preparing students for future information use. Thus, age cannot be ignored.

On the topic of weeding collections, there may be a negative effect caused by a "more is better" kind of book counting mentality. Among the leaders of this group are those who set standards for school libraries which provide quantitative measures for the number of books but offer only vague allusions to their currency.

The effect of the assignment on age of books referenced seems quite open to manipulation. Clearly establishing sensitivity to the age of materials as a goal may be among the strongest actions a librarian or teacher may take.

Newspapers

It was noted above that newspapers are lightly used in this sample. Only 4 percent of the references were to newspapers and these came from a minority (10%) of the students in the sample. Overall, there were a total of 276 references to thirty-seven different newspapers. These references can be summarized as follows:

Newspaper	Number of References	Percent of Newspaper References
New York Times	114	41
Local daily newspapers	107	39
All other newspapers	55	20

Clearly the New York Times is the most significant of the newspapers as far as providing references. Interviews with the school librarians indicated that nine schools had subscriptions to the New York Times while three also had the New York Times Index. The New York Times was referenced by students from eleven schools. The dates referenced for the New York Times ranged from 1857 to 1979 with a median date of 1962. The fact that these references are quite old suggests that most are found through indexes or clipping files rather than current browsing. It appears that much of the use of the New York Times is occurring in libraries other than the school library.

The second largest group of newspaper references were to the major local daily newspapers. The specific papers referenced varied somewhat with the location of the school. In general, these references were more likely to be current than were those to the New York Times. This suggests a greater role for browsing in the location of these materials.

The last group of newspapers was a widely diverse selection of thirty-one titles including a variety of smaller local and regional papers. Within this group the two most referenced (with five references to each) were Variety and the Wall Street Journal. Again, these references tended to be current, suggesting location through browsing.

Relations among Variables

In order to investigate relationships among the variables which might be more subtle than would be revealed by tables, two multivariate analysis techniques, factor analysis and multiple regression were used. The factor analysis identified three major factors. (These factors accounted for 53% of the variance.) Roughly the factors are currency, journal usage, and quantity. Because factor analysis creates independent (orthagonal) factors we can generally state that a paper which was high in any one of these areas was likely to be low in the others. This might be interpreted as suggesting three areas of concentration in student instruction. This may be useful in planning and implementing educational goals.

Looking more specifically at the individual variables we found that high book use was associated with using older materials (correlation -.58 with oldest date cited and -.42 with five-year-index). Beyond age, the total number of books used was most strongly associated with the assignment as shown by high correlation with individual schools. (Correlations were not run with classes as variables.)

The number of magazines used was less well related to the other variables (i.e., the total correlation with all variables was .60). The strongest variables were those dealing with currency but these were still relatively weak relationships.

In general, the quantity of materials was related to the assignments, while the type and age of materials seemed to reflect broader patterns of student to student variation.

Conclusions

The patterns of materials use observed seem to be pervasive. They hold true across schools and school districts. These patterns

are only slightly affected by the school library collection, the socioeconomic level of the community, or the levels of school library funding. There are great individual to individual differences among students. These differences are found in every school. There are also differences due to different assignments but more important than the assignment is the training given to the students by the teachers and the school librarian. Our most important conclusion is that students such as those in this study have basic patterns of information use. These patterns are more affected by library staff than by library collections.

Over all, we found the students' performance on the papers in this sample to be encouraging. They have developed good skills in providing accurate bibliographic citations and they demonstrate the ability to locate information from a variety of different sources.

There is a strong preference for monographs over other types of materials. Journal titles exhibit a tendency to group in a small number of popular titles, consistent with the predictions of Bradford's Law. Neither journals or monographs referenced are particularly current; references cover a very broad time span even within individual papers.

Although this study did not collect data to evaluate the quality of the materials students used, it is possible that they are not using the best materials available to them. Interestingly, students seem to function if they can find a few items on a variety of subjects. Perhaps buying heavily in a restricted number of identified areas will not meet as many information requests successfully as would purchasing fewer items on a broader range of subjects. Students are using materials in a pattern that suggests that they do not view resources in all formats as of equal importance for this type of assignment; monographs and journals are used as separate entities rather than as part of an integrated approach Perhaps the separate modes of accessing these materials (monographs through the card catalog and journals via indexes) are unconsciously producing this search behavior. Training may be needed to assist students in achieving a subject approach, rather than a format approach.

Over all, the similarities in student performance from class to class and school to school are greater than the differences. The differences which do exist seem to depend on the specifics of the assignment and the training provided by the teacher and the school librarian. Assistance from the librarian is at least as important in student use of materials as the size and nature of the school library collection.

Among the issues which librarians might address are:

- Strong preference for monographs--more content orientation rather than source orientation is needed.

- General lack of regard for age of materials--opportunities both for student training and more aggressive weeding.

- Low use of special materials in collections--acquisition must be strongly supported with instruction.

- Use of older journal materials in appropriate contexts--preservation of a few titles may be more important than subscriptions to many.

- Individual students differ from each other, but student groups are similar across districts--average data can provide good overall estimates and the experience of others can guide dealings with individuals.

Those responsible for building collections cannot afford to look inward. By looking at actual patterns of use it becomes clear that collection development and management must be linked to user education --particularly since this user (the high school student) will be expected to function in an increasingly information-dependent society.

PATTERNS OF FACILITIES USE

INTRODUCTION

Questionnaires completed by students and teachers in the sample schools provide a basis for an analysis of the resources students referenced in their papers. By looking at what students say they did, in conjunction with what teachers tell us about their instructions to students, we can put together a picture of the student's search behavior, with emphasis on the numbers and types of libraries used.

Two questionnaires were designed to provide this information: 1) a general questionnaire on library use was administered to all (1298) students preparing papers or projects analyzed, with the exception of book report assignments; 2) a special book report questionnaire was administered to cooperating classes with this type of assignment. Only the first or general questionnaire is discussed in this chapter.

The general questionnaire addressed the following questions:

1. How many and which types of libraries or information agencies did students try when searching for information to meet the requirements of their assignments? For example, did they use their school library as the sole resource center, or did they, in contrast, ignore this resource and search elsewhere?

2. Which of the sources tried actually provided them with the information they used?

3. Did they seek assistance from library staff members and, if so, in which libraries?

4. Did family and friends play an important role in the process by assisting them in their search?

5. Did others search for them and provide them with the information they eventually used in their papers? If so, how extensive was this surrogate service?

A total of 1298 questionnaires were completed by students in the 15 sample schools. (A copy of the questionnaire is included as an Appendix

to this report). Questionnaires were not tied to specific student papers. This was done in order to preserve anonymity. The data on the papers carried no student identification. (This was deliberately included in the research design to enhance cooperation). It is important to note that the students responding to questionnaires were not exactly the same group as those whose papers were analyzed. (See Methodology for a further discussion of this point). However, the overlap between the student sample completing the questionnaire and the sample whose papers are analyzed is so great that, for all practical purposes, the groups can be considered to be the same.

This chapter presents an analysis of the data in two ways: 1) all students are treated as a single group, and patterns of facilities use are described for the group; and 2) students are grouped by school district and patterns presented for each school district.

ANALYSIS ACROSS SCHOOLS

By aggregating questionnaire replies across schools, we can examine the types and numbers of libraries which the students used.

Student use of libraries ranged from no use by five students to the use of eight libraries by one student. An average student used two or three libraries; only a few students (4%) used more than four libraries. Table 3-1 shows the number of libraries used by students when all questionnaire replies are aggregated.

Few students (14%) relied on gathering their information from a single library. Most students (69%) tried two or three libraries in their search for information while very few (16%) used four or more libraries or information agencies. Roughly speaking, about one-half of the students sought materials for an assignment in at least three libraries. Table 3-2 illustrates this distribution.

Knowing, in general, the number of libraries in which students sought information the next logical question concerns the type of libraries to which they turned. The questionnaire specifically measured use of the school library, neighborhood public library, regional public library, community college library, college or university library, and home library. In addition, students indicated the other types of libraries or information agencies they tried. These included private and special libraries of all types, with the questionnaire allowing for indication of the names and institutional affiliations of these libraries (special purpose institutions, private profit-making corporations, etc.). Table 3-3 shows the types of libraries which students tried.

Both school and public libraries (either neighborhood and/or regional) were heavily used by students in this sample. In the search process most students ([illegible]%) tried their school library. If public library use is

TABLE 3-1

AGGREGATE MEASURES OF THE NUMBER OF LIBRARIES USED BY STUDENTS

Mean number of libraries used	2.6	Standard Deviation	1.2
Modal number of libraries used	3.0	Range	7.0
Median number of libraries used	2.6	Minimum	0.0
		Maximum	8.0

TABLE 3-2

DISTRIBUTION OF STUDENT USE OF LIBRARIES,
BY NUMBER OF LIBRARIES USED
(N = 1298)
(%)

Number of Libraries Used	% of Students Using*	Cumulative % of Students Using*
None	1	>1
1 library	14	15
2 libraries	33	48
3 libraries	36	84
4 libraries	12	96
5 or more libraries	4	100

*Percentages are shown to the nearest whole number

TABLE 3-3

STUDENT USE OF LIBRARIES, BY
TYPE OF LIBRARY USED
(N = 234)
(%)

Type of Library	% of Students Using
School library	84
Neighborhood public library	65
Regional public library	23
Combined public library (neighborhood and/or regional)	75
Community college library	3
College/university library	16
Home library	59
Other libraries (private or special)	7

analyzed as either use of a neighborhood public or use of a regional public library, 75% of the students used one, the other, or both.

The home library ranks third in importance (i.e., number of users). This high use of the home collection(almost three-fifths of the students) becomes a factor to which librarians and teachers might consider paying closer attention. One can speculate on the advantages of more home-oriented education efforts focusing on materials selection for the home library.

College or university libraries do play a small role in the sample in spite of problems which such libraries present. Their collections are large and sophisticated; the classification scheme may be unfamiliar (LC rather than Dewey); and college and university libraries may actually forbid use to high school students. In spite of this, 16% of the students indicated use of college or university libraries. This use was definitely affected by the detailed instructions given to students and the teacher's assignment.

Other libraries (i.e., special, private, etc.) are approached by only a limited number of these students. Less than one-tenth of the students used libraries belonging to private groups, organizations or companies, and most of this small group of students used only one of these private or special libraries. Science students tended to use hospital or medical school libraries, or libraries of scientifically or technically-oriented institutions or companies. History students turned to highly specialized historical societies and historical records (or public records). Students interested in legal topics turned to law libraries.

It is interesting to note at this point the types of libraries which teachers reported that they suggested to students. All teachers (55) whose classes cooperated in this study completed a teacher questionnaire. The type of teacher questionnaire completed depended on the type of assignment the teacher supervised. Two questionnaires were used: a general questionnaire for all assignments other than book reports; or a book report questionnaire. This chapter is concerned with analysis of the general questionnaire only. (This questionnaire is included as an Appendix to this report). School and public libraries were specifically recommended to students by all teachers. College libraries were suggested by 27 of the 42 teachers. Community college libraries were suggested less frequently. Only 13 of the 42 teachers indicated they mentioned community colleges as potential resource centers for students, and even fewer teachers (11 of the 42) presented private libraries as a possible alternative. One teacher went in a detailed description of the variety of special information agency resources available to students. Most teachers mentioned few types of libraries, or suggested only one or two possibilities.

Given the number and types of libraries students used, the next question the analysis answered was the percentage of success the students reported in locating information useful for their research. More than three-fourths (77%) of the students who used their school libraries found information for their papers. Public library use was as productive. More than three-fourths (79%) of those who tried neighborhood public libraries found useful information, while even more (86%) had success in regional public libraries. Most (83%) of the group trying libraries in college or universities found information they eventually used. The same [illegible] ue for materials in home libraries -- 83% of the students who indicated they used home collections used material found at home. Although only 7% of the students used private or special libraries virtually all(93%) who did found information which they put into their papers.

Once we determine the percentage of success users have within different types of libraries it becomes interesting to measure the degree of assistance sought and received in these libraries. This study asked students if they received help, and if so, in which libraries they received it and from whom (library staff or family and friends). Analysis was not directed toward the type of help the student needed; rather it ascertained only if students reported obtaining assistance, and if so, where. A final question dealt with whether students had others use libraries for them. This type of assistance (i.e., via surrogates) was minimal. The following table (Table 3-4) shows these distributions.

Although the data is insufficient to allow any speculation on why students sought help it does point to the fact that many sought an intermediary to interact between their information needs and the collection available. Most assistance (i.e., 41% of those using) was provided in regional public libraries, with university libraries and school libraries ranking next (36% of those using) as places where students received staff help. Staffs of neighborhood public libraries also assisted students (31% of those using this resource). Less help was provided in private or special libraries (only 18% of those using).

This leads to a type of speculation which the data is not sufficient to answer. For example, is the need for help related to the size of the collection? Regional public libraries are of such a size that an inexperienced user would need more help than in a smaller and more familiar neighborhood public library. College and university libraries present similar problems to students. The question of the low percentage of help (18%) in special or private libraries is somewhat baffling considering the high success (93%) students have in using these resources. The data indicates that those students who used their home libraries were successful in finding information for their papers (83% of those using) and did so without professional help .

The analysis did include the percentage of help students received from family, friends, or surrogate searchers within the various types of libraries. Most students reported receiving no help from family or friends. Those who did receive this type of assistance were assisted mostly within college or university libraries (26% of users), with a smaller number (15%) getting assistance at public libraries and at home. Searching by a surrogate was acknowledged by very few students, with most of this type of help provided for students using college libraries.

TABLE 3-4

DISTRIBUTION OF STUDENT USE OF LIBRARIES BY PERCENT USING EACH TYPE, AND PERCENT OF USERS FINDING INFORMATION, RECEIVING ASSISTANCE FROM LIBRARY STAFF, FROM FAMILY OR FRIENDS, OR FROM SURROGATES

(%)

(N = 1298)

Type of Library	% of Students Using	% of Students Using Who Found Information	% of Students Using Who Received Library Staff Help	% of Students Using Who Received Help From Family/ Friends	% of Students Using Who Received Help of Surrogates
School	64%	77%	36%	8%	2%
Neighborhood public	65	79	31	12	3
Regional public	23	86	41	17	14
Combined public (neighborhood and/ or regional)	75	86	39	15	3
Community college	3	69	21	10	14
College/university	16	83	36	26	11
Home	59	63	1	5	1
Other (private or special)	7	93	13	14	14

FACTORS AFFECTING LEVELS OF LIBRARY USE

One of the questions this analysis addresses is the impact of the student's local situation on his or her decision to use various types of libraries. For example, are students who attend schools in large metropolitan areas with a variety of large area resource centers available to them users of a greater number and variety of libraries than students in suburban areas (i.e. suburban to the metropolitan area studied)? How do patterns of library facility use differ for students in more remote areas, i.e., areas even farther from metropolitan centers? Is "access" in fact, determined by proximity to rich and varied collections, or is it a matter of the students' perceptions? Although this study did not measure student perceptions per se, it did collect data on instructions given to students (the Teacher Questionnaire), resources and services available to students (the Librarian Interview), as well as libraries actually used (the Student Questionnaire).

Analysis of the data by school district permits one to examine the number and types of information agencies used by students within each district. The districts become in this instance, markers for different levels of resources available to students. By looking at facility use district to district it is possible to consider whether or not different local situations produce different patterns of facilities' use. Of course, local situations can mean a variety of things. We may be looking at everything from the size and breadth of the school collection and variety of services offered to students within a district's schools, to both actual and perceived access to an area's information resources (i.e., school, public and private facilities). We may also be looking at the availability of public or private transportation, the socio-economic status of the students, or the "intellectual philosophy" of a community. This study does not allow for the isolation of these effects. Our analysis takes the opposite point of view. That is, to describe the use patterns which are similar across districts. Similarities can be interpreted as evidence that the factors listed above are not, in fact, having an effect on student behavior.

An analysis of use by district helps to wipe out the enormous class to class and individual to individual variations we observed. For specialized planning purposes a librarian has to remember the differences between individuals and between classes. Students are, indeed, quite different from each other. We observed many class to class differences which we expected. This sample included students from grades 9 through 12, from advanced placement, regular, and lower academic tracks, and across a variety of subject areas. The research design intentionally looked toward identifying the pervasive characteristics of student use. By examining facility use by District we go beyond the individual differences and can identify overall similarities of the students.

The two independent schools that contributed data to this study are not included in this part of the analysis for a variety of reasons. First, they represent only a few classes and these from extremely small but very different schools. They cannot legitimately be grouped together

for analysis. In addition, they draw their students from a broad geographic area; therefore, they do not represent the coherent community that is seen in the other districts.

One of the considerations in planning library services for youth is the willingness (or lack of willingness) of students to try more than one facility in looking for information for assignments. Do students try the most likely single source of information, or are they willing to look in more than one physical setting? Does access to public transportation control the number of libraries a student tries? Does the socio-economic level of a community affect whether or not students look at home for information?

In terms of actual numbers of libraries used students in the five school districts appear to be quite similar. Tables 3-5 and 3-6 show the number of libraries used by students within each district. An average student, regardless of school district, used two or three libraries in their search for information for their papers. In fact, an examination of tables 3-5 and 3-6 show a surprising similarity in the patterns of number used across districts.

Perhaps the clearest way to examine the impact of the local situation on student use of libraries is to compare their use of specific types of libraries. For example, are the levels of use of the school library different for each district? Table 3-7 shows that, in fact, school library use is consistently high regardless of locale. The lowest use of this type of facility is reported by the largest district (Public Metropolitan) with two-thirds of the students indicating they try their school libraries for assignment-related information. The highest use of the school library is reported by a small suburban district (Public Suburban One) in which virtually every student indicated they used this resource center. It may be the case that the small differences that are observed district to district are due to individual student and assignment variations. The school library is clearly important in each district, although funding and staffing patterns vary considerably.

The public library appears to be equally important to students searching for assignment-related information. Intriguingly, the district that reported all (100%) students using the school library (reported by Public Suburban One) also reported that virtually all students (98%) used the neighborhood public library as well. Public Suburban Two, a similar suburban area (i.e., middle-class , proximity to large city resources, etc.) also reports similar levels of use (86% used school library, 81% used neighborhood public). In fact, with the exception of one district (Public Nonmetropolitan One) there is little if any difference between the level of school library and public library use. Public Nonmetropolitan One is a district that describes itself as rural-suburban. Although a public library system is available public transportation in this district is poor. The contrast in school library-public library use in this district may reflect the age of the students in the sample. Younger students, without driver's licenses may simply be unable to use any facility other than the school library or a home collection.

TABLE 3-5

AGGREGATE MEASURES OF NUMBERS OF LIBRARIES USED BY STUDENTS BY SCHOOL DISTRICT

	Public Metropolitan N=436	Public Suburban One N=43	Public Suburban Two N=245	Public Nonmetropolitan One N=327	Public Nonmetropolitan two N=173
Mean Number of Libraries Used	2.5	2.8	2.6	2.4	2.7
Modal Number of Libraries Used	3.0	2.0	3.0	2.0	3.0
Median Number of Libraries Used	2.5	2.7	2.6	2.4	2.7
Standard Deviation	1.1	0.7	0.9	0.8	0.9
Range	6.0	2.0	5.0	4.0	4.0
Minimum	0.0	2.0	0.0	1.0	1.0
Maximum	6.0	4.0	5.0	5.0	5.0

TABLE 3-6

CUMULATIVE DISTRIBUTION OF STUDENT USE OF LIBRARIES
BY NUMBER OF LIBRARIES USED
BY SCHOOL DISTRICT

	Public Metropolitan N=430	Public Suburban One N=43	Public Suburban Two N=245	Public Nonmetropolitan One N=327	Public Nonmetropolitan Two N=173
0 Libraries	<1%	0%	1%	0%	0%
1 Library or fewer	20	0	9	15	8
2 Libraries or fewer	49	40	46	56	41
3 Libraries or fewer	82	77	88	91	85
4 Libraries or fewer	96	100	98	99	97
5 or more libraries	100	0	100	100	100

TABLE 3-7

STUDENT USE OF TYPES OF LIBRARIES,
BY SCHOOL DISTRICT
(%)

Type of Library	% of Students Using				
	Public Metropolitan	Public Suburban One	Public Suburban Two	Public Nonmetropolitan One	Public Nonmetropolitan Two
	N=436	N=43	N=245	N=327	N=173
School Library	67%	100%	86%	96%	92%
Neighborhood public library	65	98	81	46	82
Regional public library	42	2	4	17	1
Combined public (neighborhood and/or regional)	81	99	81	55	83
Community college library	2	0	2	3	9
College or university library	9	26	25	1	23
Home library	56	51	57	72	51
Other library (special or private)	2	9	4	2	8

The high use of the home library, however, holds up regardless of the students' local situation. At least one-half of the students in each district indicate they looked for information at home. The highest use of home materials (by 72% of the students) is found in Public Nonmetropolitan One, the district with the lowest public library use. Again, we may be seeing the effect of younger students coupled with poor public transportation. The student's only alternative for lack of success in the school library may be turning to a home collection. On the other hand, the fact that each district identified at least one-half of the students using home collections indicates the pervasive use of materials found at home. This is a particularly important finding when one considers the diversity of the sample. This consistent use of home collections was found regardless of the socio-economic make-up of the districts, the level of the students, or the type of assignment.

Community colleges and private or special libraries are rarely reported as useful in any of the five districts. They are also the type of facilities least suggested by teachers. College or university libraries, on the other hand, are used by approximately one-fourth (26%, 25%, 23%) of the students in three of the five districts - Public Suburban One, Public Suburban Two, and Public Nonmetropolitan Two. In each of these districts access to such sophisticated institutions is readily available and teachers suggested their use to students. In fact, some of the teachers within these districts arranged for such student access. There is, however, surprisingly low use of college and university libraries in Public Metropolitan, the district with the best public transportation and with major university collections in the area. This low usage may be attributable in part to the difficulty students have gaining permission, on their own, to use these collections. It may also be affected by the deep and rich resources available in the public library system -- a system quite accessible and known to students. Of course, the student assignment, grade and ability level are also factors that control use of such sophisticated resource centers.

The clearest comparison of the types of libraries used by students in each district is produced by creating a table showing the distribution of libraries used by at least one-half of each district's students. Types of information centers can then be ranked by order of importance for each district (importance determined by percentage of students using). Table 3-5 shows this ranking for each.

Three types of libraries stand out as important regardless of district: the school library, the public library, and the home collection. The school library holds its strength across all districts. For four of the districts it is clearly the most important facility. Only in Public Metropolitan does it assume second place to the public library. Some of the reasons for this have been discussed previously. Certainly the presence of a well-developed system of neighborhood and regional resource centers with convenient public transportation must be a factor. Resources available to students within schools also differ. It is also reasonable to assume that differences in use patterns are due to characteristics such as the

TABLE 3-8

RANKING OF LIBRARIES USED BY ONE-HALF OR MORE OF EACH DISTRICT'S STUDENTS
(%)

Public Metropolitan (N=536)		Public Suburban One (N=43)		Public Suburban Two (N=245)		Public Nonmetropolitan One (N=327)		Public Nonmetropolitan Two (N=173)	
Combined Public (neighborhood and/or regional)	81%	School	100%	School	86%	School	96%	School	93%
School	67	Neighborhood Public	98	Neighborhood Public	81	Home	72	Neighborhood Public	82
Home	56	Home	51	Home	57	Combined Public (neighborhood and/or regional)	55	Home	51

exact nature of the assignment or grade level of the student.

