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THE INFORMATION-SEEKING EXPERIENCE OF
USERS IN THE REFERENCE SECTION OF
THE ROWAN UNIVERSITY LIBRARY

By
Faye E. Robinson

A Thesis

Submitted in partial fulfillment of the requirements of the

Master of Arts Degree
of
The Graduate School
at
Rowan University
1999

Approved by

Date Approved May 13, 2000

ABSTRACT

Faye E. Robinson. The Information Seeking Experience of Students Using the Reference Section of the Rowan University Library. 1999. (Under the direction of Dr. Holly G. Willett, Program in School and Public Librarianship).

The purpose of this study was to learn about the information-seeking experience of users of the Rowan University library. The data were collected by way of a self-administered questionnaire. One hundred and five library users participated in the study; the average respondents were male undergraduates 18-22 years old. The data were analyzed by examining the percentages of responses. One major finding of the study is that 92% of the respondents did not think they needed the help of the librarian to use electronic resources. Another relevant finding was that users found one-on-one assistance from a librarian was more effective than bibliographic instruction in learning to conduct research independently. This study revealed some shared characteristics and patterns of the experiences of the respondents.

MINI ABSTRACT

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The purpose of this study was to learn about the information-seeking experiences of users of the Rowan University Library. The results of this study showed that students who asked for help believed they were successful and were confident that they would be able to conduct their research independently.

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First, I would like to give all honor and thanksgiving to my Lord and Savior, Jesus Christ. Next, I would like to thank my husband, Gene, for his support and help with everything mathematical. I thank God for sending Mrs. Faye Collier, a true wordsmith whom gave unselfishly of her time and talents. I would also like to thank Dr. Willett, one of the best teachers I have had.

And to my granddaughters, “MASTER Mom-Mom is back!”

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Chapter One

The Problem

Introduction

An understanding of the processes and procedures used by college students in information seeking is essential for assessing potential instruction programs in terms of method, content, and depth of instruction. This study served to gather a sampling of the information-seeking experience of college students as they conducted bibliographic research. An instrument was needed to collect the necessary data; therefore, the researcher created a survey instrument to gather the data.

Background

How do college students find the information they need to answer a question, make a decision or satisfy a need? Are there obvious patterns to the behavior they exhibit in these situations? Are there identifiable factors that facilitate or hinder information-seeking behavior? Are there identifiable variables that influence students to make certain decisions regarding information? These questions are of concern to the researcher and others in the library and information field.

Problem

Information-seeking behavior is affected by skill acquisition. If a student does not possess the proper skills needed to conduct academic research, then he or she is plagued with feelings of frustration and hopelessness. The student's own self-assessment yields self-improvement needs, which are impossible to achieve while the student is in

the library. The student has a need for information and has no knowledge of how to start addressing this need. All of these feelings lead to the student's negative perception of reaching his goal. The student appears to employ self-assessment and self-evaluation theories of information-seeking behavior instantaneously and without his conscious knowledge that he is doing so (Wilson, 1998).

The problem observed by the researcher was that most students fail to seek the proper instruction when first entering the reference section of the library. It appears they might be afraid they would be thought of as less intelligent if they asked a librarian for help. They try to conduct a search on their own. When they fail, they give up, leaving the library without the needed information.

To correct the problem, these students should be queried regarding their information-seeking experience. Then, using the answers provided by the students, suggestions could be made for different methods used to approach a research project. A self-administered questionnaire revealed patterns in the students' experience and reasons for their actions during an information-seeking event. The results of the questionnaire revealed whether or not the students sought the help of a librarian during the event. This data disclosed whether or not the student thought he or she was confident about researching and retrieving electronic or print materials without assistance. The independent variables were class status, gender, and age group.

The information-seeking behaviors of many students observed by the researcher were sometimes spasmodic. When the seeker entered the library, he or she appeared to be intimidated by either the immensity of the building or its organization and suddenly realized that he or she had no knowledge about where to begin seeking information.

Sometimes student behavior verges on violence because of frustration and intimidation due to a lack of knowledge in gathering information immediately, and with the least effort (Wilson, 1998).

Objective

The objective of this research was to provide answers as to why students behave as they do when they are seeking information. The goal of the study was to reveal why some students find themselves too intimidated to seek the proper help when conducting research in electronic reference. Answers were revealed by the use of a self-administered questionnaire. The results of this study may be helpful in designing or redesigning bibliographic instruction classes and training courses for public service librarians.

