

IS GOOGLE GOD? HOW DO STUDENTS LOOK FOR INFORMATION TODAY?

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"Google is the God of the Internet."
University of Maryland sophomore, April 2005

INTRODUCTION

Librarians aim to foster an information-literate population. At the same time, we have been grappling with rapidly developing technologies and their impact on how we reach our users. In order to truly connect with this new techno-savvy generation of students, sometimes called "Millennials," we must strive to understand how the students themselves approach information seeking. How do today's students decide where to look for information, in what format, and through which form of interaction? How do students evaluate the information they find? Gerri Foudy, Travis Johnson, and Neal Kaske, librarians at the University of Maryland (UMD), and Dan Wendling, a graduate student in the University's College of Information Studies Program, set out to learn about students' information-seeking behaviors by asking the students themselves. Funded by a research grant from the University of Maryland Libraries, a research study was developed, which utilized individual interviews and focus group interactions, in an attempt to begin answering the following research questions:

- What are contemporary university students' information-seeking behaviors and what role(s), if any, do libraries and/or librarians play in these behaviors?
- Are these behaviors differentiated by type of information sought – academic versus non-academic?
- What are contemporary students' mental models of the tasks performed by librarians?

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- Do these behaviors or mental models differ according to level of matriculation, from freshmen through graduate school?

BACKGROUND

Librarians have endeavored to comprehend user information seeking needs and behaviors for many years. In his seminal 1968 article, Robert S. Taylor posited the theory that information seeking is a process, not a single event. The user begins the information process before s/he ever enters a library, making decisions as the process progresses. There are two possible paths users may take when seeking information in library – working through a human intermediary (reference library) or working on one's own. (Taylor, 1968).

More recently, Eileen Abels investigated business students' views on the role of libraries and librarians in the information seeking process. She concluded that a new model of information seeking would need to be updated "to reflect the various technological, lifestyle, and demographic trends," and that "rather than consider the user, this model considers the information seeker in his or her environment." Abels' model includes information inputs and influences from many sources outside of the library, including the media and agencies and organizations. (Abels, 2004).

After looking at several models of information seeking, we hypothesized that University of Maryland students' behaviors would be influenced greatly by modern technologies. "Millennials' devotion to the internet has greatly shaped the way they approach the research process. In many cases they start projects by going online and browsing around. When they have questions, they will often ping their social network for advice and guidance." (Rainie, 2006). We also were curious as to whether decisions made by users when seeking information differed by purpose (academic vs. non-academic information needs) and by experience (years of matriculation at the University). Further, we wanted to know what

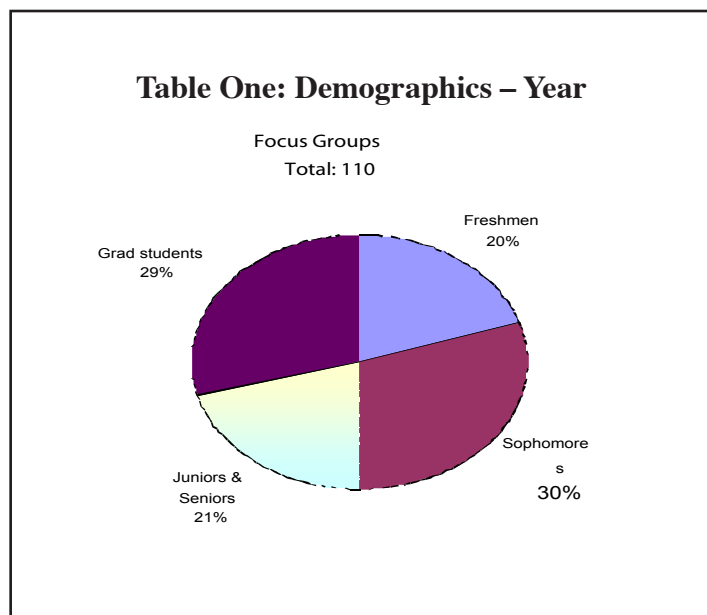
role librarians play when students are looking for information, and what students actually think of us (if they think of us at all).