Public library use is clearly important; in fact, it is probably equal in importance to the use of school facilities. Table 3-8 indicates this high level of public library use across districts.

Perhaps the greatest surprise of this study was the consistently high use of home collections. In four of the districts approximately one-half of the students indicate trying home collections for information, while in the fifth district (Public Nonmetropolitan One) as many as three-quarters of the students indicate such use.

STUDENT BOOK REPORTS

Book reports as a part of the high school curriculum have been the subject of a great deal of study. Essentially there have been two areas of concern: first, how to make this type of assignment a worthwhile educational experience while still making it interesting to the student; and second, how to guide and encourage students in the selection of worthwhile materials. This study takes a third point of view: it provides a strictly descriptive approach. Using a questionnaire, information was obtained on the sources to which students turned for advice in selecting a particular book, and the facilities (such as libraries or bookstores) that students used in securing the title read. The assistance that the student received during the selection process, and where this assistance was received, were also examined.

There seems to be consensus among educators that the purpose of book reports is to broaden students' reading interests by requiring them to read. The literature on book reports has focused, almost exclusively, on the assignment (format, structure, etc.) rather than on materials and facilities used by students. There have been some attempts made to describe students' reading habits by soliciting opinions about the books they read, including, but not exclusively dealing with books read for book report assignments (e.g., Gallo, 1968; and Norwell, 1973). One result of this type of study is that lists of favorite books have been identified with the goal of providing librarians and teachers with a more concrete idea of what students prefer to read (Alm, 1974; and Campbell, Davis, and Quinn, 1974).

A broader perspective on the topic is provided by Marshall (1975), in a study which examines factors influencing young adult attitudes towards reading and libraries, reading needs and habits, and the effect of these on the use of libraries. Examining library use in the context of book report assignments, and analyzing the student/teacher/librarian interaction involved in this specific type of assignment, can provide insight for professionals responsible for building collections of materials for students. This study examines the factors influencing how students select books, where they make their selections, and what they select.

Methodology

The experimental design involves three data areas. These are: 1) the community environment; 2) the teacher and the assignment; and 3) the students as individuals regardless of their specific assignment or environment. The problem in data collection is that these groups involve variables far too complex to be controlled by sample selection and too numerous to be averaged by randomization. The sample of classes to be surveyed was selected to assure relative diversity in all three data areas.

The goal of this design is to provide a sample in which differences or similarities in the behavior of students can be traced. For example, if it is suspected that the level of funding of the school library has an effect on the level of student use, we would expect to see similarities for schools within a district and differences between districts. Further, the differences in the performance of the school library between districts should be ordered with the highest use in those funded at the top and the lowest use in those with less funds. Of course, the findings of such differences does not "prove" the speculation. On the other hand, failure to find a relationship casts serious doubts on the relationship. This method of analysis compensates for the fact that common statistics of hypothesis testing are not appropriate where a time randomized design is not possible (Campbell, 1969; and Campbell and Stanley, 1963). The method of analysis used here is concerned only with strong differences or similarities and these must be part of a consistent pattern throughout the sample before they can be reported.

The Sample

The community environment was diversified by selecting seven public schools in three school districts. Three schools were located within a large city. These schools represented neighborhoods with a variety of different socioeconomic characteristics. One of the remaining schools was a large school in a suburban area closely tied to the same city. Many families both work in the city and attend cultural events there. The last three schools are in a suburb of the same metropolitan area but in another state. Their community has fewer ties to the city. This broadly diversified group of schools provided a variety of environmental settings for our data collections.

Within each school, principals, librarians, and teachers were contacted and the study was explained and cooperation solicited. Several classes were then selected in which book reports were incorporated into the curriculum. An attempt was made to include classes in a variety of subject areas. Book reports completed by thirteen different classes were included. These came from classes in English (7 classes),

history (2 classes), behavioral science (1 class), social studies (1 class), American cultures (1 class) and U.S. foreign affairs (1 class). Students surveyed were in grades nine through twelve. Academic levels ranged from average to honors, with a majority of the students coming from college preparatory tracks.

In addition to the subject of the class, the assignments examined varied in terms of the specific requirements which the teacher placed on students. All teachers, with one exception, required teacher approval for the book selected. Four of the thirteen classes (accounting for 167 students) were given unrestricted choice of titles; five classes (accounting for 233 students) were given an optional list of titles to choose from; four classes (accounting for 132 students) were required to select a book from within a specified theme or classification.

Data Collection

Questionnaires were administered to students near the time that book reports were due. The questionnaire was based on one used in a more extensive ongoing study (Mancall, 1978). A copy of the questionnaire is included as an Appendix. Two considerations governed the questionnaire construction. The first was that all questions dealt with a specific situation, namely, the book report which the student was handing in. (In survey research this is known as the critical incident technique.) The second consideration was that only specific factual information was requested. Students were not asked for opinions, evaluations, or even estimates.

Two additional restrictions were followed in order to preserve the privacy of the students and teachers. There was no attempt to judge the educational value of the book report assignment. The "quality" of the students' performance was not a consideration. The purpose was to report information on how the students selected and obtained their books. The strictly descriptive nature of the study was important in securing the participation of the teachers and the cooperation of the students who were involved in this study.

Selection Influences

To determine which factors influenced students in their selection of books for book report assignments, a list of options was presented from which the students could select as many as were applicable (see table 4-1). The general pattern which emerged was that students find books by browsing but that they are strongly affected by the specific assignment.

TABLE 4-1

INFLUENCES ON BOOK SELECTION

	Students Reporting*
Assignment related	
Teacher list	25%
School library list	10%
School librarian suggestion	10%
General influences	
Browsing	46%
Friend's suggestion	27%
Teacher suggestion	16%
Read other books by author	14%
Idea from T.V. or movies	12%
Public librarian suggestion	2%
Other	18%

*Individuals made more than one response. Total is greater than 100%.

Students who had an unrestricted choice of title most often reported that they selected a book by browsing. In addition, these students were strongly influenced by friends' suggestions, while only a few students reported being influenced by teacher or librarian suggestions. Students given an optional list of titles tended to choose from the lists. Browsing and friends' suggestions were reported by many of the students in this optional lists group, but these behaviors were not as strongly represented as in the unrestricted group. Students restricted to a specific theme or subject, were strongly influenced by teacher or librarian suggestions. Most of these students also reported that they selected a book by browsing. This group provides a strong contrast to the unrestricted group in that few of the theme restricted students acknowledged the influence of friends on their selection although both groups had a similarly high rate of browsing.

Other factors influencing selection such as familiarity with a particular author, the influence of TV or movies, parent's suggestions, etc., had only moderate effects on students. These can probably be accounted for by individual student variation, rather than assignment or community variables. The percentages of students reporting each of these selection influences remain fairly constant across schools, classes, and assignments.

Facilities Used by Students

The use of various libraries and other sources of books (home, bookstores) is affected by both the nature of the assignment and by community factors. The most important effect is the role played by the school library which was at least tried by 70 percent of the students in the sample. School library use seems to be strongly influenced by assignment factors. The heaviest school library use occurred in those cases where the assignment was restricted in some way (the optional lists or theme restriction) (see table 4-2). There was a related tendency for teachers who gave restricted assignments to involve the school librarian by scheduling visits to the library and, in some cases, arranging for book talks. In most cases where the assignment was restricted, the effect of the librarian is indistinguishable from the effect of the teacher. For example, the students who received recommended lists showed confusion as to whether the list had originated with the teacher or the librarian. An important effect of school library use is that it lowers the use of other facilities. This must stem in part from those restricted assignments which were much easier to meet in the school library. It also may be the case that many students try the school library first and use other facilities only if they are not successful.

The use of the public library does not seem to be affected by assignment factors. The most important consideration in public library

TABLE 4-2

LIBRARIES AND OTHER SOURCES TRIED BY STUDENTS PREPARING BOOK REPORTS

% Students Trying*	Unrestricted Students	Students Provided with an Optional List	Students Restricted to Specific Theme or Subject	Total Sample
School library	41%	79%	86%	70%
Public library	26%	33%	25%	29%
Home collection	52%	27%	17%	32%
Bookstore	33%	21%	5%	20%
Other	27%	5%	5%	11%

*Individuals made more than one response. Totals are greater than 100%.

use seems to be accessability. Urban students had good access to public transportation and numerous branch public libraries. They showed higher public library use than students in the suburb where distances to the public library are greater. This effect was supported by the fact that eleventh and twelfth grade classes showed greater use of public libraries than did ninth and tenth graders. This was especially the case in suburban areas where students are more dependent on the automobile.

Overall, it seems that the public library cannot be viewed as a general back-up to the school library unless specific provisions are made for student access to it.

Home libraries were used by about one-third of the students--a higher fraction than those who used public libraries (29%). Bookstores (while a less important source) served one out of five students. Neither the home library nor the bookstore seemed tied to either the economic level or social class of the school neighborhood. The fact that over a third of the students used home libraries or bookstores has important implications. It means that librarians and teachers cannot rely on professionally selected collections to guide the reading of students. It is clearly important that students be trained to make their own selection decisions. In addition, greater contact with and advice to parents may be valuable in encouraging the development of good home collections.

Sources of Books Selected

Students were asked the source of the book which they selected. Again, the school library stood out strongly. This is to be expected since it was so highly used. Table 4-3 accounts for different levels of use by showing the percentage of students who selected a book from a facility as a percentage of the students who used that facility.

In the total sample, the school library was the most successful source tried by students. However, students with restricted assignments were more successful in the school library than students with unrestricted assignments. With unrestricted assignments students are as successful using home libraries and bookstores as they are in the school library. In fact, the success rates for the school library (53%), the home collection (52%) and the bookstore (59%) are approximately the same for students who were not given lists of recommended titles by teachers. These percentages are a bit deceptive in that they hide the fact that in terms of number of students served the school library has a much larger user group. The leveling of success rate may be due to the large number of students who find materials by browsing. This again emphasizes the importance of providing students with good browsing skills.

TABLE 4-3

SOURCES FROM WHICH BOOK WAS SELECTED
(Based on percentage of students using each source)

% Students Trying Who Selected a Book	Unrestricted Students	Students Provided with an Optional List	Students Restricted to Specific Theme	Total Sample
School library	53	79	90	78
Public library	26	43	45	39
Home collection	52	34	23	43
Bookstore	59	46	50	53
Other	93	73	80	93

The category of "other" included friends' materials and classroom collections. These sources were used by only about 10 percent of the students. The high success rate is probably due to the fact that the informal nature of these sources led students to report them only if they had actually found their book there.

Staff Help

About 20 percent of the students reported receiving staff help of any kind. Students report seeking help more frequently in the school library; however, if the overall use patterns of students (in terms of facilities tried) are taken into account, the "help rate" is essentially the same in both school and public libraries. Students reported receiving nearly as much help in bookstores but negligible amounts of assistance in home and other collections.

The relatively low level of students seeking help suggests that librarians will not impact student book selection if they adopt the passive role of waiting to be asked for advice. Active selection aids such as book talks and reading lists reached a much greater number of students.

What Students Read

Students in this sample appear to prefer fiction in meeting the requirements for book reports. Almost two-thirds (65%) of the titles selected were fiction. Most of the nonfiction selected can be accounted for by a specific requirement for nonfiction by the teacher. In fact, looking only at these students with unrestricted assignments very few (12%) selected a nonfiction title.

The specific titles selected by the students are diverse. The total sample of 532 students selected 407 different titles. Only 33 of the titles were selected by three or more students. In part, the overlap of titles was influenced by the teachers' recommended reading list. Nineteen of the titles used three or more times were on at least one recommended reading list. On the other hand, many of the overlapping titles occur across schools. In other words, use overlap cannot be wholly attributed to the influence of one particular teacher or librarian, but rather, repeated selections by students in different schools. The 33 most selected titles are listed in figure 4-1.

The only dominant characteristic which these overlapping uses have in common is that 31 of the 33 titles are fiction works. Ten of these fiction titles are "classics," in the sense that they are well-known novels which have stood the test of time. The three most frequently cited titles, i.e., Jane Eyre (cited 5 times), Octopus (cited 5 times), and The Jungle (6 citations) are all classic works.

TITLES SELECTED BY THREE OR MORE STUDENTS

Author	Title	Number of Students
Armstrong, William	Sounder	4*
Bonham, Frank	Durango Street	3
Bronte, Charlotte	Jane Eyre	5
Christie, Agatha	Curtain	3
Clark, Mary Higgins	Where are the children?	3
Clarke, A. C.	Childhoods End	3
Clavell, James	Shogun	3
Dreiser, Theodore	The Titans	4*
Golding, William	Lord of the Flies	3
Guest, Judith	The Ordinary People	3
Hanna, John P.	Teenagers and the Law	3
Hawthorne, Nathaniel	The Scarlet Letter	3
Heinlein, Robert	Stranger in a Strange Land	4*
Heller, Joseph	Catch-22	3
Hemingway, Ernest	A Farewell to Arms	3
Hinton, S. E.	The Outsiders	3
Hinton, S. E.	That was then, this is now	3
Knowles, John	A Separate Peace	3
Lederer, William	The Ugly American	4*
Levin, Ira	The Boys from Brazil	4*
London, Jack	Call of the Wild	3
London, Jack	White Fang	3
Neufeld, John	Lisa, Bright and Dark	3
Norris, Frank	Octopus	5
Orwell, George	1984	3
Rubin, Arnold P.	The Youngest Outlaws	3
Salinger, J. D.	The Catcher in the Rye	4*
Sinclair, Upton	The Jungle	6
Toffler, Alvin	Future Shock	4*
Tolkien, J. R. R.	The Lord of the Rings	4*
Twain, Mark	Huckleberry Finn	3
Uris, Leon	Exodus	4*
Zindel, Paul	My Darling, My Hamburger	3

*Indicates title is on list of 1,134 frequently recommended titles for young adults.

Fig. 4-1

Many of these titles could be classified as popular modern fiction. The fact that students do not seem to select books that are considered primarily young adult fiction seems to indicate that their reading interests are quite broad. There seems to be a strong interest in science fiction among students, as well as some interest in books which have recently been promoted by T.V. and movies. The occurrence of classics may be due in large part to teacher lists and teacher suggestions.

The selection of titles for libraries is often guided by lists of "best" books for young adults. The list of titles selected by three or more students was compared against the 1,134 titles most frequently appearing in nineteen commonly used selection lists (Barber, 1978). Only nine of the titles matched. While this is a small sample and a special type of assignment it does appear that selection tools do not provide a specially powerful guide to what will be read by students.

Age of Titles Selected

Publication dates for titles were assigned using OCLC records. The earliest recorded date was taken to be a good indicator of first publication date. Books selected by students were fairly evenly distributed in terms of dates of publication. Publication dates were grouped into four categories: 1) titles published within the last five years; 2) titles published within ten years, but older than five years; 3) titles older than ten years, but not older than thirty years; and 4) titles older than thirty years. Students in one school showed a tendency to select books published before 1945. This was affected by students in a history class with an optional list of titles from which to select. Many of these titles were published before 1945. An even distribution holds consistently across the remaining schools and is not significantly affected by the specific assignment or by class subject.

There seem to be slight variations in the distribution of the age of materials in terms of where books were found (see table 4-4.) Those books found in the school library are fairly evenly distributed across the four time periods, with a slightly stronger occurrence of books older than five years but not older than thirty years. The distribution of the books found in home libraries closely reflects the even distribution observed in the total sample. More than 40 percent of the books selected from public libraries fall into the oldest group, which are designated as "classics." At the other end of the time spectrum, few books (17%) selected in the public library were published within the last five years.

As might be expected, almost 50 percent of books found by students in bookstores were "new" books (published within the past five

TABLE 4-4

EARLIEST DATE OF PUBLICATION BY WHERE BOOK WAS FOUND

	In All Sources	In School Library	In Public Library	In Home Collection	In Bookstore
Up to 1945	25%	22%	41%	29%	25%
1946-1967	28%	30%	22%	25%	14%
1968-1973	26%	32%	20%	23%	12%
1974-present	21%	16%	17%	23%	49%

years). The second most important age group selected by students in bookstores is "classics."

It is not surprising that bookstore selection consists, significantly, of new books in addition to some well-established classics. It is somewhat surprising that the classics are so meagerly represented in the group of books selected from the school library, and so strongly represented in public library selections.

It is difficult to determine to what extent students select from what is easily available to them rather than searching for what they might prefer to read. To some extent, the age of materials selected is contingent upon what is available.

Bindings

Studies have shown that students prefer paperback books to hardcover books (Marshall, 1975). There remains a hesitancy on the part of many librarians to incorporate this finding into their selection policies. The opinion that seems to prevail and guide selection is that hardcover books have a longer life span. Librarians should, however, force themselves to examine their priorities and address the real issue: conserving a collection or circulating it?

In the case of the school library, consideration should be given to the fact that supplying books for recreational reading (most teachers described book reports in terms of "forced recreational reading") is only one of the functions of the school library. Almost one-half (45%) of the books selected by students from the school library were in paperback form (see table 4-5). Considering the predominantly hardcover nature of the school library collections in this study, this statistic indicates a strong preference by students for paperbacks. Books selected from the public library reflected the predominantly hardcover nature of public library collection, with only 29 percent of public library selections being in soft cover. Again, this is much higher than the overall fraction of paperbacks in the collection. Of books selected from home collections, bookstores, classroom libraries, or friends' collections, 87 percent were paperbacks.

Conclusions

This study has described the actual behavior of high school students in selecting materials for book report assignments. The strongest effect on students' selection of materials was the type of assignment and the degree of restriction placed on students. In cases where assignments were carefully restricted, book talks, recommended

TABLE 4-5

PERCENTAGE OF PAPERBACK BOOKS SELECTED IN EACH FACILITY

School Library	Public Library	Home	Bookstore	Other (Class & Friends)	All Sources
45%	29%	82%	95%	86%	58%

lists, and library visits appeared to have a large influence on student book selection. In cases with an unrestricted book choice, students tend to make their own selections, with a moderate degree of influence from friends. Unrestricted students do not seem to be significantly influenced by teachers and librarians. In all cases, browsing was an important factor in book selection.

As the single most accessible facility for most students, it is not surprising that the school library is the most frequently used source for finding book report materials. Several implications can be drawn from these findings in terms of the role of the school librarian in fulfilling student needs for book report assignments. By assuming an active role, school librarians can have a significant effect on student selection of materials. Cooperative efforts between teachers and librarians in developing assignments, book talks, and book lists, were observed to have a strong effect on student selection.

Librarians should recognize that their effect extends beyond their actual contacts to a group of students. It is not uncommon for students to rely on their peers for ideas and advice on books to read. On the other hand, since browsing is the predominant selection behavior reported by students (and the school library is their most frequent choice for actual selection) the school librarian does exert some control over student selection by controlling the collection. This control can certainly be effected by weeding decisions, as well as selection policies.

Because book report assignments require the selection of only one book for any given assignment, the heavy use of the school library results in an automatic decrease in the use of other facilities. The public library is not a particularly important facility in book report assignments, although in communities where public libraries are more accessible, there is a slight increase in their use by students. The use of bookstores and home collections is not overwhelming, but some students do use these sources. The use of bookstores and home collections does not seem to be related to the socioeconomic level of the community. Public libraries, bookstores and home collections probably serve to supplement the school library collection, rather than compete with it.

There are some student preferences which seem to be generalizable to the high school population as a whole. In general, students tend to prefer fiction to nonfiction, and paperbacks to hardcover books. The titles selected are diverse and range widely as to date. Titles which are frequently selected tend to be those from teacher lists, while standardized selection guides are less likely to match what is actually read.

In the final analysis, improvement of library services for

high school students is the responsibility of the individual librarian. Librarians concerned with actively participating, coöperating, and interacting with teachers and students will have a far greater impact on selection behavior than the collection available. Objective evaluative techniques, such as those described in this study, can serve as effective tools for school librarians in better providing guidance and services to their student patrons.

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STUDENT USE OF MAGAZINES

In the best of all possible worlds information is used regardless of the particular form in which it is published. Books, magazines, pamphlets, and non-print materials should all be considered as information sources. Yet this is often not the case. Differences in filing rules and in access tools represent barriers to an integrated view of information. If these barriers are to be overcome, user training will play an important role. In order to develop good training strategies it is necessary to first understand the present use patterns of students.

This report concentrates on the use of magazine articles by high school students. These articles were used in the larger context of fulfilling assignments calling for the collection of information on individual topics. Students were expected to use resources outside the classroom. They were not specifically limited to a particular form of material. The details of this study and an analysis of the use of materials other than magazine articles appear elsewhere.

The bibliographies of 1,178 student papers were examined. This represented a purposeful sample of seventy-three classes selected from fifteen schools in five school districts. In addition to the bibliographies, each student completed a questionnaire describing the sources of materials referenced.

The Context of Magazine Use

The most striking figure on magazine use is that only 460 students, 39 percent of the sample, referenced any magazine articles. The students showed a strong preference for books. Overall, 62 percent of the total references were to books, 19 percent to magazine articles, and the remainder to a variety of newspaper, encyclopedias, pamphlets, and other materials.

Another aspect of the students' performance is the number of facilities which they used. The typical student uses between two and three libraries. Over half of the students use three or more facilities, while only 14 percent of the students confine their searches to a single library. In terms of specific institutions 84 percent of the

students used their school library, 75 percent used a public library, and 59 percent made use of home collections. College libraries and private and special libraries were also used.

It should be clear from this overview that the students who are the topic of this report, that is, those who used magazine articles, are a minority of the students in this sample. It should also be pointed out that the use of materials does not strictly reflect the holdings in any one collection. Students show a well-developed willingness to seek information from a variety of facilities. Finally, it should be noted that this study, being based on an analysis of references, does not differentiate the form in which an article was read. Hard copy, both bound and unbound, microfilm and microfiche, and all other forms such as clippings and photocopies are undifferentiated in this analysis.

Magazine Use

Among the students who used magazine articles, 30 percent referenced only one article. Fewer than 10 percent of the students referenced more than eight articles. The number of articles referenced is detailed in table 5-1.

The use of magazines depends on a number of factors. The most important is the assignment and the specific instructions in materials use given by the teacher. That is, in cases in which the teacher (or the librarian) provided special instruction in how to access and obtain magazine articles, the students were more likely to reference articles. There is also some relationship between the general subject matter of a topic and the use of magazines. Students doing topics in the social sciences tended to have a higher fraction of their references from magazines. This may be due to the fact that assignments in these courses included many "current issues" type topics. On the other hand, papers from classes in the sciences tended to include a smaller fraction of magazines among their references. This is somewhat surprising in that studies of adult scientists have shown a very strong preference for referencing journals over all other types of materials.