Definitions

To define information-seeking behavior, one must break down the term, define each word separately, and then combine the definitions. According to Webster, information is defined as the communication or reception of knowledge or intelligence, knowledge obtained from investigation, study, or instruction. Seeking is defined as to go in search of, look for, to try to discover, to ask for. Behavior is defined as a manner of conducting one's self. Experience is defined as a direct observation of or participation in events as a basis of knowledge. Information seeking is a continuing activity that we engage in to make sense of the world around us by gathering knowledge or data. However, for a specific purpose it is, for some college students, a highly spasmodic, event-driven phenomenon. The driving event is usually the need to produce a required paper. What causes this to become a crisis is that the student has waited until a night or two before the paper is due to start the research. This may not be the "typical behavior"

of most college students, but for the students encountered in a small university library open until midnight, this behavior does seem to be typical. "Crisis driven" means the seeker needs the information almost immediately. An information-seeking event is the time a student spends actively looking for information. An information-seeking experience then is the student's direct observation or participation in gaining information for some purpose, in this case an academic purpose.

Organization of the Study

The remainder of the study consists of a review of the literature on information-seeking behavior and a description of the methods that were used to design a self-administered questionnaire as an instrument to gather data. The data was entered into Microsoft's Access, a computer database that is capable of producing queries, tables, and reports and has the capability of analyzing raw data. Once the data were analyzed, the results were presented and explained in written and table form. The tables were created and formatted in Microsoft's Word, a word processing program, according to American Psychological Association requirements.

Goal of the Study

The goal of this study was to further knowledge of information-seeking behavior. This knowledge would help librarians and students avoid unnecessary confrontations. Library staff could anticipate and meet the information needs of the students. The study also attempted to understand the student's behavior involved in gaining access to needed information. Who are they and what are they doing? How do they feel about the library and its sources of information? The survey included questions that revealed their feelings, which ranged from discouragement to success, from fright to excitement, and

from anger to happiness. Observation reveals little about feelings; therefore, the questionnaire was created to uncover and analyze feelings about the library, the search process, and how easy or difficult the process of retrieving information was.

After researching the literature on information-seeking behavior, the researcher decided that the best methodology to address the problem being studied was the creation of a questionnaire that would provide data for analysis. The analysis of the data showed that students who asked for help from the librarian when they were conducting research were more successful than those who did not.

Chapter Two

The Literature Review

Introduction

Information-seeking behavior is defined as the activity undertaken by an individual to identify a means to satisfy a perceived information need. The need serves as a stimulus to invoke the information-seeking behavior (Krikelas, 1983). Intrinsic to the study of the research is the difficulty in defining “information” and “information-seeking behavior.” One can look for information in a variety of places and for a variety of reasons. Information seeking can be as complex as the Theory of Relativity or as simple as the calculations needed to divide a half-cup in a recipe (Fine, 1984).

For the purpose of this project, information-seeking behavior was limited to the experience of students who use the electronic reference area in the library at Rowan University in the course of completing class assignments. The information sought was geared to research for academic knowledge. The majority of the information seekers had a purposeful rather than a casual need for information.

Information Seeking Models

A model representing the user's sense-making process of information-seeking ought to incorporate three realms of activity; physical actions taken; affective feelings felt; and cognitive thoughts concerning both process and content. The user moves from the state of information need to the state of resolution by choices made through a complex interaction within these three areas (Krikelas, 1983).

Information giving, or the act of sending messages, is a part of Krikelas's information model (1983). He conceives an information-seeking behavior model in which the individual's information gathering and information giving behavior lead to an information need. An immediate information need states an action directed toward a preferred information source. This source can be characterized as being internal (such as, the individual's observations, memory, or personal files) or external (such as direct interpersonal or recorded literature). The information-gathering behavior in response to a deferred need supplies internal sources of information (memory and personal files). Information giving behavior stops abruptly once a source is located.

A number of studies are concerned with the nature of the information need. Voight (1961) based his model on the information need and the approaches to information use. He studied and analyzed the information-seeking behavior of scientists to assess the value of the various information-related activities and the bibliographic tools used. A student's primary need is to obtain current research on a subject or topic in order to complete an assignment. This need invokes the "current approach" which stresses behaviors such as talking to other students and librarians. Another need is to locate facts or bits of information, such as the answer to a specific question (ready reference) or the latest research on a specific subject. The "everyday approach" is used to locate specific information response to a specific request. Behaviors include conversations with other students or consulting with the duty librarian in reference or other library resources.

Since most of the student's time is spent locating information in response to this need, efficiency is the most important factor. The student usually consults the most direct and most easily accessed source. The computer simplifies information retrieval and

makes access to the information easier. The third need is less frequent, but important. It is the need for all information on a specific topic. This need is often apparent at the beginning of the search process or in the publication phase and it forces an exhaustive approach to information. Although this need does not occur frequently, strategies to solve it are extremely time consuming and necessitate a variety of information sources.

Voight's examination of information-seeking behavior is task oriented in that it emphasizes the importance of the information task to predict and understand the resulting behavior. He stresses that these approaches are not discrete; there is a good deal of overlap among the various approaches (1961).