RESEARCH DESIGN

We decided to use a mixed method approach in researching students' information seeking needs and behaviors. We knew from the beginning that we wanted to conduct focus group interviews with University of Maryland students drawn from all matriculation years, first year through graduate students. We later decided to expand our sample population through random individual interviews with students on campus. These two different approaches would be conducted during the same time period, Spring, 2005.

Focus Group Interviews

We planned to conduct twelve focus group sessions, with a maximum of ten students at each session. There were three sessions held for students in four different years of experience at the University of Maryland: first-year students, sophomores, junior and seniors (as one group), and graduate students. In order to try to recruit volunteers from all different colleges and departments on campus, we utilized various departmental and university email lists. As an incentive to volunteer for our research study, we offered each student a payment of twenty dollars in cash for his or her participation. A total of 110 students participated in the focus group sessions. (See Table One for a demographic breakdown of the participants by year).



Our focus group interview protocols were designed to help answer our research questions: What are contemporary university students' information-seeking behaviors and what role(s), if any, do libraries and/or librarians play in these behaviors; are these behaviors differentiated by type of information sought – academic versus non-academic; what are contemporary students' mental

models of the tasks performed by librarians; and do these behaviors or mental models differ according to level of matriculation, from freshmen through graduate school?

Focus Group Questions

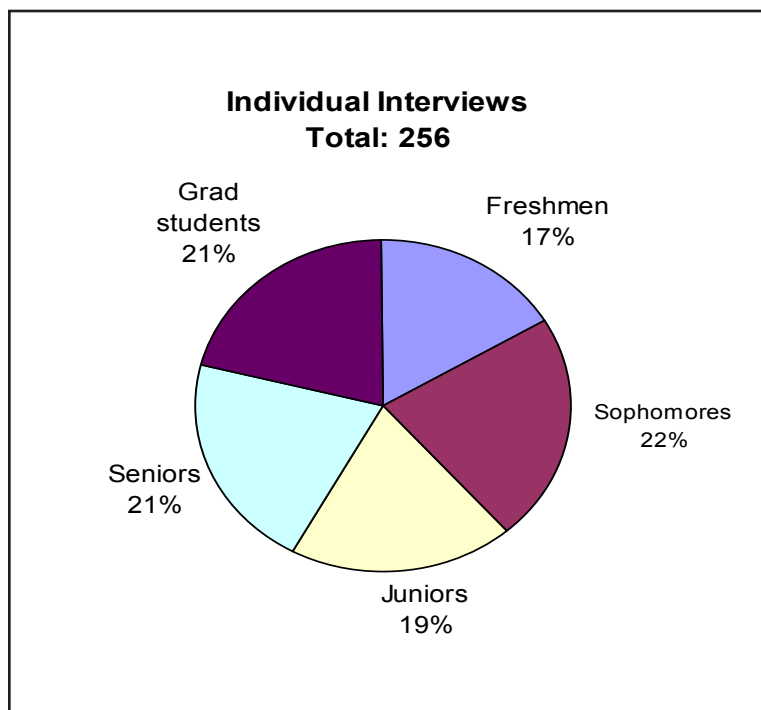
- When you have an information need related to your studies, where do you look first for information?
- Where do you look second or third for an answer or answers?
- Do you usually look in the same places when you begin looking for course-related information?
- Do you change how you look for information depending on the subject or type of information you need?
- Do you always look in the same places in the same order?
- Do you usually do your information gathering on your own or do you ask for help?
- If you do ask for help, whom do you ask?
- If you have worked with a library staff member, what did he or she do to help or hinder your search for information?
- If you do not ask library staff members for help, why not?

We used the same questions about students' searching processes for information for an academic purpose and students' searching processes for information for a non-academic purpose. (See Appendix A for detailed focus group interview questions and protocol).