Popular Titles

In any library a small number of titles will account for a large proportion of all magazine use. Careful attention to the most used titles is the basis of good periodical service. Limited funds for subscriptions should be allocated to titles that will have the greatest potential use.

The top twenty magazine titles referenced by students in our sample are listed in table 5-2. These titles have been placed in rank

TABLE 5-1

DISTRIBUTION OF NUMBER OF REFERENCES TO MAGAZINE ARTICLES IN STUDENT PAPERS

Articles Referenced	By Number of Students	% of All Article References	Cumulative % of Students
1	138	11.7	30.0
2	89	7.6	49.3
3	73	6.2	65.2
4	41	3.5	74.1
5	37	3.1	82.2
6	21	1.8	86.7
7	17	1.4	90.4
8	10	0.8	92.6
9	7	0.6	94.1
10	15	1.3	97.4
More than 10	12	2.6	100

order so that the most referenced titles are listed first. This list should hold few surprises for school librarians. These are well-known titles that would be held by most school libraries. Three-quarters of these titles were held by all or all but one of the schools. In fact, in our fifteen sample schools only two of the top twenty titles (Science and America) were omitted from the collections of as many as six schools.

In order to portray the dispersion of magazine articles referenced by students tables 5-2 and 5-3 were created. Ranks were assigned to the magazines so that the magazine contributing the most articles (i.e., Newsweek) was ranked number one; the magazine with the next greatest number of articles (Time) was ranked number two, and so on. The last two columns have been added to table 5-2 to show the overall importance of these titles. The next to the last column "Cumulative References to Journals" is simply a running total of references. Thus the entry of 247 for Time indicates that Time and Newsweek together account for a total of 247 uses (i.e., 135 uses for Newsweek plus 112 uses for Time). Similarly, the entry of 416 for New Republic indicates that the top five magazines taken together had a total of 416 references. The last column "Cumulative Percent of All References" simply converts the cumulative references column to percentages by dividing each number by the total number of references. In this case our sample had a grand total of 1,490 references to magazines. Thus the percentage in the last column for Time (16.6%) is the result of dividing 247 by 1,490 (and multiplying by 100 to give a percent). The value of 16.6 percent means that a library holding only the first two titles could have provided 16.6 percent of all of the articles referenced by all students in this study. Looking down this last column, we can see that the first four titles would satisfy one-quarter (25.4%) of all magazine usage. Similarly, with only seventeen titles one could supply over half (50.8%) of the magazine articles used by students doing the types of assignments represented in our sample.

It is important to emphasize that the pattern of magazine use observed in this study is exactly the same pattern seen in studies of adults--especially scientists and scholars. This pattern is so predictable that it is known as Bradford's Law. Bradford's Law is based upon an observation that anyone who does literature searches can make. Namely, if one searches the magazine or journal literature for articles on any specific topic, a particular pattern will emerge: a fairly large number of the articles retrieved will be concentrated in a few magazine titles, while a large number of different magazine titles will contribute only one or two articles each. This pattern is such a pervasive phenomenon (i.e., it has such mathematical regularity) it is called a law (for a more detailed introductory explanation see Drott et al., 1979). This pervasive regularity is important because on the one hand it indicates that the pattern of use of magazines by high school students is normal and expected. Further, it points out that for every library there will be a highly used "core" of important magazines.

TABLE 5-2

THE DISPERSION OF MAGAZINE ARTICLES TO THE TOP TWENTY MAGAZINE TITLES REFERENCED BY STUDENTS (N = 1,490)

Journal Rank		N of References to Journals	Cumulative References to Journals	Cumulative % of All References
1	Newsweek	135	135	9.1
2	Time	112	247	16.6
3	U.S. News & World Report	76	323	21.7
4	Sports Illustrated	55	378	25.4
5	New Republic	38	416	27.9
6	Saturday Review	35	451	30.2
7	Scientific American	33	484	32.5
8	Science Digest	32	516	34.6
9	Science News	31	547	36.7
10	Nation	30	577	38.7
11	Reader's Digest	29	606	40.6
12	Business Week	29	635	42.6
13	National Geographic	27	662	44.4
14	America	26	688	46.1
15	American Heritage	25	713	47.8
16	Science	23	736	49.4
17	Current History	22	758	50.8
18	Congressional Digest	22	780	52.3
19	Psychology Today	20	800	53.7
20	National Review	16	816	54.7*

*The remaining 45.3% of references was spread over an additional 276 titles. This is described in table 5-3.

TABLE 5-3

THE DISPERSION OF MAGAZINE ARTICLES
REFERENCED BY STUDENTS
(N = 1,490)

Journal Rank	N of References to Journals†	Cumulative References to Journals	Cumulative % of All References
1 thru 20	*	816	54.7
21 thru 23	14 (14×3)	858	57.5
24 thru 26	12 (12×3)	894	60.0
27 thru 30	11 (11×4)	938	62.9
31 thru 34	9 (9×4)	974	65.3
35 thru 37	8 (8×3)	998	67.0
38 thru 41	7 (7×4)	1,026	68.9
42 thru 46	6 (6×5)	1,056	70.9
47 thru 57	5 (5×11)	1,111	74.6
58 thru 74	4 (4×17)	1,179	79.1
75 thru 99	3 (3×25)	1,254	84.2
100 thru 138	2 (2×39)	1,332	89.4
139 thru 296	1 (1×158)	1,490	100.0

†Numbers in this column indicate first the number of articles contributed by each journal in the group listed in the Journal Rank column. The calculation in parentheses shows the number of articles contributed multiplied by the number of titles in the group. This product is the number which is added to the Cumulative References to Journals column in each row.

*The number of articles contributed by the twenty top ranked titles is described in table 5-2.

Lesser Used Titles

In the section above it was noted that half of all the articles used by students in the sample could have been supplied from only 17 titles. On the other hand, to supply the remaining half of the articles would require 279 additional titles. This is far too long and varied a list to be meaningful in this report. Many of the titles would simply not be considered for inclusion in a high school collection. For example, among the little used titles were American Journal of Epidemiology, Hustler, Back to Godhead (the magazine of the Hare Krishna Movement), and Ranger Rick's Nature Magazine.

In order to make some comment on this bewildering diversity of titles we have created table 5-3. In table 5-3 all of table 5-2 is represented by the first line. The remaining lines represent groups of titles by their rank and the number of titles each group contributed. The cumulative references column is calculated as in table 5-2 except that if, for example, there are 11 titles contributing five articles each (titles ranked 47 through 57) then 55 articles (5 x 11) must be added to the cumulative total.

Examining the last line in table 5-3 we see that there were 158 titles which were used one time each. This represents more than half of our total of 296 individual magazine titles, but only 10.6 percent of the magazine articles used. With such a diversity of titles and such light use it would be hard to select specific titles or to justify their cost if they were purchased for the school library. On the other hand it is very encouraging to see students able to find and use such a diversity of sources. Use of many of these titles represents use of libraries other than the school library. The average student in this study indicated the use of two or three libraries in locating information for their assignments. The number and diversity of the libraries used was related to the requirements of the students' assignments and the instructions and assistance provided by the teacher--at times in conjunction with the school librarian. It is obvious that many of these students are already involved in their own personal networking to access community information resources.

Age of Materials

Second to the question of selecting titles must be the problem of how long to hold back issues of magazines. There was a consensus among librarians interviewed in the sample schools on holding back issues of periodicals for a five-year period. There were, of course, a few exceptions based on local "guesstimates" of potential requests. The most obvious exception to the five-year rule was National Geographic. Most librarians in the sample schools agreed on the value of long runs of this particular title. In most instances, however, there

was no official policy on the length of time (beyond five years) that individual titles should be retained.

Table 5-4 presents the distribution of the age of magazines referenced. Holdings of five years of back issues would have supplied 60 percent of all articles while ten years of back issues would have satisfied 74 percent of the uses. Twenty years of holdings would have provided 85 percent of all articles referenced.

In a sense, these figures may be somewhat misleading since they combine the references of all students together. It is possible to analyze the data to consider the service that various levels of magazine holdings would give to individual students. For simplicity we assume that all titles are available for some time span.

Suppose that the library policy was to hold all magazine back issues for a period of five years. As noted above this would meet 60 percent of the aggregate needs. Such a policy would provide nearly half (49%) of the students with all of the articles they referenced. Another one-fifth (21%) of the students would find some of their desired magazine articles. However, under a five-year-holdings policy, almost one-third (30%) of the students would find none of the articles they used. They would be totally unserved by such a magazine collection.

If the library policy were extended to hold materials for ten years, then 74 percent of the total demand would be satisfied. Under this ten-year-holdings policy two-thirds (66%) of the students would be given complete service and 13 percent could be provided with some of their articles. A ten-year-holdings policy would leave one-fifth (21%) of the students unserved (i.e., the library would provide none of the articles they referenced).

It is clear that there is wide diversity among students in terms of the age of magazines used. This diversity makes it difficult to plan for services that would encompass the variety of student needs. Even a five-year holding of magazines would provide complete service to nearly half of the students. On the other hand even ten years of holdings would leave one-fifth (21%) of the students completely unserved. These figures assume holdings of all requested titles. In a more limited collection the service rates would be lower.

One answer to responding to the diversity in age of materials is to maintain relatively long back files of the most popular titles. Table 5-5 lists the twenty most used titles together with the most recent and oldest dates referenced by any student. In addition, the median date shows how old holdings would have to be in order to satisfy one-half of the student demand for each title. In general, one-half of the use can be provided with a relatively few years of holdings (5 to

TABLE 5-4

DISTRIBUTION OF AGE OF MAGAZINES
REFERENCED BY STUDENTS

Date of Articles	N of Articles This Age	% of All Articles	Cumulative % of Articles
1978	256	17	17
1977	258	17	34
1976	147	10	44
1975	123	8	52
1974	115	8	60
1973	68	5	65
1972	65	4	69
1971	33	2	71
1970	31	2	73
1969	20	1	74
1964 to 1968	93	6	80
1959 to 1963	68	5	85
1949 to 1958	89	6	91
Before 1949	124	8	99

TABLE 5-5

USE STATISTICS OF TWENTY MOST REFERENCED JOURNAL TITLES

Journal Title	N of Schools Holding	N of Uses	Oldest Use	Most Recent Use	Median Date of Use
Newsweek	15	136	1936	1978	1976
Time	15	112	1923	1979	1976
U.S. News & World Report	14	76	1951	1979	1976
Sports Illustrated	15	55	1973	1978	1977
New Republic	14	38	1915	1978	1964
Saturday Review	14	35	1944	1978	1965
Scientific American	15	33	1952	1977	1969
Science Digest	14	32	1971	1978	1976
Science News	14	31	1966	1978	1975
Nation	14	30	1919	1978	1974
Readers' Digest	14	29	1938	1979	1973
Business Week	11	29	1931	1978	1977
National Geographic	14	27	1906	1978	1974
America	9	26	1965	1978	1976
American Heritage	13	26	1955	1976	1953
Science	9	23	1903	1978	1971
Current History	14	22	1961	1976	1972
Congressional Digest	13	22	1961	1977	1974
Psychology Today	14	20	1973	1978	1976
National Review	10	16	1915	1978	1974

10 years), while in some case the remaining use goes back to the founding of the journal. In evaluating the importance of back issues it is important to remember the overall contribution made by the most important journals. For example, one of the top ranked magazine titles has much greater potential for use than subscribing to a dozen or more little used titles.

Selection of Titles

One of our concerns has been how a librarian might go about selecting journal titles which are most likely to be used by students. Our first observation is that the librarians in this sample did a very good job in selecting the most popular titles. This is not surprising. The titles are well-known and recommended for school collections. We would expect that professional information workers would recognize and acquire high-demand materials.

Lesser used titles present a more difficult problem in selection. The demand may not be observable (that is, students who do not find a title simply abandon their search without asking for help). One often used aid in selecting titles is the list of magazines covered by Readers' Guide to Periodical Literature. Interviews with librarians in the sample schools indicated that indexing in the Readers' Guide was the single most important factor in selecting magazines for their collections. In fact, every library in our sample had Readers' Guide and most had no other periodical index. Thus one might assume that Readers' Guide would be the source of most citations found by students.

All of the titles referenced were checked against the list of journals covered in Readers' Guide. Of the 296 titles used, 129 (44%) were covered by this index. This is not quite what it appears. The titles covered by Readers' Guide are much more heavily used than titles not included in this index. Of the 1,490 articles referenced, 1,224 (82%) were from titles covered by Readers' Guide. Although some students appear to have located articles using other indexes, Readers' Guide could have satisfied most of the use observed.

We also examined the possibility that Periodicals for School Media Programs might provide a more complete list of titles used by students. Since this particular bibliographic tool offers a broad spectrum of recommended titles would it, in fact, identify more of those actually referenced by students? This was not the case. There were only twelve titles used by students and covered by Periodicals for School Media Programs but not indexed in Readers' Guide. These twelve titles accounted for only twenty-four references. For example, the most used of these titles was Architectural Forum which was used by two students from a single class, each of whom referenced three articles. It appears that Periodicals for School Media Programs adds

little to the identification of titles actually used beyond the scope of Readers' Guide.

A question which is somewhat related to the use of specific indexes for title selection is whether or not students use indexes to locate articles. An alternative is that students might find a journal title which was useful and then locate additional articles by browsing back issues. As a partial check on this behavior we examined the number of different titles referenced by each student. If students were identifying a useful title and then finding articles by browsing, we would expect to find that the number of different titles used was smaller than the number of articles referenced. (This analysis can apply only to the 322 students who referenced two or more articles.) Looking at the data we found that a student referencing two, three, or four articles was most likely to have selected each article from a different title. Students referencing five or more articles continued this tendency but were most likely to repeat a title in one or two cases. Statistically the correlation between the number of articles and the number of different titles referenced was 0.81, indicating that the tendency to use a variety of titles is rather strong. We take this evidence that students are using a number of different titles to suggest that indexes are being used rather than browsing alone.

Serials Policies

The very broad range of titles used by students, and the fact that a large fraction of these titles are used infrequently suggests that no single library can (or should) attempt to hold all titles which students may use. The data presented above suggests that the best serials policy for a school library/media center would involve less emphasis on the number of titles held and greater concern for the length of time issues are retained. It is hard to reconcile the actual student use patterns with school library standards which call for access to as many as 175 titles but are vague on standards for retention beyond a short time span.

Libraries beyond the school library are an important source of materials for high school students. In a sense student action has outstripped professional planning in this aspect of networking. Recognizing this has important implications for training students to find information. Students must be prepared with skills which will allow them to access magazines in a variety of facilities. They need general approaches to indexes and collections rather than narrow training suited only to the holdings of a single library.

The high concentration o use in a few titles suggests that the greatest professional effort should be devoted to policies for the

selection and retention of these materials. Attempts to make rational choices among little used titles are more likely to be "guesses" than "selections."

Finally, librarians and teachers should direct their attention to that majority of the students who referenced no magazine articles. It is clear that simply collecting titles and indexes is not enough. Similarly, a passive willingness to give guidance and instruction does not lead students to these materials. If an educational goal is to expose students to the use of materials in a variety of formats, then librarians and teachers must reach out with active training strategies.

References

Drott, M. Carl; Mancall, Jacqueline C.; and Griffith, Belver. "Bradford's Law and Libraries: Present Applications--Potential Promise." Aslib Proceedings 31 (June 1979): 296-304.

ANALYSIS OF BOOK TITLES RECOMMENDED BY
FREQUENTLY USED RETROSPECTIVE LISTS

The informational needs of the young adult, i.e., the adolescent, are basically similar to those of all information users, regardless of age. They may be partially categorized as recreational, developmental and occupational in type. The last of these reflects the fact that the great majority of young adults are students. To provide for the various materials essential to satisfy their information needs, both school and public libraries are called upon. The availability of suitable materials in any given library is dependent to a great degree on the collection policies and selection criteria which pertain in the particular facility.

In a study of factors influencing selection of materials by school media specialists John Belland ("Factors Influencing Selection of Materials," School Media Quarterly [Winter 1978], pp. 112-19) found that the third highest ranked factor was inclusion on recommended lists. There are eighteen lists commonly consulted by those selecting books for adolescents. These can be divided into four major categories: standard collections, lists of recommended titles, annual listings of "best" books and textbooks on adolescent literature.

Standard collections are those selection tools which endeavor to provide a complete collection for the group to be served. While quality is a factor in the inclusion of a title in one of these tools another major factor is the subject matter of the book, since the scope of these standard collections is all the subjects which might be of interest or use to adolescents.

The Junior High School Library Catalog and the Senior High School Library Catalog and the Children's Catalog are the triumvirate comprising that part of the Standard Catalog Series serving children's and young adult libraries. The Junior High School Library Catalog and the Senior High School Library Catalog, while designed to support the curriculum of a good junior or senior high school respectively, are frequently utilized by public libraries. Selection of books for these two tools is carried out in a similar manner. An advisory committee of experienced librarians examine titles and propose a list of nominations. This list is then sent to a group of consultants who vote on each title. Arrangement of the two catalogs is also similar. The main body of the book is a classified catalog. This is followed by an author, title, subject, and analytical index. The book ends with a directory of publishers and distributors. The Junior High School

Library Catalog contains 3,791 titles while the Senior High School Catalog contains 5,281.

Books for Secondary School Libraries contains 5,617 nonfiction titles and is intended to support the curriculum of an independent school. Selection is by the Library Committee of the National Association of Independent Schools. An attempt is made to select books representing high standards of scholarship in the traditional areas. Standards of objectivity of presentation and literary quality standards are used as criteria in selecting books on current non-scholarly topics. Books are arranged by Dewey Decimal Classification number with an index of authors, titles and subjects. A directory of publishers is also included.

While standard collections are aimed at the librarian who is building a collection, lists of recommended titles are aimed at the adolescent user. Their main purpose is to turn young adults on to reading. They are therefore not encyclopedic in scope but are influenced by current adolescent interests. The National Council of Teachers of English compiles two such lists: Your Reading: A Booklist for Junior High Students, and Books for You: A Booklist for Senior High Students. Selection is carried out by a committee of the Council. Among the criteria are popularity as well as literary excellence. Books are arranged by broad topics (e.g., "American Indian Experiences" and "On Growing Up Male"). Your Reading contains 1,447 titles and Books for You 1,986 titles. Each is provided with author and title indices and a directory of publishers.

Smorgasbord of Books, Titles Junior High School Readers Relish was compiled by Betty M. Owen who has been involved in selecting books for the Teen Age Book Club, a subsidiary of Scholastic Book Services. It contains 468 titles, most of which are available as paperbacks. There are author and title indices and a directory of publishers.

Books for the Teen Age is compiled yearly by the Committee on Books for Young Adults of the New York Public Library. Its focus is on adult books which teens will enjoy. Arrangement is by broad topics, i.e., "Sports," "Energy and Technology," and "China." The 1977 edition contained 915 titles. There is a title index but no author index.

Since adolescents' reading preferences are frequently influenced by trends annual lists of "best" books are frequently used by librarians as a buying guide. The Young Adult Services Division of the American Library Association publishes one such annual list. A committee of young adult librarians from public and school libraries select approximately forty books annually. In 1975 a conference was held to examine all of the "Best Books Lists" compiled up to that time and seventy were selected as "Best of the Best." The Young Adult Services Division also publishes "Books for the College Bound" a series of lists aimed at young people who are about to enter college. Lists are published on

various topics and are frequently updated.

Robert G. Carlsen, author of Books and the Teen-Age Reader conducts a yearly poll of teens in Iowa to determine their preferences among books published during the last year. The results of this popularity poll are published in the English Journal each year.

Awards are also influential and also numerous. The Children's Book Council has compiled Children's Books: Awards & Prizes. This is revised biannually. Arrangement is alphabetically by award. While its major focus is on books for children, awards given to books for adolescents are also listed. In addition many books receiving awards meant for children's books are popular among teens. This reference tool, together with other well-known book awards formed the basis for the selection of a combined list of award book titles. These titles had either won awards specifically oriented toward young adult literature or were those titles which were winners of more general awards and were especially suited to this audience.

One last type of recommending list is the textbook on adolescent literature and/or information services. While not meant to be used as a buying guide, they are frequently utilized as such--particularly by the beginning librarian who may have just used the text in college classes. (A complete list of the texts studied is included in the bibliography.) It must be remembered that these texts frequently cite materials of historical interest and that materials may be cited which have had an influence on the field but are of debatable quality, e.g., Nancy Drew. Here as in almost no other tool the personal preference of the compiler is paramount.

In 1979 Barber and Rosenzweig examined all of the titles in the eighteen previously mentioned tools. They compiled a list composed of a selection of all fiction titles with four or more citations and all nonfiction, biography, and short story titles with three or more citations was conducted to form a core of 1,134 titles. This core is, in essence, a reflection of consensus by experts of these titles.

Standard Collections

Junior High School Catalog, 3rd ed. with supplement, 1976. New York: H. W. Wilson Company, 1975.

National Association of Independent Schools. Books for Secondary School Libraries. 5th ed. New York: R. R. Bowker Company, 1976.

Senior High School Library Catalog, 10th ed. with supplements, 1973-1976. New York: H. W. Wilson Company, 1972.

Lists of Recommended Titles

National Council of Teachers of English. Books for You: A Reading List for Senior High Students. New York: Washington Square Press, 1971.

National Council of Teachers of English. Your Reading: A Booklist for Junior High Students. Urbana, Ill.: National Council of Teachers of English, 1975.

New York Public Library. Books for the Teenage. New York: New York Public Library, 1976.

Owen, Betty M. Smorgasbord of Books: Titles of Junior High Readers Relish. New York: Citation Press, 1974.

Annual Listings of "Best" Books

Best Books for Young Adults. Chicago: Young Adult Services Division, American Library Association, annual.

Best of the Best. Chicago: Young Adult Services Division, American Library Association, 1975.

"Best Young Adult Books of the Year." School Library Journal. December, annual.

Carlsen, G. Robert. "Books for Young Adults: Honor Listing." English Journal. January, annual.

Books for the College Bound. Chicago: Young Adult Services Division, American Library Association, 1976.

Various listings of specific award books, i.e., Newbery Award, Hugo Award, Edgar Award, etc.

Textbooks on Adolescent Literature and Information Services

Burton, Dwight L. Literature Study in the High Schools, 3rd ed. New York: Holt, Rinehart and Winston, Inc., 1970.

Carlsen, G. Robert. Books and the Teen-Age Reader: A Guide for Teachers, Librarians and Parents, rev. and updated. New York: Harper and Row, Publishers, 1971.

Edwards, Margaret A. The Fair Garden and the Swarm of Beasts: The Library and the Young Adult, rev. and expanded. New York: Hawthorne Books, Inc., 1974.

Fader, Daniel, with James Duggins, Tom Finn, and Elton McNeil. The New Hooked on Books. New York: Berkley Publishing Corporation, 1976.

