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Students Versus the Research Paper: What Can We Learn?

Barbara Valentine

Abstract

If we are to develop library services that meet the expectations of our patrons in this changing technological environment, we must first understand how they currently interact with our information services and systems. This paper presents preliminary results from a qualitative study that elicits perspectives of undergraduates engaged in writing research papers. Because this study has been in progress since the early nineties, results also reflect ways in which technological advances such as the Internet may have altered strategies. Findings highlight some commonly used information gathering strategies, issues which impact motivation and use of time, and sources of help students consult most often in the process. Implications and recommendations for librarians conclude the paper.

I came here with the attitude, oh god, if I don't get an A, I'm hosed. But I sorta like looked at people and thought, "listen, it's too much stress on my body to worry about something that's going to be difficult to get." Learn what you can and put out enough effort that you need to get by. I want to do good work, but if I'm not interested, it's like I don't want to be here. Problem is you have to do it to get out of here. Have to do it to get that rubber stamp that says, "I'm educated. Next! Next!" You're educated and you walk out into the world. It's a big assembly line. They don't even give you a real diploma. They

give you some blank piece of paper. I'm not gonna kill myself over 4 years of school or 5 or 6. I just want to have fun while I'm here and learn a lot. (TD)

Introduction

This is the voice of a junior describing his overall university experience. He raises issues that were echoed over and over again in the present study. Students come into the institution with anxiety about grades. They note a disparity between what they want to learn and what is required to graduate. Over time, they learn what they have to do to satisfy both the institution and themselves.

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They make decisions about how much effort they will invest in various parts along the way to meet both their academic and personal expectations for the undergraduate experience.

When it comes to research, there is a similar disparity between what librarians provide in services and what students seem to want.¹ Rapid changes in technology demand that librarians rethink the usefulness of current services and modify or completely change them to work in the new electronic research dynamic. The more academic librarians know about how undergraduates relate to the information gathering process, the better able they will be to design effective services.

Relevant Research

In 1989², when the author first started conducting focus groups, there was little research in the library literature on student perspectives with the important exception of Mellon's³ study on library anxiety and Kuhlthau's work⁴ on the information search process. Fortunately, a decade later, research on the user perspective is more commonplace. Most of these studies focus on library-centered activities such as database searching,⁵ reference,^{6,7,8} bibliographic instruction,⁹ attitudes toward librarians and services,^{10,11} and, more recently, on use of digital libraries,^{12,13} and the Internet.^{14,15} Few studies¹⁶ consider what impact the larger academic environment has specifically on undergraduate research behaviors. The current study is an attempt to add to that research. By looking at how students complete a research assignment from the perspective of the classroom experience, we may gain new insights about motivations and strategies.

Methodology

In 1993,¹⁷ the author interviewed 28 undergraduates, either in focus groups or individually, about how they accomplished the task of completing a substantial research paper during the course of a particular class. The study was repeated with 31 students in 1998. The 59 participants represented at least a third of the students enrolled in each of 9 different classes in academic institutions in the Pacific Northwest—4 classes from a large state university and 5 from two different small private colleges. Course professors from each class also answered questions about expectations and what, in their view, students delivered. A preliminary questionnaire gathered information on other factors such as major, class stand-

ing, and GPA. By gender, there were 25 males and 34 females. By class there were 34 seniors, 16 juniors, and 9 sophomores. The average GPA of volunteers was 3.25 with college students averaging slightly higher than the university students. Five students interviewed were non-traditional age. Except for one Asian American and two Hispanic Americans, all participants were Caucasian, which is fairly representative of the ethnic breakdown in the classes as a whole (see tables 1 and 2).

The author avoided asking students any direct questions about the library, preferring to let those responses come from the context of the experience. Using Kuhlthau's Information Search Process as a framework for the interview questions, she probed instead the thoughts, feelings and actions of the students at the beginning, middle and ending stages of the research process. She also asked students whom they consulted and, if the issue was not raised naturally elsewhere, whether or not there had been library instruction. Focus group interviews worked well at eliciting fresh perspectives, while the individual interviews added support to those perspectives and provided more context.

This research is very much a work in progress. Transcriptions of interviews were coded using qualitative software called Atlas.ti and are being analyzed according to standard grounded theory procedures.¹⁸ This paper will present some preliminary observations of the most commonly used strategies for gathering resources, specific institutional and classroom issues that seem to impact motivation and use of time, and a discussion about whom students consult most often in the process. Implications for the library field in general and reference librarians in particular will follow.