INDIVIDUAL INTERVIEWS

Students in the Spring 2005 semester of the University of Maryland's College of Information Studies class LBSC 713 conducted random individual interviews with students they encountered in common areas of the campus (student union, study rooms, etc.), however, not in any of the libraries. 256 students were interviewed over a one-week period in April 2005. For such random selection, we were pleased to find that the students were fairly even distributed by year (see Table Two on the right)

Table Two: Individual Interviews by Year



Individual Interview Questions

- Please think of a recent time when you needed to find information or do research for a class. What was the information you needed, or the topic of your research?
- Where did you go or look?
 - What did you find, and how did you locate it?
- Where did you go next?
 - What did you find, and how did you locate it?

(See Appendix B for Individual Interview form)

FINDINGS

Perhaps predictably, a majority of students who were individually interviewed stated that they conducted a remote search when beginning their school-related research. However, we were somewhat surprised to discover that eighty two out of 174 remote searchers began with the UMD’s libraries’ web site, as compared with forty seven students who began with a major search engine, such as Google. Seventy one students of the 259 participants reported going to the library to begin their research, however, only one student said that he or she interacted with a librarian. (See Table Three)

One our research questions was to discover whether students’ searching patterns and behaviors changed as they had more years of education. One finding that stands out is that graduate students are more likely to conduct remote searches and far less likely than undergraduates to visit the library. (See Table Four).

Where does Google come in for complex (multi-step) academic searching? From our surveys, 141 of 256 students looked in more than one place for course-related information (the other 115 found what they needed in one try):

- 31% started with a Research Port (Library database) search
 - 8.5% started with Research Port, then Google
- 23% started at the physical library
 - 7% started at the library, then went to Google
- 16% started with a Google search
 - 7% started with Google then went to the library

The responses in the focus group sessions relating to the students’ first research step when looking for information for an academic purpose did not differ greatly from the individual interview results. A majority of the students preferred to begin their searches remotely. “I usually go with the most efficient way, usually the same thing every time. If it’s school related I go to the library, if it’s everyday stuff I go to Google. I just need to find