Meade, Richard A., and Small, Robert C., Jr. Literature for Adolescents, Selection and Use. Columbus, Ohio: Charles E. Merrill Publishing Company, 1973.

Thomison, Dennis. Readings About Adolescent Literature. Metuchen, N.J.: The Scarecrow Press, Inc., 1970.

Fig. 6-1. Bibliography of retrospective lists included in the study.

ANALYSIS OF SOURCES

The following sections present information describing the content and coverage of the sources described above. Information is provided for each source separately and for all sources together. These tables can serve as a guide for comparing sources or for choosing sources which are most likely to list books having certain characteristics. It should be recognized that the sources differ widely in both size and purpose. The data presented, while comparative, should not be interpreted as evaluative.

Methodology

The unit of analysis for this study was the recommended title. Each source was examined in turn and a card was prepared for each title recommended. The data recorded for each title was: author, title, publisher, publication date, and subject. As successive sources were examined, cards were created for new titles, while notations indicating source were added to cards already in the file. References to different editions of the same title were treated as references to the same item.

The resulting file of 19,755 recommended titles was keypunched and sorted by computer. Specially written programs were then used to extract the data for the tables in this chapter. The focus of this investigation was to describe the sources in various ways which would allow users to compare and contrast them. This was not a study of individual recommended titles.

Publication Date Distribution

The publication date distribution tables (table 6-1-1 through table 6-1-20) describe each source in terms of the age of the materials which it recommends. The heading of each table identifies the source and the number of titles recommended by that source. The first column, which is identical for each of these tables, groups publication dates. The preponderance of dates over all sources tended to cluster in the 1960s and 1970s. Thus, these time periods are divided into two year groups. Older time periods, which had fewer titles, cover a larger time span.

The second column, headed "Number of Titles in Age Group," is the count of those titles in the source which fell into the time period described at the left. For example, table 6-1-1 shows that seventy-five of the titles recommended by Carlsen were published in 1925 or before. A user interested in books from a specific time period could use this information as a guide in selecting sources.

The third column headed "% of titles in age group" shows the fraction (as a percent) of the titles in each source in the age group named in the leftmost column. This was calculated by dividing the number of titles in each age group from column two by the total number of titles in the source and multiplying by one-hundred to give a percentage. These values can be used to compare the relative "richness" of sources in various ages of titles regardless of the number of titles covered by the source.

The last column headed "% of titles this age or older" is simply a running sum of the percentages in the third column. The entry for any date group gives the fraction of the titles in the source which are that age or older. Subtracting the percentage from one-hundred would give the fraction of recommended titles which are more recent than the date indicated. For example, in table 6-1-1 the entry in this column for the age group 1963-64 is fifty-one. This indicates that 51 percent (roughly half) of the titles recommended by Carlsen were published in 1964 or earlier. Subtracting from one-hundred indicates that 49 percent of the recommended titles were published after 1964.

TABLE 6-1-1

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS COVERED IN BOOKS AND THE TEENAGE READER (CARLSEN)

(1124 Titles)

Publication Date of titles	Number of Titles in age group	% of titles in age group	% of titles this age or older*
1925 and before	75	7	7
1926-1950	117	10	17
1951-1955	84	7	24
1956-1960	108	10	34
1961-1962	67	6	40
1963-1964	126	11	51
1965-1966	134	12	63
1967-1968	205	18	81
1969-1970	180	16	97
1971-1972	15	1	98
1973-1974	13	1	99

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-2

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS COVERED IN AWARD BOOKS

(306 Titles)

Publication Date of titles	Number of Titles in age group	% of titles in age group	% of titles this age or older*
1925 and before	14	5	5
1926-1950	60	20	25
1951-1955	19	6	31
1956-1960	27	9	40
1961-1962	23	8	48
1963-1964	17	6	54
1965-1966	20	7	61
1967-1968	21	7	68
1969-1970	34	11	79
1971-1972	34	11	90
1973-1974	28	9	99
1975-1976	6	2	101
1977-1978	3	1	102

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-3

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN YASD "BEST BOOKS"

(253 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	0	0	0
1926-1950	0	0	0
1951-1955	0	0	0
1956-1960	0	0	0
1961-1962	0	0	0
1963-1964	0	0	0
1965-1966	1	0	0
1967-1968	0	0	0
1969-1970	32	13	13
1971-1972	70	28	41
1973-1974	32	13	54
1975-1976	114	45	99
1977-1978	4	2	101

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-4

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN SLJ "BEST BOOKS"

(168 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	0	0	0
1926-1950	0	0	0
1951-1955	0	0	0
1956-1960	1	1	1
1961-1962	0	0	1
1963-1964	0	0	1
1965-1966	1	1	2
1967-1968	0	0	2
1969-1970	26	15	17
1971-1972	52	31	48
1973-1974	35	21	69
1975-1976	18	11	80
1977-1978	35	21	101

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-5

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN SENIOR HIGH SCHOOL CATALOG

(5,864 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	205	3	3
1926-1950	457	8	11
1951-1955	285	5	16
1956-1960	397	7	23
1961-1962	162	3	26
1963-1964	354	6	32
1965-1966	493	8	40
1967-1968	626	11	51
1969-1970	1,076	18	69
1971-1972	1,152	20	89
1973-1974	653	11	100
1975-1976	3	0	100
1977-1978	1	0	100

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-6

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN JUNIOR HIGH SCHOOL CATALOG

(4,978 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	53	1	1
1926-1950	250	5	6
1951-1955	223	4	10
1956-1960	378	8	18
1961-1962	276	6	24
1963-1964	409	8	32
1965-1966	494	10	42
1967-1968	843	17	59
1969-1970	799	16	75
1971-1972	821	16	91
1973-1974	430	9	100
1975-1976	2	0	100

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-7

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN SMORGASBORD OF BOOKS

(370 Titles)

Publication Date of titles	Number of Titles in age group	% of titles in age group	% of titles this age or older*
1925 and before	1	0	0
1926-1950	24	6	6
1951-1955	15	4	10
1956-1960	24	6	16
1961-1962	19	5	21
1963-1964	21	6	27
1965-1966	42	11	38
1967-1968	49	13	51
1969-1970	60	16	67
1971-1972	71	19	86
1973-1974	42	11	97
1975-1976	2	1	98

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-8

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN BOOKS FOR YOU-NCTE (HIGH SCHOOL)

(2,111 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	60	3	3
1926-1950	227	11	14
1951-1955	195	9	23
1956-1960	366	17	40
1961-1962	341	16	56
1963-1964	268	13	69
1965-1966	341	16	85
1967-1968	221	10	95
1969-1970	30	1	96
1971-1972	27	1	97
1973-1974	33	2	99
1975-1976	2	0	99

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-9

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN BOOKS FOR THE TEENAGE
(NEW YORK PUBLIC LIBRARY)

(510 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	19	4	4
1926-1950	21	4	8
1951-1955	12	2	10
1956-1960	24	5	15
1961-1962	16	3	18
1963-1964	26	5	23
1965-1966	20	4	27
1967-1968	30	6	33
1969-1970	64	13	46
1971-1972	104	20	66
1973-1974	140	27	93
1975-1976	33	6	99
1977-1978	1	0	99

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-10

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS COVERED IN THE FAIR GARDEN AND THE SWARM OF BEASTS (EDWARDS)

(88 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	10	11	11
1926-1950	18	20	31
1951-1955	5	6	37
1956-1960	8	9	46
1961-1962	2	2	48
1963-1964	10	11	59
1965-1966	10	11	70
1967-1968	12	14	84
1979-1970	4	5	89
1971-1972	8	9	98
1973-1974	1	1	99
1975-1976	0	0	99

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-11

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS COVERED IN BOOKS FOR SECONDARY SCHOOL LIBRARIES (ISTA)

(5,252 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	90	2	2
1926-1950	303	6	8
1951-1955	177	3	11
1956-1960	330	6	17
1961-1962	196	4	21
1963-1964	245	5	26
1965-1966	236	4	30
1967-1968	567	11	41
1969-1970	786	15	56
1971-1972	932	18	74
1973-1974	1,297	25	99
1975-1976	97	2	101

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-12

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN "HONOR LISTING" (CARLSEN)

(195 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	0	0	0
1926-1950	1	1	1
1951-1955	1	1	2
1956-1960	1	1	3
1961-1962	1	1	4
1963-1964	2	1	5
1965-1966	3	2	7
1967-1968	10	5	12
1969-1970	16	8	20
1971-1972	44	23	43
1973-1974	79	41	84
1975-1976	37	19	103

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-13

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS COVERED IN READINGS ABOUT ADOLESCENT LITERATURE (THOMISON)

(294 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	31	11	11
1926-1950	115	39	50
1951-1955	59	20	70
1956-1960	48	16	86
1961-1962	19	6	92
1963-1964	8	3	95
1965-1966	4	1	96
1967-1968	3	1	97
1969-1970	3	1	98
1971-1972	3	1	99
1973-1974	1	0	99
1975-1976	0	0	99

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-14

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN LITERATURE FOR ADOLESCENTS
(MEADE)

(201 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	29	14	14
1926-1950	54	27	41
1951-1955	31	15	56
1956-1960	32	16	72
1961-1962	15	7	79
1963-1964	18	9	88
1965-1966	11	5	93
1967-1968	5	2	95
1969-1970	3	1	96
1971-1972	2	1	97
1973-1974	1	1	98
1975-1976	0	0	98

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-15

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS COVERED IN LITERATURE STUDY FOR THE HIGH SCHOOLS (BURTON)

(326 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	31	10	10
1926-1950	73	22	32
1951-1955	56	17	49
1956-1960	45	14	63
1961-1962	28	9	72
1963-1964	27	8	80
1965-1966	30	9	89
1967-1968	22	7	96
1969-1970	4	1	97
1971-1972	4	1	98
1973-1974	6	2	100
1975-1976	0	0	100

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-16

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN YASD "BEST OF THE BEST"

(71 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	0	0	0
1926-1950	0	0	0
1951-1955	0	0	0
1956-1960	4	6	6
1961-1962	8	11	17
1963-1964	5	7	24
1965-1966	6	8	32
1967-1968	10	14	46
1969-1970	8	11	57
1971-1972	12	17	74
1973-1974	16	23	97
1975-1976	2	3	100

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-17

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS COVERED IN YOUR READING-NCTE (JUNIOR HIGH SCHOOL)

(1,425 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	23	2	2
1926-1950	33	2	4
1951-1955	25	2	6
1956-1960	31	2	8
1961-1962	27	2	10
1963-1964	50	4	14
1965-1966	77	5	19
1967-1968	167	12	31
1969-1970	222	16	47
1971-1972	325	23	70
1973-1974	432	30	100
1975-1976	13	1	101

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-18

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN "BOOKS FOR THE COLLEGE BOUND"

(202 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	28	14	14
1926-1950	19	9	23
1951-1955	10	5	28
1956-1960	16	8	36
1961-1962	9	4	40
1963-1964	8	4	44
1965-1966	8	4	48
1967-1968	7	3	51
1969-1970	20	10	61
1971-1972	25	12	73
1973-1974	49	24	97
1975-1976	3	1	98

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-19

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS COVERED IN "HOOKED ON BOOKS"

(295 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 or before	2	1	1
1926-1950	9	3	4
1951-1955	5	2	6
1956-1960	15	5	11
1961-1962	14	5	16
1963-1964	11	4	20
1965-1966	12	4	24
1967-1968	28	9	33
1969-1970	46	17	50
1971-1972	73	25	75
1973-1974	69	23	98
1975-1976	11	4	102

*Totals may not equal 100% due to rounding errors.

TABLE 6-1-20

DISTRIBUTION OF PUBLICATION DATES FOR MATERIALS
COVERED IN BARBER-ROSENZWEIG CORE

(1,030 Titles)

Publication Date of titles	Number of Titles in age group	% of Titles in age group	% of Titles this age or older*
1925 and before	52	5	5
1926-1950	125	12	17
1951-1955	82	8	25
1956-1960	83	9	34
1961-1962	56	5	39
1963-1964	69	7	46
1965-1966	70	7	53
1967-1968	96	9	62
1969-1970	115	11	73
1971-1972	137	13	86
1973-1974	126	12	98
1975-1976	14	1	99

*Totals may not equal 100% due to rounding errors.

Subject Distribution

The subject date distribution tables (table 6-2-1 through table 6-2-20) describe each source in terms of the subject classification of the titles which it recommends. The subject classification is based on the Dewey Decimal System with four special categories which were separated out because of their size. The Dewey class numbers and brief descriptions in column one are intended to characterize the subject areas, but are not a complete definition.

The second column headed "Number of Titles in Class" records the number of titles in each of the classes listed at the left. Each recommended title was placed in only one class. If different sources placed the same title in different classes only the most reasonable assignment was used. This means that the definitions of the subject classes are the same for all of the sources in this group of tables.

The third (last) column headed "% of Titles in Class" reports the fraction of the titles in each source which are in each subject class. This value is calculated by dividing the corresponding number in column two by the total number of titles in the source and multiplying by one-hundred to give a percent. These percentages may be used for comparing various sources.

These percentages are additive. That means that subject classes may be combined by adding percentages. For example, in table 6-2-1 subject class 500 (pure science) represents 5 percent of the titles recommended and class 600 (applied science) is 3 percent of the titles. One could thus say that all science together accounted for 8 percent (5% plus 3%) of Carlsen's recommended titles.

TABLE 6-2-1

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN BOOKS AND THE TEENAGE READER (CARLSEN) (1,172 Titles)

Subject Class*		Number of Titles in Class	% of Titles in Class†
000	(Generalities)	10	1
100	(Philosophy & Related Disciplines)	7	1
200	(Religion)	13	1
300	(Social Sciences)	98	8
400	(Language)	16	1
500	(Pure Sciences)	63	5
600	(Technology [Applied Sciences])	34	3
700	(The Arts - Fine & Decorative Arts)	61	5
800	(Literature [Belles Letters]	136	12
900	(General Geography & History)	58	5
10	(Collective Biography)	31	3
11	(Short Stories)	10	1
12	(Fiction)	527	45
13	(Individual Biography)	108	9

*Subject classes based on Dewey Decimal Classification.

†Totals may not equal 100% due to rounding errors.

TABLE 6-2-2

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN AWARD BOOKS (385 Titles)

Subject Classes*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	0	0
100 (Philosophy & Related Disciplines)	4	1
200 (Religion)	1	0
300 (Social Sciences)	7	2
400 (Language)	0	0
500 (Pure Sciences)	2	1
600 (Technology [Applied Sciences])	1	0
700 (The Arts - Fine & Decorative Arts)	1	0
800 (Literature [Belles Letters])	34	9
900 (General Geography & History)	14	4
10 (Collective Biography)	0	0
11 (Short Stories)	19	5
12 (Fiction)	282	73
13 (Individual Biography)	20	5

*Subject classes based on Dewey Decimal Classification.

†Totals may not equal 100% due to rounding errors.

TABLE 6-2-3

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN YASD "BEST BOOKS" (268 Titles)

Subject Classes*		Number of Titles in Class	% of Titles in Class†
000	(Generalities)	0	0
100	(Philosophy & Related Disciplines)	4	1
200	(Religion)	0	0
300	(Social Sciences)	17	6
400	(Language)	0	0
500	(Pure Sciences)	6	2
600	(Technology [Applied Sciences])	16	6
700	(The Arts - Fine & Decorative Arts)	16	6
800	(Literature [Belles Letters])	11	4
900	(General Geography & History)	10	4
10	(Collective Biography)	1	0
11	(Short Stories)	3	1
12	(Fiction)	147	55
13	(Individual Biography)	37	14

*Subject classes based on Dewey Decimal Classification.

†Totals may not equal 100% due to rounding errors.

TABLE 6-2-4

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN SLJ "BEST BOOKS"
(168 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	0	0
100 (Philosophy & Related Disciplines)	2	1
200 (Religion)	0	0
300 (Social Sciences)	16	10
400 (Language)	0	0
500 (Pure Sciences)	5	3
600 (Technology [Applied Sciences])	8	5
700 (The Arts-- Fine & Decorative Arts)	17	11
800 (Literature--[Belles Letters])	5	3
900 (General Geography & History)	8	5
10 (Collective Biography)	1	1
11 (Short Stories)	3	2
12 (Fiction)	75	47
13 (Individual Biography)	20	13

* Subject Classes Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-5

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN SENIOR HIGH SCHOOL CATALOG
(6,050 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	161	3
100 (Philosophy & Related Disciplines)	94	2
200 (Religion)	89	1
300 (Social Sciences)	820	14
400 (Language)	88	1
500 (Pure Sciences)	457	8
600 (Technology [Applied Sciences])	450	7
700 (The Arts--Fine & Decorative Arts)	479	8
800 (Literature--[Belles Letters])	794	13
900 (General Geography & History)	1,017	17
10 (Collective Biography)	138	2
11 (Short Stories)	144	2
12 (Fiction)	769	13
13 (Individual Biography)	550	9

* Subject Classes Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-6

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN JUNIOR HIGH SCHOOL CATALOG
(5,104 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	154	3
100 (Philosophy & Related Disciplines)	45	1
200 (Religion)	71	1
300 (Social Sciences)	515	10
400 (Language)	55	1
500 (Pure Sciences)	654	13
600 (Technology [Applied Sciences])	427	8
700 (The Arts--Fine and Decorative Arts)	440	9
800 (Literature--[Belles Letters])	239	5
900 (General Geography & History)	826	16
10 (Collective Biography)	202	4
11 (Short Stories)	38	1
12 (Fiction)	927	18
13 (Individual Biography)	511	10

* Subject Classes Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-7

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN SMORGASBORD OF BOOKS
(468 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	6	1
100 (Philosophy & Related Disciplines)	3	1
200 (Religion)	3	1
300 (Social Sciences)	21	4
400 (Language)	0	0
500 (Pure Sciences)	25	5
600 (Technology [Applied Sciences])	18	4
700 (The Arts-Fine & Decorative Arts)	50	11
800 (Literature--[Belles Letters])	17	4
900 (General Geography & History)	31	7
10 (Collective Biography)	11	2
11 (Short Stories)	31	7
12 (Fiction)	210	45
13 (Individual Biography)	42	9

* Subject Classes Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-8

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN BOOKS FOR YOU--NCTE (HIGH SCHOOL)
(1,986 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	2	0
100 (Philosophy & Related Disciplines)	4	0
200 (Religion)	8	0
300 (Social Sciences)	63	3
400 (Language)	43	2
500 (Pure Sciences)	44	2
600 (Technology [Applied Sciences])	30	2
700 (The Arts--Fine & Decorative Arts)	50	3
800 (Literature--[Belles Letters])	212	11
900 (General Geography & History	249	13
10 (Collective Biography)	22	1
11 (Short Stories)	62	3
12 (Fiction)	824	41
13 (Individual Biography)	373	19

* Subject Classes Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-9

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN BOOKS FOR THE TEENAGE (NEW YORK PUBLIC LIBRARY)
(915 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	1	0
100 (Philosophy & Related Disciplines)	12	1
200 (Religion)	6	1
300 (Social Sciences)	78	9
400 (Language)	4	0
500 (Pure Sciences)	73	8
600 (Technology [Applied Sciences])	68	7
700 (The Arts--Fine and Decorative Arts)	162	18
800 (Literature--[Belles Letters])	67	7
900 (General Geography & History)	110	12
10 (Collective Biography)	15	2
11 (Short Stories)	10	1
12 (Fiction)	228	25
13 (Individual Biography)	81	9

* Subject Class Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-10

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN THE FAIR GARDEN AND THE SWARM OF BEASTS (EDWARDS)
(91 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	0	0
100 (Philosophy & Related Disciplines)	0	0
200 (Religion)	4	4
300 (Social Sciences)	2	2
400 (Language)	1	1
500 (Pure Sciences)	0	0
600 (Technology [Applied Sciences])	0	0
700 (The Arts--Fine & Decorative Arts)	0	0
800 (Literature--[Belles Letters])	2	2
900 (General Geography & History)	7	8
10 (Collective Biography)	0	0
11 (Short Stories)	0	0
12 (Fiction)	65	71
13 (Individual Biography)	10	11

* Subject Classes Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-11

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN BOOKS FOR SECONDARY SCHOOL LIBRARIES (ISTA)
(5,617 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	116	2
100 (Philosophy & Related Disciplines)	168	3
200 (Religion)	192	3
300 (Social Sciences)	897	16
400 (Language)	68	1
500 (Pure Sciences)	598	11
600 (Technology [Applied Sciences])	366	7
700 (The Arts--Fine & Decorative Arts)	525	9
800 (Literature--[Belles Letters])	771	14
900 (General Geography & History)	1,393	25
10 (Collective Biography)	53	1
11 (Short Stories)	1	0
12 (Fiction)	21	0
13 (Individual Biography)	448	8

* Subject Class is Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-12

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN HONOR LISTING (CARLSEN)
(285 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	1	0
100 (Philosophy & Related Disciplines)	3	1
200 (Religion)	0	0
300 (Social Sciences)	14	5
400 (Language)	0	0
500 (Pure Sciences)	18	6
600 (Technology [Applied Sciences])	21	7
700 (The Arts--Fine & Decorative Arts)	38	13
800 (Literature--[Belles Letters])	12	4
900 (General Geography & History)	27	9
10 (Collective Biography)	4	1
11 (Short Stories)	6	2
12 (Fiction)	110	39
13 (Individual Biography)	31	11

* Subject Class Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-13

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN READINGS ABOUT ADOLESCENT LITERATURE (THOMISON)
(414 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	2	0
100 (Philosophy & Related Disciplines)	1	0
200 (Religion)	1	0
300 (Social Sciences)	8	2
400 (Language)	0	0
500 (Pure Sciences)	38	9
600 (Technology [Applied Sciences])	1	0
700 (Th rts--Fine and Decorative Arts)	1	0
800 (Literature [Belles Letters])	57	14
900 (General Geography & History)	7	2
10 (Collective Biography)	2	0
11 (Short Stories)	3	1
12 (Fiction)	202	49
13 (Individual Biography)	91	22

* Subject Class is Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-14

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN LITERATURE FOR ADOLESCENTS (MEADE)
(299 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	0	0
100 (Philosophy & Related Disciplines)	0	0
200 (Religion)	0	0
300 (Social Sciences)	1	0
400 (Language)	0	0
500 (Pure Sciences)	0	0
600 (Technology [Applied Science])	1	0
700 (The Arts--Fine & Decorative Arts)	0	0
800 (Literature--[Belles Letters])	17	6
900 (General Geography & History)	5	2
10 (Collective Biography)	0	0
11 (Short Stories)	2	1
12 (Fiction)	252	84
13 (Individual Biography)	21	7

* Subject Class is Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-15

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN LITERATURE STUDY FOR THE HIGH SCHOOLS (BURTON)
(578 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	0	0
100 (Philosophy & Related Discipline)	2	0
200 (Religion)	0	0
300 (Social Sciences)	6	1
400 (Language)	0	0
500 (Pure Sciences)	1	0
600 (Technology [Applied Science])	1	0
700 (The Arts--Fine & Decorative Arts)	0	0
800 (Literature--[Belles Letters])	121	21
900 (General Geography & History)	13	2
10 (Collective Biography)	7	1
11 (Short Stories)	23	4
12 (Fiction)	353	61
13 (Individual Biography)	51	9

* Subject Class is Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-16

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN YASD "BEST OF THE BEST"
(70 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	0	0
100 (Philosophy & Related Disciplines)	1	1
200 (Religion)	0	0
300 (Social Science)	4	6
400 (Language)	0	0
500 (Pure Sciences)	1	1
600 (Technology [Applied Science])	3	4
700 (The Arts--Fine and Decorative Arts)	1	1
800 (Literature--[Belles Letters])	1	1
900 (General Geography & History)	3	4
10 (Collective Biography)	0	0
11 (Short Stories)	0	0
12 (Fiction)	45	64
13 (Individual Biography)	11	16

* Subject Class is Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-17

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN YOUR READING--NCTE (JUNIOR HIGH)
(1,447 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	4	0
100 (Philosophy & Related Disciplines)	11	1
200 (Religion)	5	0
300 (Social Science)	111	8
400 (Language)	3	0
500 (Pure Sciences)	62	4
600 (Technology [Applied Science])	36	2
700 (The Arts--Fine & Decorative Arts)	69	5
800 (Literature--[Belles Letters])	85	6
900 (General Geography & History)	84	6
10 (Collective Biography)	45	3
11 (Short Stories)	27	2
12 (Fiction)	796	55
13 (Individual Biography)	109	8

* Subject Class is Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-18

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN BOOKS FOR THE COLLEGE BOUND
(206 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	0	0
100 (Philosophy & Related Disciplines)	6	3
200 (Religion)	2	1
300 (Social Sciences)	28	14
400 (Language)	0	0
500 (Pure Sciences)	9	4
600 (Technology [Applied Sciences])	8	4
700 (The Arts--Fine & Decorative Arts)	3	2
800 (Literature--[Belles Letters])	45	22
900 (General Geography & History)	7	3
10 (Collective Biography)	3	1
11 (Short Stories)	1	0
12 (Fiction)	60	29
13 (Individual Biography)	34	17

* Subject Class is Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-19

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN HOOKED ON BOOKS
(466 Titles)

Subject Class*	Number of Titles in Class	% of Titles in Class†
000 (Generalities)	0	0
100 (Philosophy & Related Disciplines)	7	2
200 (Religion)	0	0
300 (Social Sciences)	15	3
400 (Language)	0	0
500 (Pure Sciences)	14	3
600 (Technology [Applied Sciences])	21	5
700 (The Arts--Fine & Decorative Arts)	23	5
800 (Literature--[Belles Letters])	7	2
900 (General Geography & History)	9	2
10 (Collective Biography)	7	2
11 (Short Stories)	7	2
12 (Fiction)	284	61
13 (Individual Biography)	72	15

* Subject Class is Based on Dewey Decimal Classification.