Gathering Sources

Although students demonstrated individual styles and attitudes toward the project at hand when gathering resources for the paper, some aspects of the process were quite common. Most described the information gathering stage of the process as they might describe a trip to the store. They expected to be able to find what they needed within a particular framework of time and were frustrated when this was difficult or the results unsatisfactory. It is true that a certain number enjoyed browsing through books and journals, especially in pursuit of a topic, but even these students noted this activity was at the cost of other pending commitments. So from the beginning most students were pressed for time.

Table 1. Undergraduate Profile

<i>University students</i>					
4 classes	Subjects	Class	Major	Gender	GPA
1993 (2 classes)	14 (1 adult)*	11 Senior 3 Junior	14 History	5 F 9 M	2.91
1998 (2 classes)	11 (1 adult) *	8 Senior 3 Junior	5 Music 6 Human Dev/ Family Services	8 F 3 M	3.34
total	25 (2 adult) *	19 Senior, 6 Junior		13 F 12 M	3.13
<i>College students</i>					
5 classes	Subjects	Class	Major	Gender	GPA
1993 (2 classes)	14 (1 adult)*	10 Senior 3 Junior 1 Sophomore	11 History, 2 Education 1 Commun.	8 F 7 M	3.37
1998 (3 classes)	20 (2 adult)*	5 Senior 7 Junior 8 Sophomore	4 Art, 4 Psychology, 7 Political Sci, 1 Classics, 1 Religion, 1 Music, 1 Exercise Sci, 1 Business	13 F 7 M	3.38
total	34 (3 adult)*	15 Senior 10 Junior 9 Sophomore		21 F 14 M	3.375

*nontraditional age

They might try scanning relevant textbooks or papers and books from previous courses. Some tried to locate specific items suggested by professors or librarians in classes. Others browsed the online catalog or another database they had used in the past. Some hopped onto a familiar search engine such as Yahoo. Having something in hand gave students the most immediate relief. In fact, a few in one focus group mentioned that they would modify the topic to match what they found in the home library because getting things from other libraries was too uncertain and time intensive.

Though most did use the home library, many said they went to other libraries, often a public library, because it was smaller, more familiar, closer to home or because a friend knew that library and helped them do the research. Students also used other li-

As might have been predicted using Kuhlthau's¹⁹ research model, the information gathering and focus phases were the most traumatic in the process, eliciting the strongest negative feelings. It is no wonder then that students, in order to alleviate uncertainty and confusion, leaned toward strategies that were most familiar to them.

braries to avoid competition for books with classmates working in the same subject area.

When these familiar paths did not pan out adequately, most moved into the unfamiliar realms in a disorderly fashion, best described as chaotic. Things were found "in random places," by "luck," "stumbling around," "by accident," or "by trial and error." One sophomore admitted:

"Basically I stumbled into everything I found and maybe I wasn't really looking for it, but I stumbled into it." (LH)

Most students did not distinguish among the databases they used to find articles and books, simply referring to "the computer" as the place they went for everything. When pressed, they mentioned the online catalog, but few

Table 2. Professors

	University	College	Dept
1993	2 Male	2 Male	History
1998	1 Male 1 Female	1 Male 2 Female	Art Music Sociology Education Political Science

could be certain of the periodical databases used. Of those who could talk about a specific database experience, many used them in ways librarians might find less than effective. For instance, one student used MLA to find articles on Hitler. Another preferred to search ERIC for ED rather than EJ records and spent \$20 in photocopies because she discovered the microfiche was all located in the same place, obviating the hassle of going up and downstairs in the quest for journals. Similarly students relished finding full text articles wherever possible since they not only saved time locating journals, but also money on photocopying costs. Frustration doing research was echoed constantly:

“I hate [the library]. It is the most overwhelming place on campus. I have no idea where anything is or how to use anything. And everything changes all the time, especially here with everything under construction. It’s like I think it’s useless. I can’t find anything so I just don’t want to come in here and was really relieved when I got it done.” (SB)

In sum, research energies are focussed on the familiar and convenient perhaps at the expense of the most relevant.

Enter the web

Although all the students interviewed in 1998 mentioned searching the Internet at some point in the project, most of them did not use research retrieved from search engines such as Yahoo or Alta Vista. Many complained that their surfing experiences for reliable information in the past had not been cost effective in terms of time and results. This was a typical response:

“But I didn’t use Lycos or any of the search engines on the web because I knew I wouldn’t find anything. I never find the right things when I search on the web like that. It takes hours...so the web isn’t really an option for me.” (KW)

More often students tried specific web links mentioned by professors or presented by librarians in instruction sessions. Even with the expected relevance of these pages, students had varied success. They complained about the quality and depth of materials they found or that they had trouble narrowing the search.

