Information Literacy and Library Attitudes of Occupational Therapy Students

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ABSTRACT. Information literacy, often described as a person's ability to effectively find and evaluate answers to questions using a variety of information resources, is of particular importance to health care workers. This paper presents the results of an information literacy survey presented to occupational therapy (OT) students at Thomas Jefferson University during a series of required class activities. Also described are the authors' activities with the faculty and courses at Jefferson.

The survey was made available to first-, second-, third-, and fourth-year occupational therapy students along with nursing students and pharmacy students. The survey is designed to identify research habits, skills, and preferences. Results confirm some commonly held perceptions about searching skills of young adults and an interesting dichotomy in students' learning habits. The paper concludes with a discussion of recommendations to OT faculty and librarians on how to improve information literacy education. The survey can be obtained by contacting the authors. doi:10.1300/J115v25n04_02

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INTRODUCTION

Thomas Jefferson University, comprising Jefferson Medical College, Thomas Jefferson University Hospital, the College of Graduate Studies, and the College of Allied Health Sciences, is an academic health center in Philadelphia, Pennsylvania that tests and treats 25,000 inpatients and more than 300,000 outpatients every year, and enrolls 2,600 future health care professionals. Jefferson's Occupational Therapy program, ranked twelfth nationally by *U.S. News & World Report* in 2004, is the highest ranked Occupational Therapy Program in the Delaware Valley. During the 2004-2005 academic year, there were 125 students enrolled in the department.[1]

Until recently, the commonly held assumption by both students and faculty was that everyone knows how to search the literature.[2] The majority of students entering college have grown up knowing about the World Wide Web. The Web, the most visible aspect of the Internet, began gaining popularity in the mid1990s when many students would have been only a couple of years old. This rich information resource has always been there for them. So, to many faculty, it seemed only reasonable that librarians would no longer have to teach information searching skills to students.

Undoubtedly, part of that misconception lies with the Internet and how search engines like Google have changed our lives. The authors do not discount the value and ease-of-use Google has brought to finding resources on the Internet. Reference desk staff and teacher-librarians have long recognized the difference between knowing how to search the Internet and knowing how to identify the most appropriate information resource, structure the search in a format that the resource understands, and evaluate the usefulness of the search results for the intended application.

The recently released *Search Engine Users* document developed by Deborah Fallows, PhD, in fellowship at the Pew Internet & American Life Project, provides some of the most current statistics on Internet users.[3] For example,

- 92% of those who use search engines say they are confident about their searching skills. (p. 8)
- 68% of users in our survey say that search engines are a fair and unbiased source of information. (p. 15)
- Only "38% of those who have used a search engine are aware that there are two difference kinds of search results, some that are paid or sponsored and some that are not." (p. 17)

- Among those 38% who are aware of the two search results, "45% say they are not always able to tell [the difference]." (p. 17)
- Trust in search engine is highest among the under 30 years of age group, 72%. But even the 31 to 49 year-old-group had 71% say they trust search engine results. (p. 24)

OBJECTIVES

The purpose of this survey was to identify searching habits and skills of Jefferson's occupational therapy (OT) students. Specifically,

- What effective teaching techniques stimulate occupational therapy students?
- How do they want to learn their content?

METHODS

To answer how occupational therapy students want to learn new content and information literacy skills, during the 2004 fall semester, 87 undergraduate occupational therapy students from the Jefferson College of Health Professionals answered an online survey. This paper will share findings from the answers the students provided:

- Whom do OT students turn to for reference help and where do librarians rank?
- When do OT students want scheduled library information literacy orientation sessions?
- How much time do OT students spend on their research before seeking assistance?
- What are OT students' preferred method for learning content?
- What type of handouts do OT students find most helpful?
- What type of online multitasking do OT students experience?

DEMOGRAPHIC INFORMATION

Of the 87 occupational therapy students participating in this study, 6 were male and 81 were female. Table 1 shows the age distribution of the students, and the year of matriculation (first through fourth year) is given in Table 2.

TABLE 1. Ages of OT Students Who Took the Survey

Ages	19-24	25-30	31-35	36-40	40 over	No Response
Number of students	54 (62%)	21 (24%)	8 (9%)	2 (2%)	1 (1%)	1 (1%)

The majority of occupational therapy students preferred active learning (examples of active learning included case studies, Internet exercises, etc.) versus traditional lecture.