† Totals May Not Equal 100% Due to Rounding Errors.

TABLE 6-2-20

DISTRIBUTION OF SUBJECT CLASSIFICATION FOR MATERIALS COVERED IN BARBER-ROSENZWEIG CORE

(1,098 Titles)

Subject Class*		Number of Titles in Class	% of Titles in Class†
000	(Generalities)	12	1
100	(Philosophy & Related Disciplines)	12	1
200	(Religion)	14	1
300	(Social Sciences)	106	10
400	(Language)	15	1
500	(Pure Science)	77	7
600	(Technology [Applied Sciences])	56	5
700	(The Arts--Fine & Decorative Arts)	55	5
800	(Literature [Belles Letters])	145	13
900	(General Geography & History)	88	8
10	(Collective Biography)	24	2
11	(Short Stories)	9	1
12	(Fiction)	336	31
13	(Individual Biography)	149	14

*Subject class based on Dewey Decimal Classification.

†Totals may not equal 100% due to rounding errors.

Count of Recommended Items

Table 6-3 presents the number of titles which are recommended from each of the bibliographic sources. It is important to recognize that these sources differ widely in size. Any comparison of sources should recognize this size difference. (Of course, it is also important to recognize that the sources were compiled to serve different functions.)

The code number which appears in column one of this table is important because it is used in some of the following tables.

In considering sources one should remember that the Barber-Rosenzweig Core (source 24) is a totally derivative list. That is, the titles on this list depend totally on the content of the other sources. This source is assigned a non-sequential code number as a reminder of this special nature.

TABLE 6-3

COUNT OF ITEMS INCLUDED FROM EACH BIBLIOGRAPHIC SOURCE

Code Number	Bibliographic Source	Number of Items
1	Carlsen Books and the Teenage Reader	1,204
2	Award Books	417
3	YASD "Best Books"	290
4	SLJ "Best Books"	173
5	Senior High School Catalog	6,173
6	Junior Hugh School Catalog	5,113
7	Smorgasbord of Books	535
8	Books for You--NCTE (High School)	2,163
9	Books for the Teenage--New York Public Library	1,184
10	The Fair Garden and the Swarm of Beasts--Edwards	98
11	Books for Secondary School Libraries--ISTA	5,674
12	Carlsen "Honor Listing"	336
13	Readings About Adolescent Literature--Thominson	450
14	Literature for Adolescents--Meade	314
15	Literature Study for the High Schools--Burton	614
16	YASD "Best of the Best"	74
17	Our Reading--NCTE (Junior High)	1,467
18	"Books for the College Bound"	223
19	"Hooked on Books"	588
24	Barber-Rosenzweig Core*	1,103

*Composed of titles which appear on at least three of the above lists. (Four occurrances were required for fiction titles.)

Overlap of Titles

Table 6-4 presents the basic data on the overlap of titles across sources. The left column indicates the number of titles which appear in one source, two sources, and so on, as shown on the right. The number of titles can be summed to provide new groupings. For example, one could calculate the number of titles appearing in ten or more sources by adding the number of titles in ten, eleven and twelve sources. Thus twenty titles (fourteen plus four plus two) appear in only ten or more sources.

Perhaps the most striking thing about this table is that so few titles appear in more than one source. This indicates very little agreement among sources in terms of specific titles recommended.

TABLE 6-4

OVERLAP OF UNIQUE TITLES WITHIN
BIBLIOGRAPHIC SOURCES

15,094	titles appear in	1 Source
3,187	titles appear in	2 Sources
354	titles appear in	3 Sources
572	titles appear in	4 Sources
260	titles appear in	5 Sources
130	titles appear in	6 Sources
69	titles appear in	7 Sources
32	titles appear in	8 Sources
37	titles appear in	9 Sources
14	titles appear in	10 Sources
4	titles appear in	11 Sources
2	titles appear in	12 Sources

Subject Distribution of Titles

Table 6-5 gives the distribution of recommended titles from all sources. This provides an overview of what the subject coverage would be if all sources were used together.

This table is similar to the tables 6-2-1 through 6-2-20 but it does not represent a simple sum of those tables. In this table each title is counted only once no matter how many sources recommend it.

The "Not Classified" represents titles for which Dewey Classification numbers could not be readily found. The group "Missing Data" represents errors in keypunching or computer processing. The number of such processing errors was so small that their correction was not economically justified.

Table 6-6 gives the percentage of all recommended titles in each subject class. This fraction could be compared against the percentage for any specific source (tables 6-2-1 through 6-2-20) in order to see how representative of the whole it was. These percentages (as with all percentages in this chapter) have been rounded to the nearest whole percent. This makes the tables easier to read without the loss of any meaningful information.

TABLE 6-5

DISTRIBUTION OF ALL TITLES WITHIN BROAD SUBJECT AREAS*

Subject Areas		Number of Items
- 1	(Missing Data)	13
000	(Generalities)	348
100	(Philosophy and Related Disciplines)	295
200	(Religion)	326
300	(Social Sciences)	2,157
400	(Languages)	200
500	(Pure Sciences)	1,585
600	(Technology [Applied Science])	1,178
700	(The Arts--Fine and Decorative Arts)	1,577
800	(Literature [Belles Letters])	1,905
900	(General Geography and History)	3,105
10	(Collective Biography)	391
11	(Short Stories)	304
12	(Fiction)	3,535
13	(Individual Biography)	1,887
14	(Not Classified)	959

*Subject areas based on Dewey Decimal Classification.

TABLE 6-6

NUMBER OF UNIQUE TITLES ARRANGED BY SUBJECT CLASSIFICATION

Subject Classification*		Number of Titles	% of Titles
000	(Generalities)	348	2
100	(Philosophy & Related Discipline)	295	1
200	(Religion)	326	2
300	(Social Sciences)	2,157	11
400	(Languages)	200	1
500	(Pure Science)	1,585	8
600	(Technology [Applied Sciences])	1,178	6
700	(The Arts--Fine & Decorative Arts)	1,577	8
800	(Literature [Belles Letters])	1,905	10
900	(General Geography & History)	3,105	16
10	(Collective Biography)	391	2
11	(Short Stories)	304	2
12	(Fiction)	3,535	18
13	(Individual Biography)	1,887	10
14	(Not Classified)	959	5

*Subject class based on Dewey Decimal Classification.

Date Distribution of Titles

Tables 6-7 and 6-8 both describe the distribution of all recommended titles by date of publication. The first table (6-7) shows the dates year by year, while the second (table 6-8) groups the dates for easier reading.

The interpretation of the columns in table 6-8 is the same as those in tables 6-1-1 through 6-1-20. This table represents this data for all recommended titles combined. Again, each title is counted only once no matter how many sources recommend it. (Those titles for which publication dates were not recorded are omitted from this table.)

The individual date distribution for any particular source can be compared against table 6-8 to see how typical or atypical the source is. The cummulative percent column is most useful for making such a comparison.

TABLE 6-7

DISTRIBUTION OF NUMBER OF RECOMMENDED TITLES BY DATE OF PUBLICATION

Date of Publication	Number of Source Items	Date of Publication	Number of Source Items	Date of Publication	Number of Source Items
1900*	141	1927	28	1954	174
1901	5	1928	21	1955	178
1902	5	1929	24	1956	177
1903	5	1930	25	1957	245
1904	6	1931	22	1958	235
1905	5	1932	24	1959	259
1906	4	1933	18	1960	350
1907	3	1934	18	1961	439
1908	4	1935	28	1962	474
1909	6	1936	31	1963	508
1910	3	1937	28	1964	649
1911	8	1938	30	1965	758
1912	3	1939	31	1966	790
1913	9	1940	43	1967	1,056
1914	5	1941	57	1968	1,098
1915	9	1942	49	1969	1,275
1916	7	1943	32	1970	1,351
1917	5	1944	54	1971	1,261
1918	8	1945	45	1972	1,586
1919	26	1946	54	1973	1,607
1920	12	1947	79	1974	990
1921	20	1948	71	1975	184
1922	8	1949	85	1976	84
1923	16	1950	119	1977	3
1924	13	1951	94	1978	40
1925	8	1952	124	1979	0
1926	13	1953	157	1980†	2,264

*All items published before 1900 are included in the count for 1900.

†All items without a given date of publication are counted as missing data.

TABLE 6-8

UNIQUE TITLES FROM ALL BIBLIOGRAPHIC SOURCES
ARRANGED BY DATE

(n = 17,519)

Date of Publications	Number of Titles	% of Titles	Cumulative % of Titles
1925 and before	344	2	2
1926-1950	1,029	6	8
1951-1955	727	4	12
1956-1960	1,266	7	19
1961-1962	913	5	24
1963-1964	1,157	7	31
1965-1966	1,548	9	40
1967-1968	2,154	12	52
1969-1970	2,626	15	67
1971-1972	2,847	16	83
1973-1974	2,597	15	98
1975-1976	268	2	100
1977-1978	43	0	100

Comparison of Sources by Subject

Table 6-9 presents a combination of all of the tables 6-2-1 through 6-2-20. These are combined together to make comparisons easier. The column headed "Bibliographic Sources" gives the code number which identifies each source. These code numbers are listed on table 6-3.

In comparing sources one should keep in mind the different sizes of each source. It should also be remembered that to the extent that the sources overlap (see table 6-10), the same recommended title is being counted more than once. The coverage of the various sources in part reflects specific policy in their compilation. For example, the subject class "Generalities" consists primarily of bibliographies, catalogs, and general reference works. These are materials which almost any library should hold, but are not within the scope of many of the recommending sources. This is shown by the zero entries in this column.

TABLE 6-9

NUMBER OF ENTRIES WITHIN EACH BIBLIOGRAPHIC SOURCE BY SUBJECT CLASS

	Subject Classes															
	Missing Data	Generalities	Philosophy	Religion	Social Sciences	Languages	Pure Sciences	Technology	The Arts	Literature	Geography & History	Collective Biography	Short Stories	Fiction	Individual Biography	Not Classified
	-1	000	100	200	300	400	500	600	700	800	900	10	11	12	13	14
Bibliographic Sources*																
1	4	10	7	13	98	16	63	34	61	136	58	31	10	527	108	28
2	3	0	4	1	7	0	2	1	1	34	14	0	19	282	20	29
3	3	0	4	0	17	0	6	16	16	11	10	1	3	147	37	19
4	3	0	2	0	16	0	5	8	17	5	8	1	3	75	20	10
5	4	161	94	89	820	88	457	450	479	794	1,017	138	144	769	550	119
6	5	154	45	71	515	55	654	427	440	239	826	202	38	927	511	4
7	2	6	3	3	21	0	25	18	50	17	31	11	31	210	42	65
8	4	2	4	8	63	43	44	30	50	212	249	22	62	824	373	173
9	3	1	12	6	78	4	73	68	162	67	110	15	10	228	81	266
10	3	0	0	4	2	1	0	0	0	2	7	0	0	65	10	4
11	3	116	168	192	897	68	598	366	525	771	1,393	53	1	21	448	54
12	2	1	3	0	14	0	18	21	38	12	27	4	6	110	31	49
13	3	2	1	1	8	0	38	1	1	57	7	2	3	202	91	33
14	2	0	0	0	1	0	0	1	0	17	5	0	2	252	21	13
15	2	0	2	0	6	0	1	1	0	121	13	7	23	353	51	34
16	1	0	1	0	4	0	1	3	1	1	3	0	0	45	11	3
17	0	4	11	5	111	3	62	36	69	85	84	45	27	796	109	20
18	1	0	6	2	28	0	9	8	3	45	7	3	1	60	34	16
19	1	0	7	0	15	0	14	21	23	7	9	7	7	284	72	121
24	2	12	12	14	106	15	77	56	55	145	88	24	9	336	149	3

*See bibliographic source list.

Overlap of Titles

Table 6-10 gives the overlap of the sources in terms of the number of titles which they both recommend. Each row and each column is headed with the code number of a source. (See table 6-3 for the source titles which correspond to each code number.)

For example, suppose one wished to compare Carlsen's Books and the Teenage Reader (source code 1) with Readings About Adolescent Literature by Thominson (source code 13). First use the leftmost column "Bibliographic Source" and locate source code 1. This code is the first row of the table. Now read across the row until we come to the column headed with source code 13. Here we read that the overlap between source 1 and source 13 (Carlsen and Thominson) is ninety-one titles. That is to say that these two sources recommend ninety-one of the same titles.

In order to further understand this overlap we look back to table 6-3. Carlsen recommended a total of 1,204 titles while Thominson recommended 450. This is important because the size of the smaller of the two sources gives us the maximum possible overlap. If every single title recommended by Thominson were also recommended by Carlsen the overlap would be 450 (i.e., the total number of titles in Thominson).

Now we can compare the actual overlap from the table (91) with the maximum possible overlap (450). We could thus represent the overlap as 20 percent (i e., 91 divided by 450). This is, in fact, quite a high overlap. This occurs because both of these sources were written with similar intent (as texts for those selecting materials for the teenager).

There are several additional points that should be made about table 6-10. The lower half of the table is redundant on the top half and has been replaced by zeros. To continue the above example, we can try to examine the overlap of sources 1 and 13 again. This time we select the thirteenth row and the first column. This cell contains a zero since the overlap is indicated in the first row, thirteenth column as discussed above. Zeros have also been entered in positions in which a source overlaps with itself (column one with row one, column two with row two, etc.). Clearly, a source "overlaps" completely with itself but such an entry would be of no value.

Conclusions

The examination of sources was begun with two ideas in mind. First that a consensus of "most recommended" books might emerge. Second, that recommendations might be strongly related to student use. It is clear from this chapter that a consensus does not emerge. The

TABLE 6-10

DISTRIBUTION OF OVERLAP OF ITEMS WITHIN BIBLIOGRAPHIC SOURCES

Bibliographic Source*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	24
1	0	87	13	11	484	323	64	405	114	65	133	4	91	128	166	35	159	73	77	461
2	0	0	10	7	146	98	18	79	40	17	25	8	30	41	47	14	98	18	54	139
3	0	0	0	41	67	19	5	2	49	8	20	34	2	1	1	22	23	15	41	73
4	0	0	0	0	55	5	2	2	19	6	12	15	2	1	1	13	11	7	24	42
5	0	0	0	0	0	935	49	590	272	65	1,069	28	107	91	158	50	175	115	104	752
6	0	0	0	0	0	0	91	326	152	19	223	23	91	67	96	15	445	21	103	490
7	0	0	0	0	0	0	0	58	37	15	23	117	13	17	20	13	67	9	42	103
8	0	0	0	0	0	0	0	0	95	63	142	2	120	133	198	27	130	54	55	455
9	0	0	0	0	0	0	0	0	0	31	163	52	29	29	44	28	98	61	84	275
10	0	0	0	0	0	0	0	0	0	0	11	5	24	26	26	20	23	21	18	71
11	0	0	0	0	0	0	0	0	0	0	0	26	21	7	30	11	39	68	31	401
12	0	0	0	0	0	0	0	0	0	0	0	0	3	1	2	15	10	9	41	61
13	0	0	0	0	0	0	0	0	0	0	0	0	0	104	90	8	32	25	13	128
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117	8	59	25	24	143
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	63	40	18	197
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	19	41	60
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	120	262
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	131
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160

*See bibliographic source list.

overwhelming majority of recommended titles are recommended only once. This suggests that if there is any heavily recommended set of titles it is a very small one.

The comparison of every title used by students against the list of recommended titles was beyond the scope of this research. On the basis of examination of the data it is our impression that the overlaps between recommendations and use would be small. This is reinforced by the finding (reported in another chapter) that the active encouragement of materials used by the teacher or librarian is a much more important factor in student use than the specific holdings of a library. One might conclude that time spent with students is likely to be more fruitful than time spent with recommended lists.

A Note to Future Researchers

The file of 19,755 titles prepared for this study may have applications beyond its use here. We have prepared a limited number of microfiche copies of this list. These copies are available to those seeking to extend this research.

The microfiche presents the entire list of titles arranged in two different orders: alphabetically by author and alphabetically by title. Each entry contains author, title, publication date, publisher, subject class, and recommending source(s) in which the item appears. The physical arrangement is two printed lines per entry, twenty-eight entries per page. Each of the alphabets covers 711 pages.

Investigators wishing more information, or those with specific uses for this data, should correspond with: Dr. Raymond Barber, School of Library and Information Science, Drexel University, Philadelphia, Pennsylvania 19104.

APPENDIX A:

DATA COLLECTION INSTRUMENTS

1. Student Questionnaire: Libraries and Research Papers
2. Teacher Questionnaire: Libraries and Research Papers
3. Student Questionnaire: Book Reports
4. Teacher Questionnaire: Book Reports
5. Librarian Interview Instrument

STUDENT QUESTIONNAIRES

LIBRARIES AND RESEARCH PAPERS

EXPLANATION:

This questionnaire is designed to help determine to what extent you used various libraries in preparing your research papers, and if libraries met your needs. All replies will be kept confidential. No respondents will be identified.

1. Did you use any of these libraries in preparing your research paper, even if you didn't find any information? Check as many as apply.

a) ☐ School library

b) ☐ Neighborhood public library (Examples:

c) ☐ Large regional public library (Examples:

d) ☐ Community college library

e) ☐ College or university library

f) ☐ Private libraries, i.e., those belonging to companies, research organizations, or special groups. Please specify.

_____

_____

g) ☐ Home or personal library

h) ☐ Other, please specify.

_____

_____

2. Here's the list of libraries again. This time check only those in which you got information you used in your paper.

a) ☐ School library

b) ☐ Neighborhood public library (Examples:

c) ☐ Large regional public library (Examples:

d) ☐ Community college library

e) ☐ College or university library

f) ☐ Private libraries, i.e., those belonging to companies, research organizations, or special groups. Please specify.

_____

_____

g) ☐ Home or personal library

h) ☐ Other, please specify.

_____

_____

3. Did the staff of any of the above libraries help you find information?

☐ Yes ☐ No

If yes, please specify in which types of libraries you received help.

_____

_____

4. Did anyone else, such as a friend or family member help you use a library by accompanying you and assisting you there?

☐ Yes ☐ No

If yes, please specify in which types of libraries you received this help.

_____

_____

5. Many times friends and family are able to gather information from libraries for students. Did someone use any library for you? (In other words, use it for you without you being present.)

☐ Yes ☐ No

If yes, please specify which types of libraries were used by someone else for you.

_____

_____

6. If there are any special ways you gathered information that you'd like to include in this study please list them below. For example, did you interview people or write for information? Did a directory like a telephone directory help? List what you think was useful to you.

_____

_____

_____

TEACHER QUESTIONNAIRE

LIBRARIES AND RESEARCH PAPERS

EXPLANATION:

In presenting the research assignment to your students that resulted in the papers being analyzed in this study obviously many topics were covered. This questionnaire is concerned only with that aspect of the assignment dealing with library services and resources. All replies will be kept confidential.

I. TOPIC SELECTION

1. Which of the following best describes how a student arrived at the selection of a topic? Pick one.

   a) ☐ Student had unrestricted choice of subject area and specific topic.

   b) ☐ Student had unrestricted choice of a subject area with teacher follow-up and approval on specific topic.

   c) ☐ A list of subject areas, or a single subject area, was presented within which each student selected a specific topic.

   d) ☐ A list of specific topics was presented from which a student selected one.

   e) ☐ A specific topic was assigned to each student.

   f) ☐ Other, please specify.

   _____

   _____

II. GUIDANCE IN LOCATING INFORMATION

1. Below are a list of places students may go to find information. Check those you suggest to students. Check as many as apply.

   a) ☐ School library

   b) ☐ Public library

   c) ☐ Community college library

   d) ☐ College or university library

   e) ☐ Private libraries, i.e., those belonging to companies, research organizations, or special groups. Please specify.

   _____

   _____

   f) ☐ None of the above.

   g) ☐ All of the above.

   h) ☐ Other, please specify.

   _____

   _____

2. Below are a list of non-library sources of information. Check those you suggest to students. Check as many as apply.

   a) ☐ Personal interviews to collect information.

   b) ☐ Writing to or contacting personally individuals, organizations, agencies or associations for available material.

   c) ☐ Other, please specify.