The advent of one stop web shopping may have increased the likelihood of students hitting pay dirt. But it has also added to the confusion about the kinds of sources students are retrieving. Typical library web sites now feature the online catalog, library-purchased databases, electronic journals, and other web sites that are equally selectable from a single list. One student was totally confused by the journal situation in the library due to this integration.

“I went into the library’s web site and they have resources there. With the search engines for journals that are available on that web site, there is also a listing of electronic journals. I just perused the titles of these journals and it didn’t look like there was a single thing that matched my topic. I was also kind of confused. Was this everything that was available to me [on the Internet] or is that just what the library knows about?” (AD)

Motivations

Students in this study appeared to put forth varying degrees of effort for an assignment depending on several institutional and class specific factors which had little to do with the library itself, but impacted their activities there.

Grades

Grades are a fact of academic life and had a large impact on the research process in this study. Howard Becker and others, who conducted a two-year qualitative study of student activity at the University of Kansas, discovered that grades are the “currency of campus,” “the main institutionally recognized commodity in the academic community.”²⁰ Although most professors in this study intended that the research papers give students the opportunity to explore intellectual spheres outside the range of class discussion, the bottom line for most students was the grade.

There were a handful of students who de-emphasized the grade as the most important factor in the process. They pointed to the value of the assignment outside of school or their interest in learning. But even students with the highest GPA’s still saw the bottom line as the grade.

“I like to do well on everything I write, so the grade really had a lot of influence. If I had more

time, I would have liked to do more...Actually the grade does have a good effect on me cause it gets me going. I know that deadline for the grade is when the axe drops." (AE)

Students agreed that the best way to get a good grade was to focus on what the professor wanted and most students spent considerable emotional capital and time trying to solve this sometimes enigmatic puzzle. For some, the key to getting good grades was the relationship one developed with the course professor. Those who did not know the professor from a previous class felt the pressure to make a good impression for the future.

"I'm not going to get what [grade] I feel I deserve...I have not [had him before] so I think I have to win his trust and have to go through that initiation with him." (NE)

Many students tried to guess what the professor wanted by paying attention to clues dropped in class, what was written in the syllabus, or by consulting the collective wisdom of classmates. These students focussed on assignment specific features such as how many pages constituted a "legitimate effort."

Surprisingly, most students did not ask the professor direct questions about the assignment. One professor, who had set time aside in class for just this purpose, remarked on how few students consulted her. Even students who talked with professors were careful to note that these relationships were built around other conversations having little to do with a particular assignment.

Class standing

There was a noticeable difference in the attitudes and strategies of the 9 sophomores in this study compared to the juniors and the seniors. Although freshmen were not interviewed, comments by seniors who reminisced about their freshmen year indicate that sophomores and freshmen do share more in common than the upper division students.

"I really feel if we were doing research when I was a freshman it would be completely different because now I am confident writing research papers. I know what I'm doing and I know what [the professor] wants. That's something that I've learned and acquired over the 4 years here. I know when I was a freshman I was scared to death." (MB)

Lower division students are all in the process of trying to figure out how to succeed in college. The sophomores tended to be more anxious about the paper assignment throughout the process than the upper division students in their classes. Many of them had never written a paper of any consequence before and had trouble finding and narrowing topics. They would obsess more about the weight of the paper on the course grade and how the professor would view the product. They were just developing their GPA's and establishing their strategies for accomplishing academic work. One student explained:

"I'm a sophomore and this is judgement year!"
(DS)

In contrast, juniors and especially seniors were more confident. Upper division students often had smaller classes, more focus in one discipline area, and some relationship with the course professor. They had well-established strategies for accomplishing academic work and had figured out what they could let slide and where they had to concentrate time. Seniors especially seemed to put more effort into those assignments that had relevance to their future employment, were good preparation for graduate school or would weigh heavily on their GPA's. In fact, when an assignment had little weight or was otherwise uninteresting, they might blow it off with little effort. "Senioritis" was mentioned over and over again across classes as a very real disease, especially in the Spring weather.

While the lower division students were becoming entrenched in academic life, then, the upper division students were looking toward leaving.

Other institutional factors

Several other institutional factors surfaced which need further development.

First, students engaged in many activities outside academic work. Employment, both on and off campus, sports, campus organizations, and musical and theatre performance can take lots of time. It would be interesting to see what proportion of time students on average allot to academic work.