Ingwersen (1982) studied how users' knowledge structures coped with the structure of the system. He used thinking aloud techniques combined with observation to measure user interaction with document organization, user-librarian negotiation, and librarians' search processes. Findings indicate that open, rather than a closed search may allow users to extend conceptual knowledge structures in order to learn within the search process. Searcher's expectations were also found to affect search outcomes.

What goes on in a student's mind when perceiving that a problem requires information? Ford (1986) found that behind apparently similar library activities, using catalogs, borrowing items, requesting services and information, were very different mental states and processes. His study was concerned with what may be going on in an individual's mind when he or she perceives there is a problem that requires information. The nature of the problem, the range and type of information sources that he or she is willing to or able to scan, and the nature of the evidence contained in them that is likely to be acceptable for his or her needs. Data gathered from the research in the form of tape

recorded interview sessions with students clearly revealed that the ostensibly similar information-seeking activities--going to the library to look for books on essay topics, using the subject catalogues and browsing on the shelves, etc.--hid the fact that the process of finding and using information sources was for one individual a very different experience from that of another. Ford called this the tentative "Critical Thinking Scheme." Comments from some of the students he interviewed illustrate his point.

Sub-critical - *Unconscious*

'I went through the books making notes ... then I went through and paraphrased--put them into my own words. .

Conscious

'I couldn't really comment myself, tried to give a balanced view--both sides of the argument.'

'Surface' Critical

'It doesn't really matter what view you put, but you've got to argue in a particular kind of way ... You know that you've got to impress an external examiner.'

'Deep' Critical – *Authority criteria*

'I haven't got the experience yet in the field ... so I tend to rely on the people who have done the work and have the evidence.'

Experience criteria

'I have to decide if it's applicable in my particular circumstances... I'm an experienced teacher and I value that much more than the books.'

Interaction

'It's nice to find theoretical support for what I was doing anyway... You feel much more confident' (1986).

Previous studies on undergraduate information seeking in library resources provide some understanding of the undergraduate research process. Carol Kuhlthau's information search model is particularly relevant (1988). It was developed from case studies and student papers. It names six stages of the information search process: task initiation, topic selection, and pre-focus exploration, focus formulation, information collection, search closure and writing initiation. Originally her study focused on twelfth

graders, but she tested her model on academic library users and found that it fit well with a few changes. The most significant change was the larger emphasis on using periodicals among college students.

Research related to human interaction in information-seeking systems reveals evidence of a shift in emphasis from concentration on document or text representations and associated search techniques to the study of users in information-seeking situations. The new approach centers on the user problem in the process of sense making, stressing the effectiveness of information retrieval; one must consider the integration of results into the user's own life as well as the user's evaluation of the usefulness of the information for the resolution of the problem. The personal meaning that the user seeks from the information becomes as critical as consideration for system design and mediation as the content represented in texts (Kuhlthau, 1983).

One formal information source included as the primary source of information for this particular project, are the library and the materials that are housed in it. The librarian can be relied on as a source to advise the seeker on obtaining answers. He or she can direct a seeker to sources and can verify the validity, reliability, and the authenticity of the information. Librarians can play a major role by expanding services to support the information search process and, in this way become an active part of the research effort. The challenge before librarians, as information professionals, is to respond to the critical task of providing value-added information in a volatile, rapidly changing information environment (Kuhlthau, 1999).

Chapter Three

The Methodology

Introduction

The purpose of this study was to gather a sample of information-seeking experiences to see if there are patterns in student behavior as they use the electronic reference services in the Rowan University Library. To realize this purpose, a questionnaire was developed as an instrument to gather the required data.

The library at Rowan University in Glassboro, New Jersey, houses a diverse array of information sources in print and electronic formats. The reference section for electronic and print materials is on the second floor. There are two rooms containing twenty public access terminals that flank the reference desk. At the time of the study, these terminals were in constant use by students searching the Rowan online catalog, the World Wide Web, and other college libraries via a regional union catalog or the Virtual Academic Library Environment (VALE). There was also WebSpirs Silver Platter, Searchbank, Periodical Abstracts, and Lexis-Nexis. WebSpirs Silver Platter is a collection of databases such as Art Abstracts, Education Abstracts, ERIC, MLA Bibliography, Library Literature, General Science, Sociofile, and General Reference. The user was allowed to search one or all of the databases at once. They were available campus wide; however, they are only licensed for four users at a time. Searchbank, a broad-coverage index to journals and newspapers, was extremely popular among the students because of its ease of use. Periodical Abstracts is a collection of magazines and

journals accessed through VALE, a collection that is linked to the Rutgers University Library. Lexis Nexis is a database that is recommended for any type of research concerning law, law reviews, or case histories. It also has a newspaper database, company news, state law, and Supreme Court cases. Keyword, date, or both can be used to search in this database.