   _____

   _____

   _____

3. Instruction in library use, if necessary, may be provided in a variety of ways. Below are a list of possibilities. Check as many as apply to the procedure you followed.

a) ☐ General classroom instruction given on the use of the school library, provided by the teacher either in the classroom or in the school library.

b) ☐ Classroom instruction given on the use of specific library tools and materials, e.g., indexes such as The Readers Guide to Periodical Literature, the card catalog, etc., either in the classroom or in the school library, by the teacher.

c) ☐ Arranged with the school librarian to provide instruction in the use of library tools and materials.

d) ☐ Accompanied students to a public library and provided instruction for them there. (Instruction by the teacher)

e) ☐ Accompanied students to a public library and arranged for instruction to be provided by a member of the library staff.

f) ☐ Arranged for student instruction at public library, but without teacher.

g) ☐ None of the above.

h) ☐ Other types of instruction or directions offered, please specify.

_____

_____

_____

III. INTERACTION WITH LIBRARIES AND TEACHING STAFF

1. Describe your own interaction with libraries in relation to your student's research papers by checking any of the following that apply.

   A. Interaction with school library.

   a) ☐ Planned with library staff member before assignment was given.

   b) ☐ Notified library of assignment before assignment was given.

   c) ☐ Did not notify library of assignment.

   d) ☐ Requested purchase by library of particular materials to support student research.

   e) ☐ Knew from past experience which topics could be researched in the school library.

   f) ☐ Arranged for the school library to borrow materials for students.

   g) ☐ Other, please specify.

   _____

   _____

   B. Interaction with teaching staff

   a) ☐ Discussed student topics at general staff meeting.

   b) ☐ Discussed student topics at curriculum meetings.

   c) ☐ Discussed student topics informally with teaching staff.

   d) ☐ Other, please specify.

   _____

   _____

   _____

C. Interaction with libraries outside school

a) ☐ Discussed assignment and topics with public library.

b) ☐ Discussed topics with college or academic library.

c) ☐ Discussed topics with other area libraries, please specify.

_____

_____

d) ☐ Accompanied students to other libraries. Please specify.

_____

_____

e) ☐ Borrowed materials for students personally.

f) ☐ Loaned my own materials to students.

g) ☐ Other, please specify.

_____

_____

IV. INTERACTION WITH ORGANIZATIONS OTHER THAN LIBRARIES.

List below any contacts made with organizations other than libraries in relation to the student's research papers.

_____

_____

_____

STUDENT QUESTIONNAIRE

BOOK REPORTS

EXPLANATION:

This questionnaire is designed to describe how you selected the book you used for your book report. It will help us to understand how students choose books. Do not put your name on this questionnaire. All replies are confidential. Individual results are not reported to teachers.

Book used: Title _____

_____

Author _____

1. Which of the following alternatives describe the way you selected the title of the book you read for this report? Check as many as apply.

a) ☐ Selected the title from a list presented by the teacher.

b) ☐ Selected the title from a list in the school library.

c) ☐ Read other books by the same author.

d) ☐ Got the idea from television or the movies.

e) ☐ Found book while looking at books in a library or bookstore.

f) ☐ Book suggested by teacher.

g) ☐ Book suggested by a friend.

h) ☐ Book suggested by school librarian.

i) ☐ Book suggested by the librarian of a public library.

j) ☐ Other, please specify.

_____

_____

2. Did you try any of the following places in locating the book you needed for your assignment? Check as many as you tried, even if you didn't find the book you eventually used.

a) ☐ School library

b) ☐ Neighborhood public library

c) ☐ Large regional public library

d) ☐ Community college library

e) ☐ College or university library

f) ☐ Home or personal library

g) ☐ Bookstore

h) ☐ Other, please write in

_____

3. Here is the same list of alternatives again. This time check the one in which you actually found the book you're using for this report.

a) ☐ School library

b) ☐ Neighborhood public library

c) ☐ Large regional public library

d) ☐ Community college library

e) ☐ College or university library

f) ☐ Home or personal library

g) ☐ Bookstore

h) ☐ Other, please write in

_____

4. Did the staff of any of the above places help you find the book you selected?

☐ Yes ☐ No

If yes, please write in below in which (places) you received help

_____

_____

5. Did anyone else, such as a friend or family member help you select the book you chose by actually going with you and assisting you in picking it?

☐ Yes ☐ No

If yes, please write in below in which places you received this help

_____

_____

6. Many times friends and family are able to select books from libraries or bookstores for students. Did someone use a library or bookstore for you? (In other words, select a book for you without your being present.)

☐ Yes ☐ No

If yes, please specify which types of libraries (or bookstores) were used by someone else for you.

_____

_____

7. Check the alternative below which describes the binding of the book you used for your report.

a) ☐ Book had a hard cover.

b) ☐ Book was a paperback.

TEACHER QUESTIONNAIRE

BOOK REPORT

EXPLANATION:

In presenting this particular book report assignment to your students, many suitable titles may have been covered. This questionnaire is concerned only with the selection of a suitable title by a student and their use of libraries or other facilities to locate their book. All replies will be kept confidential.

1. Which of the following best describes how a student arrived at the selection of a title for his/her book report. Pick one.

a) ☐ Student had unrestricted choice of title.

b) ☐ Student had unrestricted choice of title with teacher follow-up and approval of specific title.

c) ☐ An optional list of titles was presented. Students selected one, or had unrestricted choice of title.

d) ☐ An optional list of titles was presented. Students selected one, or had unrestricted choice of title with teacher follow-up and approval of specific title.

e) ☐ A list of specific titles was presented from which a student selected one.

f) ☐ A specific title was assigned to each student.

g) ☐ Other, please specify.

_____

_____

2. Below is a list of places students may go to find books. Check those you suggest to students. Check as many as apply.

a) ☐ School library

b) ☐ Neighborhood public library (for example:

c) ☐ Large regional public library (for example:

d) ☐ Community college library

e) ☐ College or university library

f) ☐ Home or personal library

g) ☐ Bookstores

h) ☐ None of the above

i) ☐ All of the above

j) ☐ Other, please specify.

_____

_____

Please briefly describe the purpose of the assignment and attach any printed instructions or book lists that were issued to your students.

Teacher_____ School _____

Subject taught _____ Grade level of students _____

Academic level of students _____

Drexel University
School of Library and Information Science
Philadelphia, PA

Dear Librarian:

I am looking forward to our meeting on _____.
I thought it might help us discuss matters if I sent you a copy of the format I'll follow. As my letter to you indicated this study is concerned with the materials used by high school students in fulfilling assignments calling for outside information resources (non-textbook). My interview with you will provide background for the analysis. Of course, the interview will be confidential. The following is not a questionnaire. It is a tool to assist you in organizing your thoughts before our meeting.

I'd like to begin the interview by finding out how you know students are seeking materials for assignments. For example:

WHEN - before the assignments are given
- at the time the assignments are given
- after the assignments are given

WHERE - in faculty meetings
- at curriculum meetings
- during informal conversations with teachers
- other?

HOW - by memo
- through personal contact with teachers
- by students seeking help
- some other way?

In general, how many teachers giving assignments calling for non-textbook resources, discuss the topics and requirements of these assignments with you? For example:

- all the teachers
- most of the teachers
- more than half of those who make such assignments
- very few of those who make such assignments
- none of those who make such assignments

I'd like to explore in detail the services you offer students and teachers in relation to locating information for these assignments. For example:

PLANNED ASSISTANCE TO STUDENTS
- through introduction of resources
- by teaching research skills, i.e., use of library tools for research
- by providing assistance with selection of specific materials
- by arranging to borrow materials from other libraries for students
- by sending students to specific libraries where materials can be obtained

HOW ASSISTANCE IS OFFERED

- to groups of students only
- to individual students only
- to both groups and individuals as requested
- to either groups or individuals when assignments are made

If you had the ideal situation, what do you think the school librarian could offer the classroom teacher in the way of assistance in the library for students receiving such assignments?

BE SPECIFIC.

WHAT DO YOU THINK IS IDEAL? JOT DOWN A FEW IDEAS.

We both know no situation is ever ideal. In what ways does your situation differ from the ideal one you described?

How do you cope with these differences?

In the letter I sent you about this interview I mentioned several topics I'd like to discuss. One of these is about your magazine collection.

In general, how do you select magazines for your collection?

Do you use a standard list of any sort to select magazine titles?

How do you decide which magazine titles to keep?

How long do you keep magazine backfiles?

Which indexes are available in your library?

Please give me a list of your current magazine subscriptions.

I mentioned in my letter to you that this study was concerned with books, as well as magazines, and their use by students in meeting the requirements of their assignments.

How do you select books for inclusion in your collection?

Do you use standard lists? If so, which ones?

Do you compile or use book report lists for students? If so, may I have copies of any lists you use?

I also mentioned in my letter to you that I would like to discuss budget constraints. What is your yearly materials budget? And how do you divide it in terms of selection of materials?

In assessing student use of libraries one of the factors we have to take into consideration is the hours that it is possible for a student to use a library.

Are the hours of the school library the same as those of regularly scheduled classes?

Are the hours shorter than those of regularly scheduled classes?

Are the hours longer than regularly scheduled classes, e.g., library is open after school hours or before school hours?

Another factor in providing service to students is determining how much individual help librarians should give. Should students be told how to find the answer, or should the answer be given to them?

I'd like to include anything else you feel is important to an understanding of how students use library materials in fulfulling their assignments, and the school library's role in their preparation. Perhaps you have a special way of stimulating the use of materials. Or, on the contrary, you may feel this is impossible or unnecessary in your situation. Any comments are welcome.

What else do you feel should be considered in this study?

Thank you for looking this over. I think the interview process will be better and quicker with you knowing exactly what will be discussed. I hope providing me with a list of your current magazine subscriptions is not an imposition.

See you on _____. Again, many thanks!

Sincerely,

Jacqueline C. Mancall
Research Associate

ANALYSIS OF STUDENT PAPERS IN TERMS OF MATERIALS REFERENCED

This printout deals with the student papers in terms of the number, type and age of materials referenced. As a general pattern each type or age variable is divided into a number of categories. The number of student papers falling into each category is reported. This approach allows examination of the similarity or diversity of student use of materials.

The printout begins with two general variables - the distribution of the number of references per paper and the distribution of incomplete references (i.e., how many papers had specific numbers of incomplete references). This is followed by a group of age variables that deal with student references in three ways. First, the ages of all references are examined regardless of type of item referenced. Next, the age of materials is examined separately for the two most used types of materials - monographs (books) and journals (magazines). The variables used to describe age fall into two categories: (1) variables which analyze one date per student paper, such as the date of the newest item, the date of the oldest item, and the date of the middle item (where "middle" is the middle of the age range within each paper); and (2) a category of age variables that deals with all dates within each paper. These variables (identified here as "indexes") report for each paper the percent of references within a certain time span (in this case those within the last five years and those within the last ten years).

The type of materials variables count, by type, the number of references for each paper. Types of materials include monographs, journals, government documents and pamphlets, encyclopedias, newspapers, and nonprint materials. For each of these types the number of papers referencing a particular number of items of the given type is recorded (also reported is the number of papers referencing no items of the given type).

In examining this data it is important to keep in mind the descriptive nature of this study. An evaluation of the patterns of material use depends upon the specific educational goals of each assignment.

1|11 PAPERS (CREATION DATE = 06/29/79)

TOTCIT

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	1.	53	4.5	4.5	4.5
	2.	83	7.0	7.0	11.5
	3.	121	10.2	10.2	21.7
	4.	145	12.2	12.3	34.0
	5.	160	13.6	13.6	47.6
	6.	119	10.1	10.1	57.6
	7.	90	7.6	7.6	65.2
	8.	79	6.6	6.7	72.3
	9.	47	4.0	4.0	76.3
	10.	78	6.6	6.6	82.9
	11.	40	3.4	3.4	86.3
	12.	23	2.0	2.0	88.3
	13.	27	2.3	2.3	91.0
	14.	15	1.3	1.3	92.3
	15.	21	1.7	1.7	94.0
	16.	5	0.4	0.4	94.4
	17.	10	0.8	0.8	95.2
	18.	8	0.7	0.7	95.9
	19.	5	0.4	0.4	96.3

TOTCIT

Total References Per Paper

Reading

The leftmost column (labeled "code") gives the total number of references. The next column (Absolute Frequency) gives the number of student papers that had that number of references. The number of papers is expressed as a percent in column 3 (Relative Frequency). The adjusted frequency column may be ignored. The last column (Cum Freq) is the cumulative frequency -- a running sum of the percentages in column three

Interpretation

The meaning of this variable depends upon the goals of the specific assignment. The best single number to characterize this variable is the median (i.e. the number of references used by a mythical "middle" student). A large spread in the number of items referenced may indicate a diverse group of students or diverse interpretations of the assignment(s).

ANALYSIS OF STUDENT PAPERS

FILE PAPERS (CREATION DATE = 06/29/79)

20.	3	0.3	0.3	97.2
21.	1	0.1	0.1	97.3
22.	4	0.3	0.3	97.6
23.	3	0.3	0.3	97.9
24.	3	0.3	0.3	98.1
25.	3	0.3	0.3	98.4
26.	2	0.2	0.2	98.6
27.	3	0.3	0.3	98.9
28.	2	0.2	0.2	99.0
29.	4	0.3	0.3	99.3
32.	1	0.1	0.1	99.4
33.	1	0.1	0.1	99.5
34.	1	0.1	0.1	99.6
37.	2	0.2	0.2	99.7
40.	1	0.1	0.1	99.8
41.	1	0.1	0.1	99.9
47.	1	0.1	0.1	100.0
TOTAL	1178	100.0	100.0	

MEAN	7.026	STD ERR	0.155	MODE	5.00
MEDIAN	5.000	STD DEV	5.315	VARIANCE	28.23
KURTOSIS	9.725	SKEWNESS	2.972	RANGE	46.000
MINIMUM	1.000	MAXIMUM	47.000		

VALID CASES 1178 MISSING CASES 0

FILE PAPERS (CREATION DATE = 09/25/79)

INCOMCIT

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	922	78.3	78.3	78.3
	1.	127	10.8	10.8	89.1
	2.	71	6.0	6.0	95.1
	3.	30	2.5	2.5	97.6
	4.	10	0.8	0.8	98.5
	5.	6	0.5	0.5	99.0
	6.	7	0.6	0.6	99.6
	7.	3	0.3	0.3	99.7
	8.	3	0.3	0.3	99.9
	10.	1	0.1	0.1	100.0
	TOTAL	1178	100.0	100.0	

MEAN	0.635	STD ERR	0.031	MEDIAN	0.000
MODE	0.0	STD DEV	1.076	VARIANCE	1.157
KURTOSIS	17.905	SKEWNESS	3.704	RANGE	10.000
MINIMUM	0.0	MAXIMUM	10.000		

VALID CASES 1178 MISSING CASES 0

INCOMCIT

Number of Incomplete References Per Paper

The number of incomplete references is given in column one (Code). The number of papers with that number of incomplete references is given in column two (Absolute Freq). In most cases the preponderance of students will fall into the group with zero incomplete references with few (or none) of the students having more than five incomplete references in a paper. A reference was considered incomplete if it was not possible to determine the age or type of material being cited. Note that this is a less restrictive standard than requiring full (and correct) bibliographic information.

CURRDATE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	1912.	1	0.1	0.1	0.1
	1929.	1	0.1	0.1	0.2
	1942.	1	0.1	0.1	0.3
	1949.	1	0.1	0.1	0.4
	1950.	2	0.2	0.2	0.5
	1951.	1	0.1	0.1	0.6
	1955.	1	0.1	0.1	0.7
	1956.	5	0.4	0.5	1.2
	1957.	2	0.2	0.2	1.4
	1958.	2	0.2	0.2	1.5
	1959.	5	0.4	0.5	2.0
	1961.	3	0.3	0.3	2.3
	1962.	5	0.4	0.5	2.7
	1963.	12	1.0	1.1	3.8
	1964.	13	1.1	1.2	5.0
	1965.	11	0.9	1.0	6.0
	1966.	12	1.0	1.1	7.0
	1967.	24	2.0	2.2	9.2
	1968.	27	2.3	2.4	11.6

9 CURRDATE

Most Current Date

For each paper the date of the most recent reference was recorded. Column one (code) is the date. The second column is the number of papers which had that date as the most current item referenced. The last column (Cum Freq) gives the percent of student papers having the most current date as the date shown in column one or older.

This variable looks at only a single reference from each paper and thus may not be completely representative. High currency is neither good or bad -- it may reflect a concern with reporting the most up-to-date information or it may simply reflect finding materials by browsing current sources.

1969.	34	2.9	3.1	14.7
1970.	43	3.7	3.7	18.0
1971.	39	3.3	3.5	22.1
1972.	50	4.2	4.5	[illegible]
1973.	70	5.9	5.3	27.4
1974.	103	8.7	9.3	42.2
1975.	56	4.7	5.1	50.3
1976.	145	12.3	13.1	[illegible]
1977.	174	14.8	15.7	79.6
1978.	207	17.6	18.7	[illegible]
1979.	19	1.6	1.7	100.0
99.	69	5.9	MISSING	100.0
TOTAL	1178	100.0	100.0	

MEAN	1975.852	STD ERR	0.154	MODE	1972.000
MEDIAN	1978.000	STD DEV	5.134	VARIANCE	26.354
KURTOSIS	2.929	SKEWNESS	-1.574	RANGE	67.000
MINIMUM	1912.000	MAXIMUM	1979.000		

VALID CASES 1109 MISSING CASES 69

FILE PAPERS (CREATION DATE = 06/29/79)

OLDDATE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	1726.	2	0.2	0.2	0.2
	1765.	1	0.1	0.1	0.3
	1772.	1	0.1	0.1	0.4
	1786.	1	0.1	0.1	0.5
	1788.	1	0.1	0.1	0.5
	1812.	1	0.1	0.1	0.6
	1828.	2	0.2	0.2	0.8
	1831.	2	0.2	0.2	1.0
	1849.	1	0.1	0.1	1.1
	1850.	1	0.1	0.1	1.2
	1853.	1	0.1	0.1	1.3
	1857.	1	0.1	0.1	1.4
	1859.	1	0.1	0.1	1.4
	1862.	1	0.1	0.1	1.5
	1863.	1	0.1	0.1	1.6
	1867.	1	0.1	0.1	1.7
	1872.	1	0.1	0.1	1.8
	1875.	1	0.1	0.1	1.9
	1876.	1	0.1	0.1	2.0

OLDDATE

Oldest Date

This variable is similar to Most Current Date (see above). For each paper, the date of the oldest item referenced was recorded. The last column (cum freq) reports the percent of student papers which had an oldest reference of a given date or older.

The use of old materials may reflect either good use of archival materials or inappropriate use of outdated items depending on the specific topic of each paper. This data may be of some value in making collection weeding decisions since it indicates whether older materials are being used (although not which library provided it).

1877.	1	0.1	0.1	2.1
1879.	1	0.1	0.1	2.2
1883.	1	0.1	0.1	2.3
1888.	1	0.1	0.1	2.3
1890.	1	0.1	0.1	2.4
1892.	1	0.1	0.1	2.5
1893.	1	0.1	0.1	2.6
1895.	1	0.1	0.1	2.7
1897.	2	0.2	0.2	2.9
1899.	1	0.1	0.1	3.0
1900.	1	0.1	0.1	3.1
1901.	1	0.1	0.1	3.2
1902.	2	0.2	0.2	3.3
1903.	1	0.1	0.1	3.4
1904.	4	0.3	0.4	3.8
1905.	4	0.3	0.4	4.2
1906.	2	0.2	0.2	4.3
1908.	3	0.3	0.3	[illegible]
1909.	5	0.4	0.5	5.1
1910.	2	0.2	0.2	5.2
1912.	1	0.1	0.1	5.3
1913.	6	0.5	0.5	5.9

1915.	4	0.4	0.4	6.2
1916.	2	0.2	0.2	6.4
1917.	1	0.1	0.1	6.5
1918.	1	0.1	0.1	6.6
1919.	4	0.4	0.4	6.[illegible]
1920.	3	0.3	0.3	7.2
1921.	1	0.1	0.1	7.3
1922.	3	0.3	0.3	7.6
1923.	4	0.4	0.4	7.9
1924.	9	0.7	0.7	8.7
1925.	3	0.3	0.3	8.9
1926.	3	0.3	0.3	9.2
1927.	8	0.7	0.7	9.9
1928.	4	0.3	0.4	10.3
1929.	7	0.6	0.6	10.9
1930.	6	0.5	0.5	11.5
1931.	8	0.7	0.7	12.2
1932.	4	0.4	0.4	12.5
1933.	3	0.3	0.3	12.8
1934.	3	0.3	0.3	13.1
1935.	6	0.5	0.5	13.6
1936.	6	0.5	0.5	14.2

1537.	8	1.7	0.7	1[illegible]
1538.	5	0.[illegible]	0.[illegible]	1.[illegible]
1539.	8	0.7	1.7	1.[illegible]1
1540.	5	1.4	0.[illegible]	1.[illegible]
1541.	7	0.6	[illegible]	17.1
1542.	11	0.5	1.1	1[illegible].1
1543.	5	0.4	0.[illegible]	1[illegible]
1544.	11	1.[illegible]	1.1	1.[illegible]
1545.	7	0.6	0.6	[illegible].2
1546.	15	1.6	1.7	[illegible]1.[illegible]
1547.	11	0.[illegible]	1.1	[illegible]2.[illegible]
1548.	16	1.[illegible]	1.[illegible]	[illegible].4
1549.	14	1.[illegible]	1.[illegible]	[illegible]
1550.	17	1.[illegible]	1.[illegible]	[illegible]7.[illegible]
1551.	16	1.[illegible]	1.4	[illegible]
1552.	16	1.[illegible]	1.[illegible]	[illegible].1
1553.	40	3.4	[illegible]	[illegible].7
1554.	25	2.1	2.3	[illegible]
1555.	13	1.6	1.7	[illegible]7.5
1556.	17	1.4	1.[illegible]	[illegible].2
1557.	31	2.6	2.[illegible]	[illegible].1
1558.	23	2.[illegible]	2.1	[illegible]

1959.	17	1.4	1.5	[illegible]
1960.	38	3.1	3.2	[illegible]
1961.	[illegible]	3.2	3.4	92.3
1962.	20	2.5	2.7	55.0
1963.	40	3.4	3.5	[illegible]
1964.	24	2.0	3.1	[illegible]
1965.	31	2.0	2.3	[illegible]
1966.	31	2.6	2.[illegible]	[illegible]
1967.	24	2.0	2.2	[illegible]
1968.	29	2.5	2.6	[illegible]
1969.	36	3.2	[illegible]	[illegible]
1970.	44	3.7	[illegible]	[illegible]
1971.	31	2.6	2.4	[illegible]
1972.	33	2.8	3.0	55.2
1973.	37	3.1	3.3	[illegible]
1974.	35	3.0	3.2	[illegible]
1975.	18	1.5	1.6	[illegible]
1976.	30	2.5	2.7	[illegible]
1977.	32	2.7	2.9	[illegible]
1978.	11	0.9	1.0	[illegible]
1979.	1	0.1	0.1	100.0
99.	70	5.9	MISSING	100.0

ANALYSIS OF STUDENT PAPERS

FILE PAPERS (CREATION DATE = 06/25/79)

TOTAL	1170	100.0	100.0

MEAN	1956.109	STD ERR	0.711	MODE	1[illegible]
MEDIAN	1970.000	STD DEV	24.556	VARIANCE	[illegible]
KURTOSIS	[illegible]	SKEWNESS	[illegible]	RANGE	255.000
MINIMUM	1720.000	MAXIMUM	1975.000		

VALID CASES 1100 MISSING CASES 70

FILE PAPERS (CREATION DATE = 07/20/79)

FIVEINDT FIVE YEAR INDEX, ALL MATERIALS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	1.	332	28.2	28.2	28.2
1% thru 25% within 5 years	2.	290	24.6	24.6	52.8
26% thru 50% within 5 years	40.	229	19.4	19.4	72.2
51% thru 75% within 5 years	62.	105	8.9	8.9	81.1
76% thru 100% within 5 years	85.	147	12.5	12.5	93.6
Incomplete references	101.	75	6.4	6.4	100.0
	TOTAL	1178	100.0	100.0	

MEAN	34.316	STD ERR	.955	SKEWNESS	1.007
MEDIAN	1.000	STD DEV	32.772	VARIANCE	1073.863
MODE(S)	-9.000	SKEWNESS	0.295	RANGE	100.000
MINIMUM	1.000	MAXIMUM	101.000		

VALID CASES 1178 MISSING CASES 0

FIVEINDT

Five Year Currency Index

The Five Year Currency Index records the percent of references in each paper which were dated within the last five years. As seen in the column "Category Label" papers were divided into 6 groups based on the proportion of current materials within them. The column labeled "code" should be ignored. "Absolute Freq" gives the number of students in each group. "Relative Frequency" gives the percent of students in each group.