The quarter system limits the time students can spend on a substantial research paper. This especially constrains the time available for research exploration, false starts, and Interlibrary loan requests. On the other hand, the semester system, while affording more time

for Interlibrary loan, did not seem to change significantly the effort put into papers in this study. In fact, in one class, a professor required a bibliography early on urging students to spend the rest of the semester preparing the paper. Most of the students in that class said they submitted the bibliography and then put the paper on the back burner until the end of the term.

For this study, it was difficult finding classes which required a substantial research paper, especially at the university, despite the fact that the general curriculum in all institutions emphasizes more writing intensive classes now than it did in 1993. Larger class size seems to be partly to blame. A study is needed to determine if fewer research papers are being assigned and what, if any, impact this might have on undergraduate research.

Students have gained increased timely access to books from other libraries as a result of patron-initiated consortial borrowing through union catalogs such as OhioLink. Those undergraduates interviewed in 1998, who came from schools with small library collections, used the union catalog as much or more than the local catalog to do research. Undeniably a boon to research, this access also increased information overload, overdue fines, and possibly under-utilization of local collections.

Course specific issues

Issues relating to the presentation and support of a specific assignment also influenced the time and effort research received.

The clarity of guidelines and expectations for assignments and grading varied widely among professors. Student stress levels and time spent trying to guess at expectations increased when written guidelines were non-existent or vague.

Stress levels decreased in those classes where the professor provided a graded library assignment that introduced them to the range of resources they would use for the final paper. In these classes students seemed to take more ownership of the process and at the end appreciated the research experience more.

Topic choice was important to most students. Personal commitment to the assignment seemed to decrease as choice was denied, steered, or made very narrow by the professor. There were exceptions to this among sophomores who appreciated as much direction as possible.

Bibliographic instruction classes conducted by librarians were more meaningful when tied to the course

assignment than provided as part of freshmen orientation. When successful, they provided an effective start to the research process, with both a list of resources and a friendly contact in the library. More students visited the librarians when they were promoted as experts by professors. When BI classes did not work for students it was because the sessions came too late in the research process and/or provided too much new information, adding stress rather than reducing it. Students, who had several sessions for different classes in a term or year, sometimes found them redundant, indistinguishable one from the other, and tuned them out.

Whom do they ask for help?

The literature on help-seeking is well-explored in the area of psychology and suggests that students have trouble asking experts for help.^{21,22,23} This was true in this study as well. As noted earlier, although students spent a great deal of time trying to figure out what the professor wanted, very few asked direct questions about the assignment itself. When they did get help, it was usually as a result of a required meeting to approve a topic or hand in an outline.

Students indicated there was a certain amount of risk attached to contacting a course professor. Some students said they did not want the professor to see a draft, a messy version, of their paper or even really know what was on their minds until the work was complete. Others had heard "war" stories about unpleasant encounters with this professor and were simply too intimidated to initiate contact. Many mentioned that required meetings with professors often left them more confused than before the contact, with the added burden of having to find more information. Perhaps because grades were so much attached to the relationship with the professor, many wanted that relationship to be as positive as possible and exposing doubts was not the thing to do. Whatever the reason, for many, the professor was not an optimal choice to pursue help.

Apparently they did not like to ask librarians for help either. Only one third of the students mentioned asking a librarian or other library staff person for help in the library. Three of those students actually consulted friends who worked as student assistants in the library.

Expectations of library personnel seemed rather low. Students would ask for help in locating a specific book, journal, or Internet site, but more than that was considered "handholding." It was also acceptable to get help

with a particular database such as Lexis/Nexis or the Internet at the suggestion of a professor or as a result of a BI session. They also expected to consult some experts, such as the government documents librarian, if one wanted anything in that area.

But students were generally reluctant to ask for general help, such as getting started with a topic or finding an appropriate database. Only four students admitted that consulting a librarian was the most efficient way for them to begin research. One noted:

“I didn’t even attempt to research [my topic]. I just went to the library assistant and said this is my topic can you help me find it and she...just put it in the computer. [I asked] just because I knew if I would have sat down at the computer it would have taken me hours to [find stuff]...I knew that she knew what she was doing...” (SB)

Some of those who did ask for help met with less success and did not get what they needed from library staff. Sometimes librarians were simply unable to meet specific requests, help out with a technical problem, or find the right articles. A few students had unhelpful experiences consulting non-librarians. In any case, these failures required time and indicated an inherent cost to asking for help in the library.