Description of Methodology Selected

The methodology selected to study the users' information-seeking behavior while using electronic reference was a self-administered questionnaire. It was completed upon the student's exit from electronic reference. The participants were university students, graduates and undergraduates, faculty, staff, alumni and community members. The setting was the reference section of the Rowan University Library. The reference desk strategically placed in the hall dividing the two electronic reference rooms placed the researcher in the most advantageous location to encounter prospective respondents when leaving the reference area.

Design of the Study

The use of a questionnaire to conduct this study was chosen as the best method for this project because of observations of information-seeking behavior in this environment made by the researcher over a number of years. This method was appropriate for the study because the data had to come from the users if the problem observed is to be corrected in a manner that will directly benefit them. To solve this problem, the users' input was crucial.

Sample and Population

The sample and population for this study were the members of the academic community who use the library at Rowan University. This community includes freshmen, sophomores, juniors, seniors, staff, faculty members, alumni, and community members using the library.

Rowan University is located in a suburban residential setting in Glassboro, New Jersey. In 1999, the student/faculty ratio was 16: 1. The average class size was 23 students. Professors, (regular faculty and adjuncts) without the aid of teaching assistants, taught all classes. There were 31 undergraduate programs, 25 master's degree programs, 7 teaching certificate programs, and a doctoral program in Educational Leadership. There were six colleges. The College of Business enrollment was 1,013 students. The College of Communication had 693 students enrolled, and the College of Education had 1,483 students. The College of Engineering had an enrollment of 274. The College of Fine and Performing Arts had 504, and in the College of Liberal Arts and Sciences 3, 275 students were enrolled. In 1998, all biological science majors who were recommended for medical school at other universities were accepted. Rowan University accounting majors ranked in the top 25% of those taking the New Jersey CPA exam in 1998. Rowan is known for its exceptional program in communications in which the students have won more awards than any other Public Relations Student Society of America chapter in the nation, including Most Outstanding Chapter. The 6000+ full-time undergraduates represented the Mid-Atlantic States and 30 foreign countries. The freshmen were in the top quarter of their high school class. The average SAT I score was 1,060-1,200. The

sample was drawn from this population by selecting students who were in the reference section on the nights the questionnaire was presented. The sample might have differed from the population because those who use the reference section during the late night hours may differ in some ways from other users. The difference appeared to be that late night users were usually male, or they were the types of student who waited until the last possible moment to complete an assignment. These were students who came to the library after 10:00 p.m.

Instrumentation

The questionnaire (Appendix) was designed as an-easy-to-interpret instrument to collect data. Many students take the advice of other students when selecting ways and means of researching. This instrument was designed to show if the advice received from others is more useful than if they plotted their own search. The questionnaire asked if the respondent had acquired any new knowledge while in the reference section. It also asked whether or not the respondent requested help, and how many times he or she did. The instrument revealed how the student felt about asking for help, and patrons recorded their experience when they had completed their search. The researcher found this method to be the best for understanding experience as it occurred.

Data Collection and Other Procedures

Initially, the researcher believed that the respondents would answer more truthfully and thoughtfully by way of an in-person interview as opposed to a self-administered questionnaire. However, the respondents were hesitant about being interviewed and preferred to take a few minutes to complete the questionnaire at the

reference desk. Therefore, after the first 20, the remaining questionnaires were self-administered.

The subjects were given the self-administered questionnaire comprised of seventeen questions upon their exit from electronic reference. The questionnaire included several queries about the characteristics of the students; characteristics that might influence their information-seeking behavior and experience. There were three demographic variables--age, gender, and class status. There were also questions that asked the student's reason for coming to the library on that particular day, information sought, what it would be used for, and the information found. The information seeker could provide information concerning the ease of or difficulty in retrieving the information sought. The queries on the questionnaire also provided a means for documenting information-seeking activities. Students were asked to identify the type of assignment, the type of information sources they used and to rate their usefulness. Library patrons were handed a questionnaire as they completed their search. Questionnaires were left at the Periodicals Service Desk and the Circulation Service desk so patrons who might have been overlooked in the reference section were polled. The following chapter describes the findings from the survey.

Chapter Four

Presentation and Analysis of the Data

The raw data used for this project were collected by means of 85 self-administered questionnaires and 20 questionnaires completed by interview. The researcher originally intended to gather the data by interviewing 50 patrons. The interviews took longer than expected. However, after completing 20 interviews, it was clear to the researcher that the task done in that manner would be almost impossible because of time pressure, and many of the students did not want to be asked a lot of questions. Therefore, the researcher decided to use the instrument as a self-administered questionnaire. From Tuesday, March 23 up to and including Saturday, April 6, 1999, a number of questionnaires were left at the service desks in circulation, reference, and periodicals. The library staff at the circulation desk was asked to offer the questionnaire to students exiting the building to ensure that all or nearly all of the students answered one.