Analysis of articles written by adult scientists and humanists has shown that scientists, especially those in fields like physics, biochemistry, and medicine have a high proportion of their references from within the last five years. Humanists (English, History) have a low proportion of such materials. Social scientists fall between these two groups.

FILE PAPERS (CREATION DATE = 06/26/79)

TENINDT TEN YEAR INDEX, ALL MATERIALS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
0% materials within 10 years	1.	119	10.1	10.1	10.1
1. thru 25% within 10 years	15.	155	13.1	13.1	23.2
26. thru 50% within 10 years	40.	285	24.5	24.5	47.7
51. thru 75% within 10 years	62.	165	14.0	14.0	61.7
76. thru 100% within 10 years	85.	335	28.4	28.4	90.1
Incomplete references	101.	79	6.9	6.9	100.0
	TOTAL	1178	100.0	100.0	

MEAN	51.000	STD ERR	0.952	MEDIAN	50.000
MODE	85.000	STD DEV	31.634	VARIANCE	1000.967
KURTOSIS	-1.005	SKEWNESS	-0.185	RANGE	100.000
MINIMUM	1.000	MAXIMUM	101.000		

VALID CASES 1178 MISSING CASES 6

TENINDT

Ten Year Currency Index

The Ten Year Currency Index is similar to the Five Year Currency Index except that it is based on ten years. This index records the percent of references in each paper which were dated within the last ten years. As seen in the column "Category Label" papers were divided into 5 groups based on the proportion of current materials within them. The column labeled "code" should be ignored. "Absolute Freq" gives the number of students in each group. "Relative Frequency" gives the percent of students in each group.

FILE PAPERS (CREATION DATE = 06/25/79)

TOTMON

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	136	11.5	11.5	11.5
	1.	145	12.5	12.5	24.2
	2.	159	13.5	13.5	37.7
	3.	161	13.7	13.7	51.4
	4.	144	12.2	12.2	63.6
	5.	84	7.1	7.1	71.0
	6.	79	6.7	6.7	78.2
	7.	56	4.8	4.8	82.9
	8.	43	3.7	3.7	86.6
	9.	33	2.8	2.8	89.4
	10.	47	4.0	4.0	93.4
	11.	14	1.2	1.2	94.6
	12.	15	1.3	1.3	95.8
	13.	7	0.6	0.6	96.4
	14.	6	0.5	0.5	96.9
	15.	11	0.9	0.9	97.9
	16.	4	0.3	0.3	98.2
	17.	7	0.6	0.6	98.8
	18.	4	0.3	0.3	99.2

TOTMON

Total Monographs

This variable records the number of monographs (books) cited in each paper. Column 1 (code) is the number of books referenced. Column 2 (Absolute Frequency) is the number of student papers which referenced that number of books. The third column (Relative Frequency) is the percent of students referencing that number of monographs. The last column (Cum Freq) is the cumulative percent. That is, the last column gives the percent of students who referenced the corresponding number of books (column 1, code) or fewer.

FILE PAPERS (CREATION DATE = 06/29/79)

19.	2	0.2	0.2	99.3
20.	2	0.2	0.2	99.5
21.	1	0.1	0.1	99.6
23.	2	0.2	0.2	99.7
25.	1	0.1	0.1	99.8
26.	1	0.1	0.1	99.9
28.	1	0.1	0.1	100.0
TOTAL	1178	100.0	100.0	

MEAN	4.397	STD ERR	0.115	MEDIAN	3.001
MODE	3.000	STD DEV	3.955	VARIANCE	15.678
KURTOSIS	9.200	SKEWNESS	1.709	RANGE	23.000
MINIMUM	0.0	MAXIMUM	23.000		

VALID CASES 1178 MISSING CASES 0

FILE PAPERS (CREATION DATE = [illegible])

MEDMON

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	69	5.9	0.0	0.0
	1491.	2	0.2	0.2	0.3
	1672.	1	0.1	0.1	0.4
	1800.	1	0.1	0.1	7.0
	1883.	1	0.1	0.1	7.1
	1890.	1	0.1	0.1	7.2
	1915.	1	0.1	0.1	7.3
	1916.	1	0.1	0.1	7.4
	1924.	1	0.1	0.1	7.5
	1926.	1	0.1	0.1	7.6
	1927.	1	0.1	0.1	7.7
	1929.	1	0.1	0.1	7.8
	1930.	1	0.1	0.1	7.9
	1932.	2	0.2	0.2	8.1
	1933.	1	0.1	0.1	8.2
	1936.	1	0.1	0.1	8.3
	1937.	1	0.1	0.1	8.4
	1939.	2	0.2	0.2	8.5
	1941.	1	0.1	0.1	8.6

MEDMON

Median Date for Monographic References

For each student paper the dates of all books referenced were examined. The middle date (i.e. the date such that half the books referenced were older and half were newer) was selected and recorded. Column 1 (code) gives the middle dates which were recorded. Column 2 (Absolute Freq) is the number of papers with that value as an age for the middle age book.

(Note that because of the use of code 0 (zero) for incomplete references, the column "Cum Freq" is not meaningful for this variable).

1942.	1	0.1	0.2	5.7
1944.	2	0.2	0.2	8.9
1945.	1	0.1	0.1	9.0
1946.	3	0.3	0.1	9.3
1947.	6	0.5	0.5	9.9
1948.	4	0.3	0.4	10.3
1949.	2	0.2	0.2	10.5
1950.	7	0.6	0.7	11.1
1951.	3	0.3	0.3	11.4
1952.	7	0.6	0.7	12.1
1953.	5	0.4	0.5	12.6
1954.	8	0.7	0.8	13.4
1955.	8	0.7	0.8	14.1
1956.	13	1.1	1.2	15.4
1957.	15	1.3	1.4	16.8
1958.	17	1.4	1.6	18.4
1959.	19	1.6	1.8	20.3
1960.	21	1.8	2.0	22.3
1961.	33	2.8	3.2	25.5
1962.	46	3.9	4.4	29.9
1963.	49	3.4	3.8	33.7
1964.	54	4.6	5.2	38.9

1965.	61	5.2	5.9	44.8
1966.	54	4.6	5.2	50.0
1967.	52	4.4	5.0	54.9
1968.	57	4.9	5.5	60.4
1969.	67	5.7	6.4	66.9
1970.	52	4.4	5.0	71.9
1971.	54	4.6	5.2	77.1
1972.	48	4.1	4.6	81.7
1973.	57	4.9	5.5	87.1
1974.	43	3.7	4.1	91.3
1975.	34	2.9	3.3	94.6
1976.	24	2.0	2.3	96.9
1977.	24	2.0	2.3	99.1
1978.	9	0.8	0.9	100.0
1.	137	11.6	MISSING	100.0
TOTAL	1178	100.0	100.0	

MEAN	1835.002	STD ERR	15.205	MEDIAN	1966.213
MODE	0.0	STD DEV	490.661	VARIANCE	240700.003
KURTOSIS	10.024	SKEWNESS	-3.460	RANGE	1976.000
MINIMUM	0.0	MAXIMUM	1976.000		

VALID CASES 1041 MISSING CASES 137

FILE PAPERS (CREATION DATE = 06/29/79)

FIVEINDX 5 YEAR INDEX, MONOGRAPHS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO MONOGRAPHS USED	0.	135	11.5	11.5	11.5
No monographs within 5 years	1.	457	38.8	38.8	50.3
2% thru 25% within 5 years	15.	224	19.0	19.0	69.3
26% thru 50% within 5 years	40.	120	10.2	10.2	83.4
51% thru 75% within 5 years	62.	39	3.3	3.3	86.7
76% thru 100% within 5 years	85.	84	7.1	7.1	93.8
Missing Value (Incomplete Reference)	101.	73	6.2	6.2	100.0
	TOTAL	1178	100.0	100.0	

MEAN	24.254	STD ERR	0.562	MODE	1.000
MEDIAN	1.000	STD DEV	21.679	VARIANCE	469.956
KURTOSIS	0.505	SKEWNESS	1.346	RANGE	101.000
MINIMUM	0.0	MAXIMUM	101.000		

VALID CASES 1178 MISSING CASES 0

FIVEINDX

Five Year Currency Index for Monographs

This variable is the same as the Five Year Currency Index discussed above, except that it deals only with references to books.

In general one would expect that the monographs used by students would be older than the journals. (See Five and Ten Year Currency Indexes for Journals below). This is because of the acknowledged superiority of journals as a source of current information -- hence the expectation that many journal uses should be in this (high currency) role.

FILE PAPERS (CREATION DATE = 06/29/79)

TENINOM TEN YEAR INDEX, MONOGRAPHS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO MONOGRAPHS USED	0.	131	11.1	11.1	11.1
1% monographs within 10 years	1.	190	16.1	16.1	27.2
2% thru 25% within 10 years	15.	178	15.1	15.1	42.4
26% thru 50% within 10 years	40.	246	20.9	20.9	63.2
51% thru 75% within 10 years	62.	121	10.3	10.3	73.5
76% thru 100% within 10 years	85.	237	20.1	20.1	93.6
Missing Value (Reference) Incomplete	101.	75	6.4	6.4	100.0
TOTAL		1178	100.0	100.0	

MEAN	40.681	STD ERR	1.014	MEDIAN	39.866
MODE	40.000	STD DEV	34.818	VARIANCE	1212.283
KURTOSIS	-1.358	SKEWNESS	0.294	RANGE	101.000
MINIMUM	0.0	MAXIMUM	101.000		

VALID CASES 1178 MISSING CASES 0

TENINOM

Ten Year Currency Index for Monographs

This variable is similar to the Five Year Currency Index for monographs except that it is based on ten years.

FILE PAPERS (CREATION DATE = 06/29/79)

TOTJRNL TOTAL JOURNAL CITATIONS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	1.	138	11.7	30.0	30.0
	2.	89	7.6	19.3	49.3
	3.	73	6.2	15.9	65.2
	4.	41	3.5	8.9	74.1
	5.	37	3.1	8.0	82.2
	6.	21	1.8	4.6	86.7
	7.	17	1.4	3.7	90.4
	8.	10	0.8	2.2	92.6
	9.	7	0.6	1.5	94.1
	10.	15	1.3	3.3	97.4
	11.	1	0.1	0.2	97.6
	12.	1	0.1	0.2	97.8
	13.	3	0.3	0.7	98.5
	14.	2	0.2	0.4	98.9
	15.	2	0.2	0.4	99.3
	16.	2	0.2	0.4	99.6
	17.	1	0.1	0.2	100.0
	0.	718	61.0	MISSING	100.0
	TOTAL	1178	100.0	100.0	

TOTJRNL

Total Journals

This variable records the number of journals (magazines) cited in each paper. Column 1 (code) is the number of journals referenced. Column 2 (Absolute Frequency) is the number of student papers which referenced that number of journals. The third column (Relative Frequency) is the percent of students referencing that number of journals. The fourth column (Adjusted Freq) is adjusted to omit in the calculations the number of students who referenced no journals. The last column (Cum Freq) is the cumulative percent. That is, the last column gives the percent of students who referenced the corresponding number of journals (column 1, code) or fewer.

(Note: the zero (0) category in the code column indicates no use of journals).

ANALYSIS OF STUDENT PAPERS

FILE PAPERS (CREATION DATE = [illegible])

MEAN	[illegible]	STD ERR	[illegible]	MEDIAN	[illegible]
MODE	[illegible]	STD DEV	[illegible]	VARIANCE	[illegible]
KURTOSIS	[illegible]	SKEWNESS	[illegible]	RANGE	[illegible]
MINIMUM	[illegible]	MAXIMUM	[illegible]		

VALID CASES [illegible] MISSING CASES [illegible]

4CCJRNL

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	21	1.8	4.6	4.6
	1891.	1	0.1	0.2	4.8
	1894.	1	0.1	0.2	5.0
	1896.	1	0.1	0.2	5.2
	1897.	1	0.1	0.2	5.4
	1902.	1	0.1	0.2	5.7
	1905.	1	0.1	0.2	5.9
	1910.	1	0.1	0.2	6.1
	1916.	1	0.1	0.2	6.3
	1917.	1	0.1	0.2	6.5
	1920.	1	0.1	0.2	6.8
	1921.	1	0.1	0.2	7.0
	1922.	1	0.1	0.2	7.2
	1924.	1	0.1	0.2	7.4
	1925.	1	0.1	0.2	7.6
	1926.	1	0.1	0.2	7.8
	1927.	1	0.1	0.2	8.1
	1928.	1	0.1	0.2	8.3
	1929.	1	0.1	0.2	8.5
	1931.	1	0.1	0.2	8.7
	1936.	1	0.1	0.2	8.9
	1939.	1	0.1	0.2	9.2

MEDJRNL

Median Date for Journal References

For each student paper the dates of all journals referenced were examined. The middle date (i.e. the date such that half the journals referenced were older and half were newer) was selected and recorded. Column 1 (code) gives the middle dates which were recorded. Column 2 (Absolute Freq) is the number of papers with that value as an age for the middle age journal , while column 3 (Relative Freq) gives the percentage of papers with that value as an age for the middle age journal. This column also shows the percentage of papers in which no journals were used (Code 1). Column 4 (Adjusted Freq) shows percentages calculated only on those papers that used journals.

(Note that because of the use of code 0 (zero) for incomplete references, the column "Cum Freq" is not meaningful for this variable.)

1941.	2	0.2	0.4	5.5
1942.	3	0.3	0.7	10.2
1943.	2	0.2	0.4	10.7
1944.	1	0.1	0.2	10.9
1945.	1	0.1	0.2	11.1
1946.	2	0.2	0.4	11.5
1947.	3	0.3	0.7	12.2
1948.	1	0.1	0.2	12.4
1949.	2	0.2	0.4	12.8
1950.	2	0.2	0.4	13.3
1951.	4	0.3	0.9	14.2
1952.	1	0.1	0.2	14.4
1953.	3	0.3	0.7	15.1
1954.	2	0.2	0.4	15.5
1955.	8	0.7	1.7	17.2
1956.	4	0.3	0.9	18.1
1957.	4	0.3	0.9	19.0
1958.	2	0.2	0.4	19.4
1959.	4	0.3	0.9	20.3
1960.	3	0.3	0.7	20.9
1961.	8	0.7	1.7	22.7
1962.	4	0.3	0.9	23.5

1964.	6	1.5	1.5	[illegible]
1965.	3	0.7	0.7	[illegible]
1966.	5	1.3	1.3	26.3
1967.	3	0.7	0.7	27.0
1968.	15	3.3	3.3	30.7
1969.	8	1.7	1.7	32.5
1970.	12	2.6	2.6	35.1
1971.	12	2.6	2.6	37.7
1972.	16	3.5	3.5	41.2
1973.	24	5.1	5.1	46.3
1974.	36	7.7	7.7	54.0
1975.	38	8.1	8.1	63.1
1976.	27	5.8	5.8	71.0
1977.	61	13.0	13.0	84.0
1978.	76	16.2	16.2	100.0
1979.	2	0.4	0.4	[illegible]
1.	719	61.0	MISSING	[illegible]
TOTAL	1178	100.0	100.0	

MEAN	1974.344	STD ERR	1.327	MODE	1978.000
MEDIAN	1976.000	STD DEV	4.000	VARIANCE	17.000
KURTOSIS	[illegible]	SKEWNESS	[illegible]	RANGE	[illegible]
MINIMUM	[illegible]	MAXIMUM	1979.000		

VALID CASES 459 MISSING CASES 719

FILE PAPERS (CREATION DATE = 08/29/79)

FIVEINDJ 5 YEAR INDEX, JOURNALS

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cum Freq (Pct)
50 journals used	0.	703	59.7	59.7	59.7
50 journals within index	1.	136	11.5	11.6	71.3
25 thru 99% within index	50.	59	5.1	5.1	76.5
1% within index	101.	226	19.2	19.2	95.7
	101.	50	4.2	4.2	100.0
	TOTAL	1174	100.0	100.0	

MEAN	24.621	STD ERR	1.152	MEDIAN	1.333
MODE	0.0	STD DEV	40.502	VARIANCE	1639.213
KURTOSIS	-0.427	SKEWNESS	1.172	RANGE	101.000
MINIMUM	0.0	MAXIMUM	101.000		

VALID CASES 1174 MISSING CASES 0

FIVEINDJ

Five Year Currency Index for Journals

This variable is the same as the five year currency index discussed above, except that it pertains solely to references to journals (magazines).

In general one would expect journal references to be more current than references to monographs. This is due to the acknowledged superiority of journals for current information.

FILE PAPERS (CREATION DATE = 06/29/79)

TENINDJ 10 YEAR INDEX, JOURNALS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
50 journals used	0.	707	60.0	60.0	60.0
50 journals within index	1.	55	5.1	5.1	65.1
25 thru 99% within index	2.	61	5.2	5.2	70.3
100% within index	3.	295	25.4	25.4	95.6
	4.	16	1.4	1.4	100.0
	TOTAL	1176	100.0	100.0	

MEAN	2.970	STD DEV	96.070	VARIANCE	[illegible]
SKEWNESS	-1.997	STD ERR	[illegible]	KURTOSIS	[illegible]
MINIMUM	0.0	MAXIMUM	101.000		

VALID CASES 1176 MISSING CASES 0

TENINDJ

Ten Year Currency Index for Journals

The Ten Year Currency Index for Journals is similar to the Five Year Currency Index for Journals except that it is based on ten years.

FILE PAPERS (CREATION DATE = 06/25/79)

PERCENT PERCENT OF JOURNAL CITATIONS IN NO

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cum Freq (Pct)
NONE	0.	73	6.2	[illegible]	6.2
LESS THAN HALF	[illegible]	120	10.2	[illegible]	16.4
ALL	100.	267	22.7	[illegible]	[illegible]
NO JOURNALS USED	[illegible]	715	61.0	[illegible]	100.0
	TOTAL	1173	100.0	[illegible]	

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]		

VALID CASES 1173 MISSING CASES 0

COUNPAM

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	1012	85.5	85.5	85.5
	1.	56	4.7	4.7	90.2
	2.	42	3.5	3.6	93.8
	3.	16	1.3	1.4	95.2
	4.	5	.4	.4	95.6
	5.	3	.3	.3	95.9
	6.	1	.1	.1	96.0
	7.	1	.1	.1	100.0
	TOTAL	1170	100.0	100.0	

MEAN	0.263	STD ERR	0.021	STD DEV	0.752
MODE	0.0	STD DEV	0.721	VARIANCE	0.554
KURTOSIS	21.249	SKEWNESS	4.125	RANGE	7.000
MINIMUM	0.0	MAXIMUM	7.000		

VALID CASES 1170 MISSING CASES 0

Citations to Government Documents or Pamphlets

For each paper the number of references to government documents or pamphlets was counted. The number of references to such materials is listed in column 1 (code). Column 2 (Absolute Freq) lists the number of papers with that number of references to those types of materials. The third column (Relative Frequency) is the percent of papers referencing that number of government documents or pamphlets. The last column (Cum Freq) is the percent of papers referencing that number of items or fewer.

ENCCIT - ENCYCLOPEDIA CITATIONS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	754	64.0	64.0	64.0
	1.	311	26.4	26.4	90.4
	2.	79	6.7	6.7	97.1
	3.	18	1.5	1.5	98.6
	4.	12	1.0	1.0	99.7
	5.	3	0.3	0.3	99.9
	6.	1	0.1	0.1	100.0
	TOTAL	1178	100.0	100.0	

MEAN	0.593	STD ERR	0.024	S.DEV	0.831
MODE	0.0	STD DEV	0.822	VARIANCE	0.675
MEDIAN	0.000	SKEWNESS	2.211	KURT	6.000
RANGE	6.0	MAXIMUM	6.000		

VALID CASES 1178 MISSING CASES 0

Citations to Encyclopedias

For each paper the number of citations to encyclopedias was counted (separate alphabetic entries in the same edition of a particular encyclopedia title were counted as a single use).

GROUP II Newspaper Citations

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	1061	90.1	90.1	90.1
	1.	62	5.3	5.3	95.3
	2.	26	2.2	2.2	97.5
	3.	8	0.7	0.7	98.2
	4.	7	0.6	0.6	98.8
	5.	6	0.5	0.5	99.3
	6.	1	0.1	0.1	99.4
	7.	6	0.5	0.5	99.9
	10.	2	0.2	0.2	99.9
	29.	1	0.1	0.1	100.0
	TOTAL	1178	100.0	100.0	

MEAN	0.250	STD ERR	0.028	MEDIAN	0.035
MODE	0.0	STD DEV	1.294	VARIANCE	1.675
KURTOSIS	232.930	SKEWNESS	12.677	RANGE	29.000
MINIMUM	0.0	MAXIMUM	29.000		

VALID CASES 1178 MISSING CASES 0

Citations to Newspapers

For each paper the number of citations to newspapers was counted (note -- this count did not differentiate between newspapers in normal form and those on microfilm).

Column 1 (code) is the number of references to newspapers in a student paper. Column 2 (Absolute Freq) is the number of student papers referencing that number of newspapers.

The remaining columns are interpreted as in Citations to Government Documents or Pamphlets above.