Table Three: First Research Path, Course-Related Searches

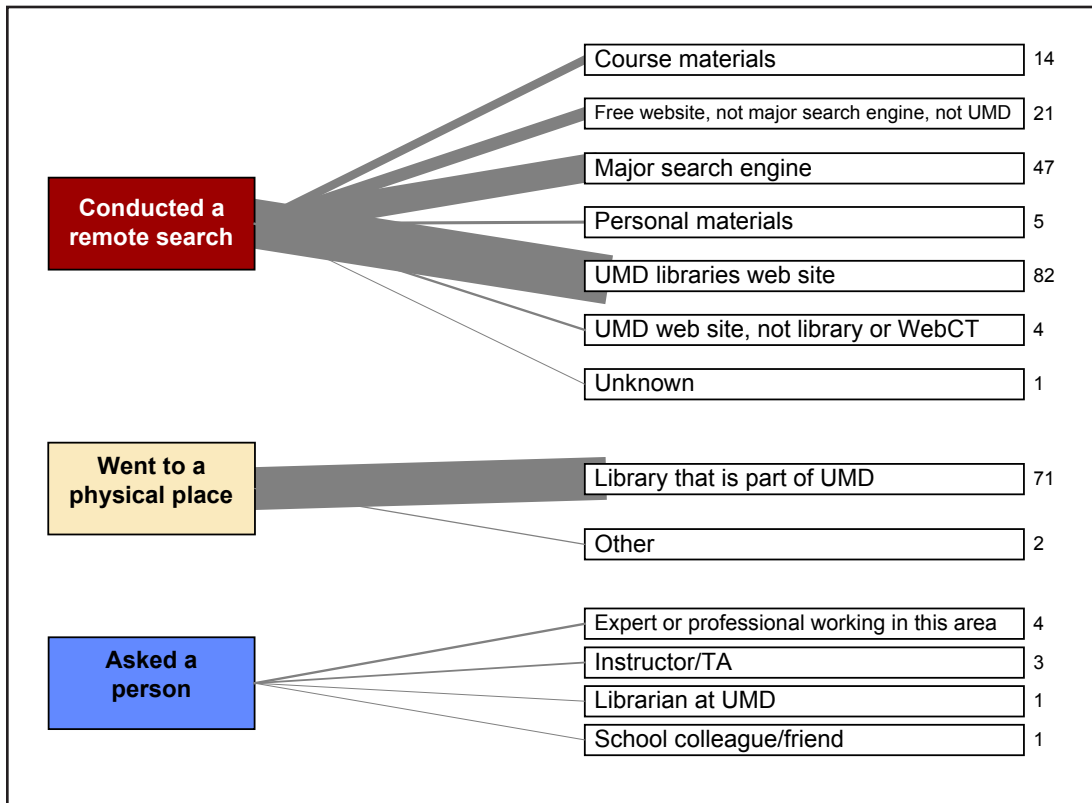


Table Four

Course -related searching – what did they use?

Method	First Try	Second Try
Conducted a remote search	Freshmen 30 70%	Freshmen 16 64%
	Sophomores 34 60%	Sophomores 16 64%
	Juniors 35 72%	Juniors 17 55%
	Seniors 34 63%	Seniors 19 79%
	Grad Students 41 75%	Grad Students 22 64%
Went to a physical place	Freshmen 13 30%	Freshmen 7 28%
	Sophomores 21 38%	Sophomores 6 28%
	Juniors 10 20%	Juniors 8 26%
	Seniors 19 35%	Seniors 2 8%
	Grad Students 10 19%	Grad Students 7 21%
Asked a person	Freshmen 0 0%	Freshmen 2 8%
	Sophomores 1 2%	Sophomores 5 8%
	Juniors 4 8%	Juniors 5 15%
	Seniors 1 2%	Seniors 3 13%
	Grad Students 3 6%	Grad Students 5 15%
(Other)		Juniors 1 3%

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things quick, what's the easiest way, the quickest way.”

For many students, the decision to use the UMD Libraries' web site is based on their assessment as to the level of authoritativeness needed for their research. Others report that their instructors require that they use library resources, “always the library first for my classes.” (UMD sophomore). Several students described using Google and other search engines rather the same way researchers of earlier generations used printed tertiary sources such as encyclopedias, to learn more in general about a subject before trying to search for more specific information. “I use Google more to find out what my topic's about so I know what I'm looking for when I have to narrowly tailor a search.” (UMD junior).

CONCLUSIONS

Convenience, speed, and currency were the most important factors for students' when deciding where to look for information. Stated one UMD graduate student during a focus group session, “If a journal article is not available online, even if it is a very good article, I will not use it.” These findings are consistent with most of the research into this latest generation of students' information seeking behaviors. “Millennials' devotion to the internet has greatly shaped the way they approach the research process. In many cases they start projects by going online and browsing around. When they have questions, they will often ping their social network for advice and guidance.” (Pew, 2006).

What do students think about librarians? They really don't think of us at all. During the focus group interviews, very few students reported having interacted with a librarian, either in person or electronically. The students expressed a strong desire to be able to conquer the research process on their own (or think that they know it all already). As one participant noted, “In the real world I am going to have to learn to do it by myself.” (UMD junior). Students reported turning to their peers for advice, often using technologies such as instant messaging, email, and online courseware discussion sections. Although almost 100% of the students in the focus groups reported using instant messaging very frequently, they consider it to be a social medium as well. When asked if they would like to be able to IM their professors or librarians, most of the students were opposed to these older people impinging on their IM social circle.

What do students think about the physical libraries on campus? During the focus group interviews many students expressed being intimidated or frustrated by the size and complexities of their physical layouts, especially what many view as the impossibility of being able to find books on the shelves. One sophomore called the library “a dense jungle of paper and ink.” Since this new generation of students grew up using the computer for doing research instead of going to a library, it is not surprising that college students feel overwhelmed by a large research library, and rely on their old pal the Internet when searching for information.