Because the researcher was employed by the library and worked until 12:00 a.m. when there were fewer students in the building, she realized she would need to have the questionnaires presented when there would be heavier traffic in the library. Scheduled to work Saturday, April 3, the researcher decided to use that time to urge students to complete the questionnaire. Nearly all those asked complied, and 33 questionnaires were completed on that day.

There was no discernible difference in answers collected by interview or self-administered surveys; so all were included for analysis. The researcher believed this

method of data collection would be an approximate measure of the information-seeking behavior and experience of the library users.

The average respondent was a male undergraduate who was 18-22 years old. Half or 53% of the respondents were male because of the times the study was conducted. The data confirmed that late night patrons were usually male. The female population seems to frequent the library on Sunday evenings. These facts explain why the gender information is divided in half. Table 1 presents the complete profile of the respondents in terms of age and class status.

Table 1

Profile of the Respondents

<u>Age</u>							
	18-22	23-29	30-39	40-49	50+	NR	Total
<u>n</u>	57	21	11	9	4	3	105
<u>%</u>	54	20	10	9	4	3	100
<u>Class Status</u>							
	Under	Grad	Staff	Alum	Comm	NR	Total
<u>n</u>	81	11	6	2	4	3	105
<u>%</u>	77	10	6	2	4	1	100

Note: NR = no response

The user response to the questionnaire was analyzed to determine how respondents felt about library use and to record and measure their information-seeking behavior. The results revealed their confidence level in terms of being able to work independently the next time they were in the library. As shown in Table 2, the responses to the first question revealed that 33 or 31% of the respondents said they were searching a

topic, 53 or 50% of the respondents said they were doing research and five or 5% were in search of a specific piece of information.

Table 2

Purpose for Coming to Library

<u>Purpose</u>	<u>n</u>	<u>%</u>
Searching a topic	33	31
Research	53	50
Specific Information	5	5
Other	12	4
Total	102	100

The results of Question 2, shown in Table 3, clearly indicated that most of the patrons would use their findings for a research paper. Twelve percent were working on Dr. Kress's library assignment. Dr. Lee Kress is a professor in the History Department. He believes all students should know how to use the library; therefore, every semester he assigns a project for which the students have to use every section of the library to complete. The question was included in this research because there were students in the library who would not have been there if it had not been for this assignment. Thirty-nine respondents answered Other and did not indicate why they were in the library.

Table 3

Purpose of Search

<u>Purpose</u>	<u>n</u>	<u>%</u>
A Research Paper	45	43
Comp 11 Class	8	8
Dr. Kress's Assignment	13	12
Other	39	37
Total	105	100

Question 3 asked students how familiar they were with the electronic databases. The students had three choices, familiar, somewhat familiar or not familiar. Their responses, shown in Table 4, indicated 48% or 50 students were already familiar with the databases in electronic reference. Only 8% or 9 students answering the questionnaire said they were not familiar with them.

Table 4

Familiarity With Databases
in Electronic Reference

<u>Level of familiarity</u>	<u>n</u>	<u>%</u>
Familiar	50	48
Somewhat familiar	46	44
Not familiar	9	8
Total	105	100

Questions 4, 5 and 6 were concerned with the student's proficiency on the computer. The results showed that if a student knew how to use the computers in Electronic Reference, then the student believed himself or herself to be computer literate and did not need the help of a librarian.

The responses on the questionnaires indicated that 85% of the patrons who were in the library when the questionnaire was presented knew how to use the system or they figured it out. According to the responses on the questionnaire, none of the 105 patrons polled thought their questions sounded foolish or that the librarian looked too busy or unapproachable.

Question 5 asked how the patron learned to use the computers in electronic reference. Although first year undergraduates must take bibliographic instruction classes, the results of the questionnaire showed students believed one-on-one instruction by a

librarian and self-instruction are more effective in learning to use library resources as shown in Table 5.

Table 5

How Electronic Reference was Learned

<u>Method</u>	<u>n</u>	<u>%</u>
Bibliographic Instruction	14	16
Taught by librarian	48	53
Self taught	28	31
<u>Total</u>	<u>90</u>	<u>100</u>

Tables 6 and 7 show the findings on reasons for needing or not needing help. Twelve respondents answered Other because none of the responses addressed their reasons for needing or not needing help. Five students did not answer the question. Questions 6, 7, 8, 9 and 10 were included on the questionnaire to elicit the student's reasons for asking or not asking for the librarian's help. These questions also served to reveal the particular stage of the process that help was needed. The results of Question 6 are shown below in Table 6.