FILE PAPERS (CREATION DATE = 06/29/79)

NPCIT NONPRINT CITATIONS

Citations to Nonprint	Code	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cum Freq (Pct)
	0.	1127	95.7	95.7	95.7
	1.	35	3.0	3.0	98.6
	2.	11	0.9	0.9	99.5
	3.	4	0.3	0.3	99.8
	5.	1	0.1	0.1	100.0
	TOTAL	1178	100.0	100.0	

MEAN	0.059	STD ERR	0.010	MEDIAN	0.000
MODE	0.000	STD DEV	0.352	VARIANCE	0.124
KURTOSIS	52.000	SKEWNESS	5.159	RANGE	5.000
SUM	69.0	MAXIMUM	5.000		

VALID CASES 1178 MISSING CASES 0

NPCIT

Citations to Nonprint

For each paper the number of references to nonprint items was counted. The number of references to such materials is listed in column 1 (code). Column 2 (Absolute Freq) lists the number of papers with that number of references to those types of materials. The third column (Relative Frequency) is the percent of papers referencing that number of nonprint items. The last column (Cum Freq) is the percent of papers referencing that number of items or fewer.

(Note: "Nonprint" included interviews).

ANALYSIS OF LIBRARY FACILITIES USED

This printout contains the analysis of student use of library facilities. The variables are arranged in three groups: (1) use of various types of libraries to locate information; (2) library sources of information found ; and (3) a group of variables indicating the type of help given students and in which libraries it was provided.

Group One: Use Variables

The first group of variables are measurements of the "use" of various facilities -- beginning with the number of students who used the school library in their search for assignment-related information. Subsequent "use" variables measure student use of neighborhood public libraries, regional public libraries, community college libraries, college or university libraries, and home library collections. An analysis of the total number of libraries used (i.e., tried) by students follows the individual type-of-library "use" variables.

Group Two: Information Found Variables

These variables represent the libraries in which students reported they found information for their papers. These libraries are in the same order as those for libraries tried ("use" variables).

Group Three: Help Variables

The three "help" variables presented show the number of students receiving assistance from library staff; the number receiving help in a library from family or friends who accompanied them; and the number of students who had others (i.e., surrogates) use a library for them.

FILE [illegible] (CREATION DATE = [illegible])

USE1 USED SCHOOL LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	211	16.3	16.3	16.3
YES	1.	1087	83.7	83.7	100.0
	TOTAL	1298	100.0	100.0	

MEAN	0.837	STD ERR	0.010	MEDIAN	0.900
MODE	1.000	STD DEV	0.367	VARIANCE	0.135
KURTOSIS	1.550	SKEWNESS	-1.521	RANGE	1.000
MINIMUM	0.0	MAXIMUM	1.000		

VALID CASES 1298 MISSING CASES 0

USE 1
Used School Library

Reading

The leftmost column (labeled "code") indicates the response given by students. "No" indicates no use of the school library; "yes" indicates use. The next column (Absolute Frequency) gives the number of students who indicated no use and the number who indicated use. The number of students in either of these categories is expressed as a percent in column 3. (Relative Frequency). The Adjusted Frequency column may be ignored. The last column (Cum Freq) may also be ignored.

Interpretation

This variable indicates the number of students who tried to locate information for their assignments in the school library.

Note: This study did not measure the reasons that students may have used or not used their school library.

USE2 USED NEIGH PL

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	[illegible]	[illegible]	[illegible]	[illegible]
YES	1.	[illegible]	[illegible]	[illegible]	100.0
	TOTAL	1298	100.0	100.0	

MEAN	0.654	STD ERR	0.013	MEDIAN	0.750
MODE	1.000	STD DEV	0.479	VARIANCE	0.229
KURTOSIS	-1.992	SKEWNESS	-0.669	RANGE	1.000
SUM	0.0	MAXIMUM	1.000		

VALID CASES 1298 MISSING CASES 0

USE 2

Used Neighborhood Public Library

Reading

The leftmost column (labeled "code") indicates the response given by students. "No" indicates no use of the neighborhood public library; "Yes" indicates use. The next column (Absolute Frequency) gives the number of students who indicated no use and the number who indicated use. The number of students in either of these categories is expressed as a percent in column 3 (Relative Frequency). The adjusted frequency column may be ignored. The last column (Cum Freq) may also be ignored.

Interpretation

This variable indicates the number of students who tried to locate information for their assignments in the neighborhood public library.

FILE [illegible] (CREATION DATE = [illegible])

USE3 USED LARGE REG PL

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	1331	77.1	77.1	77.1
YES	1.	[illegible]	[illegible]	[illegible]	100.0
	TOTAL	1728	100.0	100.0	

MEAN	[illegible]	STD ERR	[illegible]	S DEV	[illegible]
MODE	[illegible]	STD DEV	[illegible]	VARIANCE	[illegible]
KURTOSIS	-0.139	SKEWNESS	[illegible]	RANGE	1.000
MINIMUM	0.0	MAXIMUM	1.000		

VALID CASES 1298 MISSING CASES 0

USE 3

Used Large Regional Public Library

Reading

The leftmost column (labeled "code") indicates the response given by students. "No" indicates no use of the large regional public library; "yes" indicates use. The next column (Absolute Frequency) gives the number of students who indicated no use and the number who indicated use. The number of students in either of these categories is expressed as a percent in column 3 (Relative Frequency). The Adjusted Frequency Column may be ignored. The last column (Cum Freq) may also be ignored.

Interpretation

This variable indicates the number of students who tried to locate information for their assignments in the large regional public library.

FILE [illegible] (CREATION DATE = 09/24/79)

USE12 USED A PUBLIC LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	[illegible]	[illegible]	[illegible]	[illegible]
	1.	[illegible]	[illegible]	[illegible]	100.0
	TOTAL	[illegible]	100.0	100.0	

[illegible]	0.750	STD ERR	0.016	MODE	0.000
[illegible]	1.000	STD DEV	0.[illegible]	VARIANCE	0.1[illegible]
SKEWNESS	-1.0[illegible]	SE SKEW	[illegible]	KURT	1.000
SE KURT	0.0	MAXIMUM	1.000		

VALID CASES 1293 MISSING CASES 3

USE 12

Used a Public Library

This variable accounts for public library use of any type -- either a neighborhood public library or a large regional facility. This combines the information for two public library variables above on a student-by-student basis.

Reading

The leftmost column (labeled "code") indicates the response given by students: "No" indicates no use of a public library; "yes" indicates use. The next column (Absolute Frequency) gives the number of students who indicated no use and the number who indicated use. The number of students in either of these categories is expressed as a percent in column 3 (Relative Frequency). The adjusted frequency column may be ignored. The last column (Cum Freq) may also be ignored.

Interpretation

This variable indicates the number of students who tried to locate information for their assignments in a public library.

FILE [illegible] (CREATION DATE = [illegible])

USE4 USED COMM COLL LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	1[illegible]	[illegible]	[illegible]	[illegible]
YES	1.	[illegible]	[illegible]	[illegible]	100.0
	TOTAL	[illegible]	[illegible]	[illegible]	

MEAN	0.[illegible]	STD ERR	[illegible]	MODE	0.000
MEDIAN	[illegible]	STD DEV	[illegible]	VARIANCE	0.[illegible]
MODE	[illegible]	SKEWNESS	[illegible]	KURTOSIS	1.000
MINIMUM	0.0	MAXIMUM	1.000		

VALID CASES 1293 MISSING CASES [illegible]

USE 4

Used a Community College Library

Reading

The leftmost column (labeled "code") indicates the response given by students. "No" indicates no use of a community college library; "yes" indicates use. The next column (Absolute Frequency) gives the number of students who indicated no use and the number who indicated use. The number of students in either of these categories is expressed as a percent in column 3 (Relative Frequency). The Adjusted Frequency column may be ignored. The last column (Cum Freq) may also be ignored.

Interpretation

This variable indicates the number of students who tried to locate information for their assignments in a community college library.

USE5 USED COLL OR UNIV LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	1[illegible]	[illegible]	[illegible]	[illegible]
YES	1.	[illegible]	[illegible]	[illegible]	100.0
	TOTAL	[illegible]	[illegible]	[illegible]	

MEAN	0.[illegible]	STD ERR	0.[illegible]	[illegible]	[illegible]
MODE	[illegible]	STD DEV	[illegible]	VARIANCE	[illegible]
KURTOSIS	[illegible]	SKEWNESS	[illegible]	RANGE	[illegible]
MINIMUM	0.0	MAXIMUM	[illegible]		

VALID CASES [illegible] MISSING CASES [illegible]

USE 5

Used a College or University Library

Reading

The leftmost column (labeled "code") indicates the response given by students. "No" indicates no use of a college or university library; "yes" indicates use. The next column (Absolute Frequency) gives the number of students who indicated no use and the number who indicated use. The number of students in either of these categories is expressed as a percent in column 3 (Relative Frequency). The adjusted frequency column may be ignored. The last column (Cum Freq) may also be ignored.

Interpretation

This variable indicates the number of students who tried to locate information for their assignments in a college or university library.

FILE USESTS (CREATION DATE = 04/03/74)

USE8 USED HOME LIB

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cum Freq (Pct)
NO	0.	534	41.1	41.1	41.1
YES	1.	764	58.9	58.9	100.0
	TOTAL	1298	100.0	100.0	

MEAN	0.589	STD ERR	0.014	MODE	1.000
MEDIAN	1.000	STD DEV	0.492	VARIANCE	0.242
SKEWNESS	-0.374	SKURTOSIS	-0.861	RANGE	1.000
MINIMUM	0.0	MAXIMUM	1.000		

VALID CASES 1298 MISSING CASES 0

USE 8

Used a Home Library

Reading

The leftmost column (labeled "code") indicates the response given by students. "No" indicates no use of a home library; "yes" indicates use. The next column (Absolute Frequency) gives the number of students who indicated no use and the number who indicated use. The number of students in either of these categories is expressed as a percent in Column 3 (Relative Frequency). The adjusted frequency column may be ignored. The last column (Cum Freq) may also be ignored.

Interpretation

This variable indicates the number of students who tried to locate information for their assignments in a home library.

Clearly the home collection represents a different situation than do library collections. The home collection is more accessible, more limited and selected with less attention to specific curricular needs. On the other hand, heavy use of this source would indicate that its effect cannot be ignored.

FILE [illegible] (CREATION DATE = [illegible])

USE11 TOTAL LIBS USED

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (PCT)	Adjusted Freq (PCT)	Cum Freq (PCT)
	0.	[illegible]	0.4	0.4	0.4
	1.	113	14.1	14.1	14.5
	2.	[illegible]	[illegible]	[illegible]	[illegible]
	3.	[illegible]	[illegible]	[illegible]	[illegible]
	4.	123	11.9	11.9	96.0
	5.	[illegible]	[illegible]	[illegible]	[illegible]
	6.	[illegible]	[illegible]	[illegible]	[illegible]
	7.	3	0.2	0.2	[illegible]
	8.	1	0.1	0.1	[illegible]
	20.	1	0.1	0.1	100.0
	TOTAL	[illegible]	100.0	100.0	

MEAN	[illegible]	STD ERR	[illegible]	MODE	2.000
MEDIAN	3.000	STD DEV	[illegible]	VARIANCE	1.342
SKEWNESS	[illegible]	S.E. SKEW	[illegible]	RANGE	20.000
MINIMUM	0.0	MAXIMUM	20.000		

VALID CASES 1298 MISSING CASES 0

USE 11

Total Libraries Used

This variable provides a count of the total number of libraries used by individual students in their search for information.

Reading
The leftmost column (labeled "code") indicates the number of libraries used. The next column (Absolute Freq) gives the number of students who used that number of libraries. The third column (Relative Freq) expresses the number of students as a percentage. The Adjusted Freq column can be ignored. The last column (Cum Freq) is the cumulative frequency -- a running sum of the percentages in column three.

Interpretation
This variable provides an indication of the students' willingness to search for information in a variety of facilities.

INF1 FOUND INF-SCHOOL LIB

CATEGORY LABEL	CODE	ABS FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	[illegible]	[illegible]	[illegible]	[illegible]
YES	1.	[illegible]	[illegible]	[illegible]	100.0
	TOTAL	1200	100.0	100.0	

MEAN	0.645	STD ERR	[illegible]	MODE	[illegible]
MED	1.000	STD DEV	[illegible]	VARIANCE	[illegible]
KURTOSIS	-1.635	SKEWNESS	[illegible]	RANGE	1.000
MINIMUM	0.0	MAXIMUM	1.000		

VALID CASES 1200 MISSING CASES 0

INF 1

Found Information in the School Library

This variable must be examined in conjunction with the Used School Library variable above, since only those students who answered "yes" to used could possibly answer "yes" to found information in the school library. The only meaningful way to interpret this variable is to compare the number in the Absolute Frequency column who responded "yes" with the corresponding number of "yes" answers in the Absolute Frequency for the Used School Library variable.

FILE [illegible] (CREATION DATE = [illegible])

INF2 FOUND INFORMATION

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	[illegible]	[illegible]	[illegible]	[illegible]
YES	1.	[illegible]	[illegible]	[illegible]	100.0
	TOTAL	[illegible]	100.0	100.0	

MEAN	[illegible]	STD ERR	[illegible]	MODE	[illegible]
MEDIAN	[illegible]	STD DEV	[illegible]	[illegible]	[illegible]
SKEWNESS	-1.[illegible]	SKEWNESS	-[illegible]	[illegible]	1.[illegible]
MINIMUM	0.0	MAXIMUM	1.00		

VALID CASES 1298 MISSING CASES 0

INF 2

Found Information in the Neighborhood Public Library

This variable must be examined in conjunction with the Used Neighborhood Public Library variable above, since only those students who answered "yes" to used could possibly answer "yes" to found information in the neighborhood public library. The only meaningful way to interpret this variable is to compare the number in the Absolute Frequency Column who responded "yes" with the corresponding number of "yes" answers in the Absolute Frequency for the Used Neighborhood Public Library variable.

INF3 FOUND INFORMATION PL

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	1[illegible]2	80.4	80.3	80.3
YES	1.	[illegible]96	19.7	19.7	100.0
	TOTAL	1[illegible]	100.0	100.0	

MEAN	0.197	STD ERR	0.[illegible]	MODE	0.1[illegible]
MEDIAN	0.0	STD DEV	0.[illegible]	VARIANCE	0.1[illegible]
KURTOSIS	2.322	SKEWNESS	1.[illegible]	RANGE	1.000
MINIMUM	0.0	MAXIMUM	1.000		

VALID CASES 1294 MISSING CASES 0

INF 3

Found Information in the Regional Public Library

This variable must be examined in conjunction with the Used Regional Public Library variable above, since only those students who answered "yes" to used could possible answer "yes" to found information in the regional public library. The only meaningful way to interpret this variable is to compare the number in the Absolute Frequency column who responded "yes" with the corresponding number of "yes" answers in the Absolute Frequency for the Used Regional Public Library variable.

INF12 FOUND INF IN A PUBLIC LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	[illegible]	[illegible]	[illegible]	[illegible]
	1.	[illegible]	[illegible]	[illegible]	100.0
	TOTAL	1298	100.0	100.0	

MEAN	[illegible]	STD ERR	[illegible]	MODE	[illegible]
MEDIAN	[illegible]	STD DEV	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	SKEWNESS	[illegible]	RANGE	1.000
SUM	[illegible]	MAXIMUM	1.000		

VALID CASES 1298 MISSING CASES 0

INF 12

Found Information in a Public Library

This variable must be examined in conjunction with the Used a Public Library variable above, since only those students who answered "yes" to used could possible answer "yes" to found information in a public library. The only meaningful way to interpret this variable is to compare the number in the Absolute Frequency column who responded "yes" with the corresponding number of "yes" answers in the Absolute Frequency for the Used a Public Library variable.

FILE JOBSIS CREATION DATE = 05/08/78

1064 FOUND INF-COMM COLL LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	1[illegible]9	97.8	97.8	97.8
YES	1.	[illegible]	2.2	2.2	100.0
	TOTAL	1[illegible]6	100.0	100.0	

[illegible]	0.022	STD ERR	0.005	[illegible]	0.011
[illegible]	1.0	STD DEV	0.141	[illegible]	0.022
SKEWNESS	44.943	SKEWN. SE	0.071	KURTOSIS	1.000
MINIMUM	0.0	MAXIMUM	1.000		

VALID CASES 1268 MISSING CASES [illegible]

INF 4

Found Information in a Community College Library

This variable must be examined in conjunction with the Used a Community College Library variable above, since only those students who answered "yes" to used could possible answer "yes" to found information in a community college library. The only meaningful way to interpret this variable is to compare the number in the Absolute Frequency Column who responded "yes" with the corresponding number of "yes" answers in the Absolute Frequency for the Used a Community College Library variable.

FILE CODES (CREATION DATE = 09/20/79)

INF5 FOUND INF-CELL OR UNIV LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	1125	86.7	87.7	86.7
YES	1.	173	13.3	13.3	100.0
	TOTAL	1298	100.0	100.0	

MEAN	0.133	STD ERR	0.009	SKEWNESS	0.977
MODE	0.0	STD DEV	0.341	VARIANCE	0.116
MEDIAN	0.000	SKEWNESS	2.102	RANGE	1.000
MINIMUM	0.0	MAXIMUM	1.000		

VALID CASES 1298 MISSING CASES 0

INF 5

Found Information in a College or University Library

This variable must be examined in conjunction with the Used a College or University Library variable above, since only those students who answered "yes" to used could possible answer "yes" to found information in a college or university library. The only meaningful way to interpret this variable is to compare the number in the Absolute Frequency Column who responded "yes" with the corresponding number of "yes" answers in the Absolute Frequency for the Used a College or University Library variable.

[illegible] FOUND INFORMATION LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NO	0.	[illegible]	51.0	51.0	51.0
YES	1.	[illegible]	49.0	49.0	100.0
	TOTAL	[illegible]	100.0	100.0	

MEAN	0.490	STD ERR	0.015	MEDIAN	0.000
MODE	0.0	STD DEV	0.500	VARIANCE	0.250
KURTOSIS	-2.000	SKEWNESS	0.040	RANGE	1.000
SUM	0.0	MAXIMUM	1.000		

VALID CASES 1293 MISSING CASES 0

INF 8

Found Information in the Home Library

This variable must be examined in conjunction with the Used the Home Library variable above, since only those students who answered "yes" to used could possibly answer "yes" to found information in the home library. The only meaningful way to interpret this variable is to compare the number in the Absolute Frequency column who responded "yes" with the corresponding number of "yes" answers in the Absolute Frequency for the Used the Home Library variable.

FILE [illegible] (CREATION DATE = [illegible])

INF11 FOUND INF-OTHER LIB

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	0.	21	1.6	1.6	1.6
	1.	[illegible]	[illegible]	[illegible]	28.2
	2.	[illegible]	41.1	41.1	[illegible]
	3.	[illegible]	[illegible]	[illegible]	[illegible]
	4.	[illegible]	[illegible]	[illegible]	[illegible]
	5.	11	[illegible]	[illegible]	[illegible]
	6.	[illegible]	[illegible]	[illegible]	[illegible]
	7.	1	0.1	0.1	[illegible]
	11.	1	0.1	0.1	[illegible]
	14.	1	0.1	0.1	[illegible]
	20.	2	0.2	0.2	100.0
	TOTAL	[illegible]	100.0	100.0	

MEAN	2.113	STD ERR	[illegible]	[illegible]	[illegible]
MODE	[illegible]	STD DEV	[illegible]	VARIANCE	[illegible]
MEDIAN	[illegible]	SKEWNESS	[illegible]	RANGE	[illegible]
MISSING	0.0	MAXIMUM	[illegible]		

VALID CASES 1294 MISSING CASES 0

INF 11

Total Libraries in Which Information Was Found

This variable provides a count of the total number of libraries in which information was found by students.

Reading

The leftmost column (labeled "code") indicates the number of libraries in which information was found. The next column (Absolute Freq) gives the number of students who found information in that number of libraries. The third column (Relative Freq) expresses the number of students as a percentage. The Adjusted Freq column can be ignored. The last column (Cum Freq) is the cumulative frequency -- a running sum of the percentages in column three.

[illegible] HELP BY LIB STAFF

CATEGORY LABEL	CODE	COUNT	PCT OF RESPONSES	PCT OF CASES
SCHOOL	1	[illegible]	45.3	[illegible]
PUBLIC	2	[illegible]	29.8	43.1
REGIONAL	3	[illegible]	13.8	19.5
COMMUNITY	4	[illegible]	1.3	1.9
UNIVERSITY	5	[illegible]	6.3	11.5
PRIVATE	6	[illegible]	0.7	0.9
OTHER	7	11	1.3	1.7
	TOTAL RESPONSES	[illegible]	130.3	[illegible]

[illegible] MISSING CASES [illegible] VALID CASES

HELP 1

Help by Library Staff

This variable indicates the number of students who reported receiving help from a library staff member by the type of library in which this help was received. Only those libraries in which students reported such help are included in the listing.

Reading

Ignore column One (code). Column two (count) indicates the number of students reporting help in a particular low category. Ignore the last two columns.

FILE [illegible] (CREATION DATE = [illegible])

HELP FAMILY HELP IN LIB BY FAMILY OR FRIENDS

CATEGORY LABEL	CODE	COUNT	PCT OF RESPONSES	PCT OF CASES
SCHOOL	1	[illegible]	25.4	30.5
PUBLIC	2	[illegible]	29.0	32.5
NATIONAL	3	[illegible]	16.[illegible]	17.9
COMMUNITY	4	4	1.2	1.4
UNIVERSITY	5	55	16.[illegible]	19.7
PRIVATE	6	4	1.2	1.4
OTH	7	[illegible]	11.3	[illegible]
TOTAL RESPONSES		[illegible]	100.0	[illegible]

[illegible] MISSING CASES 279 VALID CASES

HELP 2

Help in a Library Provided by a Family Member or a Friend

This variable indicates the number of students who reported receiving help from a family member or a friend by the type of library in which this help was received. Only those libraries in which students reported such help are included in the listing.

Reading

Ignore Column One (Code). Column two (count) indicates the number of students reporting help in a particular row category. Ignore the last two columns.

[illegible] LIBRARY BY SURROGATE

[illegible]	CODE	COUNT	PCT OF RESPONSES	PCT OF CASES
SCHOOL	1	19	20.0	21.1
PUBLIC	2	26	28.4	28.9
[illegible]	3	13	14.2	14.4
[illegible]	4	6	6.5	6.7
UNIVERSITY	5	22	24.0	24.4
OTHER	6	4	4.3	4.4
[illegible]	7	6	6.5	6.7
TOTAL RESPONSES		91	100.0	101.1

[illegible] MISSING CASES [illegible] VALID CASES

HELP 3

Library Used by a Surrogate for a Student

This variable indicates the number of students who reported receiving help by having someone (i.e., a surrogate) use a library for them. Only those libraries which students reported were used by a surrogate searcher are included in the listing.

Reading

Ignore Column One (Code). Column two (count) indicates the number of students reporting help in a particular rod category. Ignore the last two columns.