- 77 answered yes to active learning (89%)
- 9 answered no (10%)
- 1 did not respond (1%).

SURVEY RESULTS

Whom Do OT Students Seek Out for Reference Help?

When it comes to seeking reference assistance, occupational therapy students have a tendency to favor their classmates. This is consistent with how other health care professionals seek answers to clinical questions. Both nurses and physicians most frequently looked to peers and colleagues in seeking answers to clinical questions.[4-7] Of the OT students surveyed, 36% would ask a classmate for help, while 21% would ask a friend. Librarians came in third, with 20% of students seeking librarians for reference service. Librarians are constantly trying to market their reference expertise, but when it comes to seeking reference help, OT students continue to feel most comfortable seeking help from colleagues, friends, and supervisors before seeking help from a librarian.[8]

Why are librarians not at the top of the research totem pole? One reason may be that librarians and faculty do not schedule timely library workshops for their students. If the students are not brought to the library and introduced to librarians, the likelihood of the students seeking librarians for help diminishes over the span of their curriculum. The benefits of establishing library liaison programs for students are numerous. The students feel comfortable knowing a librarian that they can contact for reference help. For example, when asked if they had received any formal information literacy classes in their past educational experiences (how to use databases, how to navigate the library), a quarter (23 out of 87) of the students who were surveyed mentioned that no library information literacy sessions had been scheduled. Only 18% (16 out of 87) of the OT students had been given a library tour. In short, nearly 44% of

TABLE 2. Year of Matriculation of OT Students Who Took the Survey

Year	1st year	2nd year	3rd year	4th year
Number of students	46 (53%)	9 (10%)	29 (34%)	3 (3%)

the students surveyed had either had only one library tour and or were provided no library orientation.

On a positive note, 41% (36 out of 87) did mention they had a library tour with one to three information literacy sessions, although only 13% of students had multiple information literary sessions (four or more). Collaboration between OT faculty and librarians needs to continue in order for OT students to feel comfortable enough to seek out librarians for reference help. Faculty and students have expressed optimism at institutions where library liaison programs have been instituted.[9]

The Best Time for Scheduling Library IL Sessions According to the Students

Of the first-year OT students, 47% (41 students) preferred to have their library information literacy sessions at the beginning of the semester, while 18% (16 students) of third-year students preferred the library sessions later in the semester, closer to deadline(s). The most obvious reason is the third-year students already have experience working in the library and feel comfortable using knowledge-based resources, which is why they do not mind having a refresher class or advanced research class later in the semester. The majority of first-year students who took the survey wanted their library orientation at the beginning of the semester so they could practice and learn to use the resources before their projects were assigned. A small number of students 12% (10) stated they would learn to use the library resources themselves. Scheduling library workshops too early in the semester often results in re-teaching students at various service points, such as reference and circulation, later in the semester. The ideal is to schedule library orientation and workshops at or close to the time of need. In addition, scheduling follow-up workshops and offering personal consultation sessions offers alternative opportunities for students to acquire assistance.

Even with the variety of electronic communication methods available (e-mail, chat, virtual reference, Web meeting, instant messenger), the majority of OT students preferred to ask their questions in person as opposed to using electronic communication. The majority of students 68% (59 out of 87) preferred in person assistance to 17% (15) that preferred e-mail and 7% (6)

telephone. Face-to-face communication is still the preferred mode of communication for both students and faculty seeking reference assistance.[10]

Time Spent Researching Before Seeking Help

The majority of OT students (41%, 36 out of 87) worked up to 30 minutes before seeking help. The number of students dropped to 29% (25 out of 87) who worked from 30 minutes to 1 hour, and the time spent on research diminishes dramatically after one hour. A handful of students (8) would work between one and two hours, and five students would work for more than two hours before seeking reference help. Curiously, 15% (13) of the students admitted to never asking for help. These numbers seem to indicate that frustration levels set in after one hour of ineffective research, and that a timely scheduled research session, personal consultation, or follow-up workshop could help to avoid research frustrations. Response speeds for answering questions are seen as problems, with the majority of students expressing frustration in finding information.[11]

How Do the Students Solve Problems?