Table 6

Why Help Was Needed

<u>Reason</u>	<u>n</u>	<u>%</u>
First time use	7	13
Help to begin search	6	11
Database choice	8	5
Help with computers	2	4
Confused by menu	10	19
Help printing	15	28
Other	5	10
<u>Total</u>	<u>53</u>	<u>100</u>

Note: Total equals number of responses, not total polled (105).

The results of question 7 indicated that 76% of the 105 respondents believed they did not need the librarian's help on the particular day that they were in the library. The results of question 7 are shown in Table 7

Table 7

Why Help Was Not Needed

<u>Reason</u>	<u>n</u>	<u>%</u>
Didn't want librarian to know	3	2
Questions sounded foolish	--	--
Should know how to research	2	1
Librarian looked unapproachable	--	--
Know system	40	30
Figured it out	31	24
Other	7	5
<u>Total</u>	<u>136</u>	<u>100</u>

Note: Total equals number of responses, not total polled (105).

Questions 8 and 9 were designed to reveal certain characteristics of patrons that have presented themselves from time to time as they inquired at the reference desk. Table 8 shows responses of the number of students who particularly needed help selecting a subject, focusing on a topic, finding sources, and evaluating information based on Question 10. Approximately 75 students responded to Question 10 resulting in 86 needs. Many students who come to the reference section are computer literate and know their way around the library. However, sometimes they may have a project that is a little more involved than usual. The researcher finds that students may at times need to speak with the librarian in order to focus on a specific topic or select a general subject. For example, a student may need a primary source. Many students do not know what a primary source is. The librarian can identify primary sources and other sources that will be relevant to the student's particular project.

Table 8

Stages of Research Where Help Was Needed
n=75 respondents

<u>Stage of Research</u>	<u>n</u>	<u>%</u>
Selecting subject	4	4
Focusing on topic	22	26
Finding sources	34	40
Evaluating information	18	21
Other	8	9
Total	86	100

Question 11 asked the patrons if they had asked anyone about the resources in the reference area, what database to use, or what Internet site to go to. When asked in Question 12 how easy or difficult it was to use the databases, catalogs, and other resources on the Rowan system, most of the respondents answered that it was easy or somewhat easy. There were only a few students who thought the system was hard to use. These findings are reported in Table 9.

Table 9

Ease of Using Rowan Library's
Electronic Reference

<u>Rating</u>	<u>n</u>	<u>%</u>
Very easy	9	9
Easy	30	29
Somewhat easy	40	38
Somewhat hard	9	9
Hard	8	8
Very hard	4	4
No Response	5	3
Total	105	100

Another factor that affects the information-seeking experience of library patrons is the search to physically find the material for which they have citations, for example,

books, older journal articles and newspapers. Many patrons ask for help in conducting subject searches in the periodical databases. Once they know what publication has the item they need, they have to locate the magazine, journal, microform, or newspaper in the Periodicals section. Here at Rowan, the Periodicals department maintains a card catalog of its holdings. The catalog makes it easy for the patron to verify the location and the form the material is held in. The book collection is held on two floors. Call numbers that begin with A and end in L are located on the third floor. The letters M through Z are on the fourth. Table 10 shows 44 students or 42% of those polled can find what they need with out too much trouble. Only 5% of the respondents did not find what they were looking for.

Table 10

Ease of Finding Books and Journals

<u>Level of Ease</u>	<u>n</u>	<u>%</u>
Found easily	44	42
Found, not easy	21	20
Asked librarian	25	24
Didn't find it	5	5
No Response	8	9
<u>Total</u>	<u>105</u>	<u>100</u>

Respondents were asked to rate their overall experience doing research in this library. Thirteen percent of the respondents gave the library a below average rating; however, excellent and good added up to 53%. Using a 4-point scale, the Rowan Library averaged 2.5, which is a C+, as shown in Table 11.

Table 11

Library Rating

<u>Rating</u>	<u>n</u>	<u>%</u>
A Excellent	3	3
B Good	53	50
C Average	34	3
D Below average	13	13
No Response	2	2
Total	105	100

Of the 105 respondents, 79% felt confident that they would be able to complete a research project or assignment without seeking the librarian's help. The hands-on instruction they received from the librarian seemed to have heightened the confidence level. Although some respondents felt confident enough to carry out a research project independently, they would still seek the help of the librarian if they felt the need to. The results are shown below in Table 12.

Table 12

Confidence Level

<u>Level of Confidence</u>	<u>n</u>	<u>%</u>
Confident	40	38
Somewhat confident	43	41
Not confident	11	10
Will seek help	7	6
No response	4	5
Total	105	100

Various students added comments stating that they would seek help if they had to. The researcher thought one particular comment was especially poignant. A student wrote,

“Since this library is so user friendly, I don’t even bother trying to search for stuff, I just ask for help as soon as I come in.”