FURTHER STEPS

Our research study findings have given us a lot of insight into the information seeking behaviors and patterns of UMD students. The data gathered here can have implications for the Libraries' web site design, public services, and make us rethink they layout of the Libraries themselves. It also should make us consider how we are teaching our information literacy classes. Are we recognizing the inherent cognitive differences in this new generation of students and adapting our program accordingly?

“Nearly four-fifths of college students (79%) agree that Internet use has had a positive impact on their college academic experience.” (Pew. 2002) Our students have grown up with and embrace the Internet. Librarians should just accept already that the Internet is a viable research tool, and integrate use of the Internet into instruction.” Like all students, they learn more effectively when taught in accordance with their learning style preferences and when their worldviews are acknowledged.” (Manuel. 2002). Don't treat the Internet as a separate, distinct source of information and lecture about its validity. Manuel describes an information literacy program at New Mexico State University that replaced lectures on using and evaluating Internet sources with active, discovery learning opportunities. (Manuel. 2002). Such an approach has the added benefit of helping to develop critical thinking skills.

We should be teaching the students how to search the Internet more effectively. Most of the students in our focus groups did not use advanced Boolean operators, or advanced search screens within the search engines. “I pretend that I know what I am doing.” (UMD junior). Since we know that our students prefer to be self-learners, we should also put more effort into the effectiveness of our online guides, signage, and library websites to help students navigate both the physical and virtual sources of information more effectively.

As rapidly as technology changes, so will the perceptions and skills of our students. It is important to find out how our students are seeking information, and adapt ourselves accordingly.

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APPENDIX A: FOCUS GROUP PROTOCOL AND QUESTIONS

Information Needs and Behaviors of Students: What Individual and Focus Group Interviews Tell Us about Undergraduate and Graduate Students

Focus Group Interview Protocol and Questions

INTRODUCTION TO THE PURPOSE OF THE FOCUS GROUP:

We have organized these sessions in order to hear from you, BSOS students, about how you seek and find information. Although some of you may recognize us from the Libraries, please be assured that we are not here to judge or criticize you in any way. We want to hear about your experiences so that we can learn from you, in an attempt to understand your needs and expectations.

You are free to leave at any time.

We will be audio-taping these sessions, however, only the researchers involved in the focus groups sessions will have access to these tapes. We want to assure you that your anonymity will be protected. We will not use your names when discussing any of the information we receive from you today. We ask you to also please respect the anonymity of your classmates and keep their participation in this group confidential. Before we get started, we need you to fill out this consent form. Please let us know if you have any questions or concerns.

Note: Research questions are in *italics*, moderator questions are in bold:

What are contemporary students' information-seeking behaviors?

When you have an information need related to your studies where do you look first for information?

Where do you look second or third for an answer or answers?

When you have an information need not related to your studies, where do you look first for information?

Where do you look second and third for answers?

What role(s) do libraries and/or library staffs play in these behaviors?

Do you usually do your information gathering on your own or do you ask for help?

If you do ask for help, whom do you ask?

Do contemporary students have information-seeking models in their minds and if so, how do they describe these models?

Do you usually look in the same places when you begin looking for course-related information?

[Do you change how you look for information depending on the subject or type of information you need?

Do you always look in the same places in the same order?]

What are contemporary students' mental models of the tasks performed by Librarians?

If you have worked with a library staff member what did he or she do to help or hinder your search for information?

If you do not ask library staff members for help, why not?

APPENDIX B: INDIVIDUAL INTERVIEW FORM

<u>Demographics</u>		
Interview # _____	Major _____	Year: ___ Freshman ___ Sophomore ___ Junior ___ Senior ___ Graduate Student
Interviewer _____	Location _____	
Date: ___/___/200__	M F ?	

Please think of a recent time when you needed to find information or do research for a class. What was the information you needed, or the topic of your research?

Where did you go?

What did you find and how did you locate it?

Where did you go next?

What did you find and how did you locate it?

What did you find and how did you locate it?

Is there anything else you would like to add?