Many students in this study, however, were inclined to ask for assistance from more informal sources, such as friends, relatives, roommates, and classmates. They asked acquaintances for a whole range of help including ideas for selecting and even narrowing a topic, developing themes, locating relevant sources, providing keywords, and proofreading and editing, sometimes even typing, papers.

Classmates were the most popular source of help. They shared the same assignment and understood many things about what the professor wanted. They might be experienced at navigating the same computer systems and topics. Many classmates knew each other already, especially if they shared a major, and were a source of moral support. And in classes which had a mixture of upper and lower division students, those who knew the ropes could offer help to the novices.

It may not be surprising that students asked peers for help instead of experts, such as librarians and professors, at critical times in the process. Peers are more available since they travel the same institutional circles.

It may be less emotionally risky to appear uninformed before a friend or classmate and, in fact, may even be a source of bonding.

It appears, then, that when students considered sources of help for research in this study, they selected the most familiar and cost effective first, moving to the more formal sources of help only in desperation. Yet this is perhaps too simplistic a view. Further exploration of current research on help-seeking and learning²⁴ may provide increased understanding of an undoubtedly complex issue.

Discussion

This research suggests that undergraduates generally set priorities for how much time and effort they can or will allot to a particular assignment. They start with familiar strategies that have worked for them before, which may or may not be effective for this project. Many do eschew popular Internet search engines for serious research, but that does not mean they hit the best library-purchased databases for their topics.

In general, they avoid asking for help, but in a bind they find it more comfortable and convenient to ask friends than professors and librarians. If one ever makes it to asking a librarian for help, that student, in most cases, has already tried a variety of approaches that have failed or provided little progress.

Implications and recommendations

A growing number of students have begun to do research outside the library, in their dorms or the computer lab, only making an appearance in the library to retrieve books or articles researched electronically. Although only a few students in this study from the 1998 group fall into that category, it is clear this is a trend that will continue. How can librarians help make the information gathering stage more productive for undergraduates who already shy away from spending time in the library?

For one thing, we can provide library systems that are readily available, familiar, and easier to use. But simply improving the interface that connects the plethora of electronic resources is not enough. The databases themselves are so varied and complex that even librarians struggle with them. Students find that stumbling into something is easier than actually learning how to use the system effectively. In fact, studies on faculty researchers suggest that people expect to use the systems with little or no

help²⁵ and do not want to invest time in learning new systems.²⁶ It is doubtful more can be expected of undergraduates. Additional work has to be done to standardize the searching interfaces and minimize the effort it takes to select among hundreds of choices.

Research suggests that helping patrons to select sources is a key role for reference librarians. But making connections with students on their terms and at their level of need is essential. When recommending sources, reference librarians can be more aware of both the anxiety level and time constraints under which students operate. Lower division students may have more anxiety, less experience, and fewer strategies that work for them. Reference librarians can be more proactive in the library in locating students who are having trouble by roving around the areas containing research computers. Unobtrusive inquiries, such as “are you finding what you want?” may go further than directly asking if students want help.

Librarians must find better ways to connect with students both in and outside the library. This research indicates that perhaps the greatest value of bibliographic instruction for undergraduates is not in the teaching, but in providing a link for students with the library and those who can help them outside of the classroom. If this is true, it might be worth working with the course professor to meet briefly with students informally in the classroom, on their own turf, and to provide brief information and more importantly librarian contact information.

As a complement to this first contact, librarians can do a better job collaborating with professors on providing instruction that is timely and more meaningfully connected to a course assignment. All the professors interviewed in this study noted that, with the exception of a few papers, their expectations of the students’ papers were generally not met. Working with faculty on course specific goals will not only improve these results, but provide clearer guidance for students. Whitmire’s²⁷ study also suggests that greater librarian-faculty collaboration is key for fostering critical thinking. It is time to evaluate seriously the strengths and weaknesses of bibliographic instruction and reshape it to work more effectively.

In addition, there is increasing potential to connect with students through email. One of the professors in this study communicated heavily by email. Similarly, the author’s experience is that students increasingly ask questions via email as a direct result of a library instruction

class. Maybe email communication connected with instruction can become one answer to low-risk library contact and an opportunity to invite students in for research appointments.

Finally, since peers are a key source of information to students, librarians need to use student library assistants more wisely. Sensitize them to the importance of their roles in the library and train them better to refer patrons to librarians, especially for selecting databases.

In the end, the effort must be spent thinking of ways to connect appropriate resources to people. The information field is in some ways in great disarray during this transition to electronic research. Undergraduates are increasingly disconnected from expert help both physically and psychologically. Librarians can certainly become more creative in finding effective ways to be lifelines in the changing research climate.

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