The majority of the students encountered by the researcher during the gathering of data were eager to express their feelings about Rowan’s library. Although some of their responses had nothing to do with this particular project, the researcher found them extremely interesting and included a few of the responses here that were common among the majority of the respondents. All comments are reported in the appendix. Some of them were:

“Not enough librarians to help.” The researcher agrees. The reference section was extremely crowded between lunchtime and the dinner hour. Every computer in the area was occupied and there were students waiting in line. Two librarians should staff the reference desk during this time.

“They changed the system again.” The nature of library business is constant change. The system must change to keep up with today’s technology. This can be stressful for users and staff.

“I am confused by the menu.” At first sight, the menu and many other details of the online system confuse many students. However, in conjunction with College Composition I, freshmen are required to take the bibliographic instruction course. Other students could request one-on-one training from a librarian, or use one of the easy-to-understand handouts that are made available throughout the library.

“I tried using the computers, but couldn’t see how it was done. It was frustrating and I could not find instructions.” Handouts are found right outside the entrance to

electronic reference. All a student has to do is read the directions. Some students want instant information with little or no effort on their part.

Chapter Five

Summary, Conclusions, and Recommendations

Summary

This was an exploratory study of the information-seeking experience of students conducting research in the electronic reference section of the library at Rowan University. The study explored why they were in the library, what they would do with the material they retrieved, how they felt about the level of difficulty in using databases and their familiarity with them. It also explored how they would find journal articles and books and other materials needed to complete a project. The portion of this project that received the most attention was the idea that the students did not know how to research properly until they had the correct training. Once the students/patrons were properly trained, it was possible for them to work independently.

Conclusion

The findings supported what the researcher knows from experience. Students who have attended bibliographic instruction classes still need hands on, one-on-one sessions and time to explore the system independently. Once a student has interacted with the librarian in the reference setting and has been shown the proper procedures for researching, the confidence level rises high enough for the student to feel that he or she could complete a research project independently the next time they come to the library.

The questions on the questionnaire were designed to bring out certain feelings and characteristics. Were students successful on their own, or did they require the help of the

librarian? What sources did they use and why? Moreover, did they feel as though they would be able to conduct their research on their own the next time they came? They were also asked to rate the library overall. The results of the questionnaire indicated a "C+" for this library.

This study identified some general characteristics and patterns of behaviors and experience of users of the Rowan Library Reference section. In some instances, students are sometimes told by their friends or professors that if they used certain databases they can get a full-text article with little or no effort. When they get into electronic reference, they find it a little bit more complicated than they were told. They become frustrated when they cannot find what they are looking for quickly. They are captivated by the one-stop convenience of online full-text articles. Often time and pressure motivates them. They increasingly rely on the full-text databases and the World Wide Web without consideration of other resources. The availability of information on the Web and all of the virtual libraries they have access to gives students a false sense of security. They think any information found on a computer is reliable. Students generally start and end their literature search with computer-based resources. Even those who already have the citation they need will still use a database like Searchbank

Limitations

Because the researcher was dependent on the willingness and seriousness of the students, this may not be a complete picture of the search process or the students and others using the library. The subjects may only be representative of those using the library at specific times. Furthermore, the researcher cannot say whether these results would be valid outside of Rowan University's library.

Areas for further studies.

Newer studies look at the user in isolation; research on user/library staff interaction examines the relationship between the users and library staff. Studies in this area are vital. Data collected for this particular project show that once students are taught proper research skills, by a librarian, they believe they can imitate the procedure and conduct their own research successfully. The researcher encountered many frustrated students during times covering the reference desk. After time was taken to instruct them properly, they felt comfortable using the system and approaching a librarian for help.

During the course of this project, the researcher discovered that many librarians are interested in information-seeking behavior. The most important discovery was the researcher's own discovery of the many behaviors displayed while patrons were in the library.

The initial design of this study differed from the actual manner in which it was carried out. The study was originally a series of questions to be asked of the students. The students encountered by the researcher objected to the interviews. They preferred to answer a questionnaire privately. The interview evolved into a self-administered questionnaire. To collect data, the researcher complied. This shift in methodology caused the researcher to become more cognizant of the importance of the librarian/student relationship. Therefore, the researcher recommends that public relations skills, which include one-on-one interaction, in conjunction with bibliographic instruction, be incorporated into librarian's education and reviewed and included in staff development.

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APPENDIX

Questionnaire Information Seeking Behavior

1. What is your purpose for coming to the Library today?
 Searching a topic Research In search of specific piece of information (ready reference).
Other _____
2. For what purpose will you use the results of your search?
 A research paper Comp II class research
 Dr. K's library assignment
Other _____
3. How familiar are you with the databases available on the computers in Rowan Library's Electronic Reference?
 Familiar Somewhat familiar Not familiar
4. Do you know how to use the computers in Electronic Reference?
 Yes No
5. If you answered yes, how did you learn?
 Bibliographic Instruction Taught by a librarian Self taught
Other _____
6. Do you consider yourself computer literate?
 Literate Somewhat literate Not literate at all.
7. Did you need the librarian's help to use the computer today?
 Yes (Go to # 8) No (Go to # 9)
8. Why did you need help today?
 I am a first time user of Rowan's system.
 I didn't have any idea of where to start.
 I needed help in database choice.
 I don't know how to use the computers.

I am confused by the menu.

I needed help printing

Other _____

9. If you did not ask for help, why not?

I didn't want the librarian to know I needed help.

I felt my question might sound foolish.

I felt I should know how to use the computers.

I thought the librarian looked unapproachable.

I know the system.

I figured it out.

Other reason (please specify) _____

10. If you needed help, at what stage of your research did you feel you needed the most help? (Check all that apply)

Selecting a general subject Focusing on a specific topic

Finding relevant sources Evaluating information found

Other _____

11. Did you ask anyone about the reference section before you came?

Yes__ No__

If you answered yes, who did you ask? (Check all that apply)

Another Rowan student The professor of the course

A tutor Anyone else, please specify _____

12. How do you rate the ease of using Rowan library's electronic reference system?

(the catalog, the databases, etc.)?

Very easy Easy Somewhat easy Hard

Somewhat hard very hard

13. When you found information about a book or a journal you could use, how easily did you find the book or journal itself?

I found it easily. I found it but it wasn't easy

I asked a librarian for help. I Didn't find it.

Other _____

14. Please rate your overall experience doing research in this library:

Excellent Good Average Below average
 poor

Comments: _____

15. How confident are you that you will be able to complete your next library project or assignment without seeking the librarian's help?

Confident Somewhat confident Not confident

I will seek the librarian's help.

Please explain _____

16. Is there anything about your experience in the library that was not asked here?

17. What is your age range? 18-22 23-29 30-39
 40-49 50+

Gender M F

Class Status Undergraduate Graduate Faculty Staff
 Alumnus Community member

Comments from the Self-administered Questionnaire

Not enough new books, most are printed in the 70's and 80's

The library should have longer hours, not just the week before exams begin

Not enough librarians to help

Library closes too early

Friendly librarians made me relaxed

This library is too incomplete the hours suck and the librarian had no idea how to help me.

Since the library is so user friendly, it's easier to ask.

Hours are horrible.

Dr. K's assignment is ridiculous.

I did not use computer today however I never hesitate to ask when I do need help.

The periodical info desk was the most helpful on this floor.

Computer lab hours should be adjusted.

Librarians help point me in the right direction.

Tried using computers but couldn't see how it was done-frustrating-could not find instructions.

I have been here 3-4 times each time I had trouble locating information.

I have needed assistance each time I don't know why I have trouble using reference system here when I have no trouble at the Gloucester county library.

Maybe you should bring back the manual system or set up computers for library search only.

I am very used to this system I've spent many hours here and by now I'm comfortable.

Some people weren't friendly. The library catalog web resources and the electronic databases are great resources, however, the human touch is still needed and that's why we need librarians to provide that type of information.

Questions or a survey should be given to all students and particularly the graduate students in reference to expanding the accessibility of the library.

You can't have a doctoral program at 5:50 p.m. on Saturdays and 9:00 p.m. on Fridays and not keep the library accessible.

I recommend 24 hours. A survey in this area may yield good-interesting responses.

Library hours should be open to students in the summer especially on Fri. and Sat. I am a doctoral student and I really need the library time in the summer.

I can't find the resources in the library or I can not get specific information.

The library has ample resources for many subject areas
The major problem is that many people are not familiar with how to access that info.

They change the system again and again.

I feel the library should be open until at least 5:00 a.m. on the weekdays a lot of people go to class and have jobs and night time is the only time we get here.

I like to seek the librarian's help to assure myself that what I am doing is correct.

Not finding books specifically from the catalog system, getting articles that are not full text is what I hate about this library.

User friendly library extremely helpful librarian.

I like the library, but since I've been to school here the research sections have changed several times, all occurred right when I had figured it out the old system once the system is settled or stable student's will have an easier time.

The Searchbank is easy everything else is difficult.

The new databases that are getting installed are horrible it is hard to find specific whole text information please just add to the Searchbank, it is by far the best.

Some librarians do not want to be bothered with questions.

One librarian made me feel stupid for asking a legitimate question.

One librarian was extremely helpful and went step by step to get info needed.