OT students use a variety of problem-solving techniques when it comes to answering their research questions. The majority of the students surveyed (64%, or 56 out of 87) used a combination of trial and error, consulted an expert, and/or looked up the answer on their own. More specifically, 12% (10 out of 87) would consult an expert and look up the answer on their own, while 10% (8 out of 87) of the students would use trial and error to solve their problems. These results confirm that most students use a combination of problem-solving techniques. Librarians can still be considered a valid option for helping to answer research questions, but based on OT student responses, they do not think of librarians as a primary source for consulting an expert. Continued work and collaboration between OT faculty and librarians may help improve comfort levels for OT students in seeking help from librarians.

Preferred Learning Methods by OT Students

Millennial students have grown up in a highly technological environment, and their answers to how they feel regarding different methods of learning support their technologic proclivity.[12] Table 3 summarizes the preferred learning methods of the OT students at Jefferson. The traditional lecture, with no visual aids (PowerPoint, videos, etc.), was not favored, with only 22% of the students "liking" the traditional lecture. The use of PowerPoint, videos, and

TABLE 3. Survey Results for Preferred Learning Methods of OT Students

Methods of learning	Like	Dislike	Neutral	Did not respond
Traditional lecture by Professor (no slides, PowerPoint etc.)	19 (22%)	34 (39%)	32 (37%)	2 (2%)
PowerPoint slides in Professor's lecture	76 (87%)	8 (9%)	3 (4%)	0
Videos	75 (86%)	4 (5%)	8 (9%)	0
Case studies	74 (85%)	7 (8%)	6 (7%)	0
Guest speakers	66 (76%)	18 (21%)	3 (3%)	0
Internet exercises (Database searches)	41 (47%)	27 (31%)	19 (22%)	0
In-class group discussion	66 (76%)	5 (6%)	16 (18%)	0
Group semester projects	30 (34%)	24 (28%)	32 (37%)	1 (1%)
Individual semester projects	35 (40%)	21 (24%)	31 (36%)	0

A total of 87 OT students surveyed.

case studies all scored highly, with an average of 86% of the students favoring these visually enhanced methods for learning. A popular second tier of teaching techniques would include guest speakers and in-class group discussion, with 76% of the students preferring these two methods. A third tier of learning techniques included database exercises, which was favorably considered by 47% of the students, while 31% disliked this task. Incoming millenials expect professors to use technology in their teachings, so there continues to be a need for training faculty.[13]

Surprisingly, there seemed to be no consensus comparing individual versus group semester-long projects. Forty percent of the students preferred individual semester projects, while 34% preferred group semester projects.

Types of Handouts

These OT students were asked if they preferred handouts with text or screen shots. One would think that the students would prefer only screen shots with minimal text, as opposed to text heavy handouts with little to no screen shots and/or images, but the results were evenly split; 51% (44 students) preferred screen shots and 47% (41 students) preferred more text. Preparing handouts that balance a combination of images with succinct text are what students expect. Positive feedback has been received from a variety of handouts designed by Education Services staff within Academic and Instructional Support and Resources at Thomas Jefferson University.[14] Including information on how to

access resources, contact information for help, and succinct explanations with relevant screen captures helps students revisit content after they have completed a workshop and left the library.

Online Multitaskers

These students are in the habit of multitasking when online. The majority of students (82%, or 71 students) admitted to multitasking while working on a computer. The most common computer multitask is e-mail (98%), and this is supported in numerous studies.[15] Telephone and instant messaging were also very popular (40% and 38%, respectively). What do these numbers indicate? The authors would argue that even though the students prefer to ask questions in person, instant messaging and e-mail will eventually grow to be popular alternative methods for students to seek help from librarians. The issue that librarians need to address is how to effectively promote and educate students about accessing online help.

COMPARING OT RESULTS WITH NURSING AND PHARMACY STUDENTS

The survey was also administered to Jefferson nursing students and pharmacy students from Temple University and the University of the Sciences in Philadelphia. The pharmacy students complete a six-week rotation at the Thomas Jefferson hospital. The sample size for these two groups was smaller compared with the OT students sample, but several of the findings are similar with a few surprising findings.

For example, nursing and pharmacy students preferred library instruction to be scheduled at the beginning of a semester, and the majority will work on research up to 30 minutes before seeking assistance. These students also preferred active learning compared with traditional lectures; the majority are multitaskers; and they prefer using PowerPoint presentations, videos, case studies, guest speakers, Internet exercises, and in-class discussion.

Nursing and pharmacy students did differ from OT students in how they responded to several of the survey questions. Surprisingly, both nursing and pharmacy students preferred asking librarians for help on research, followed by friends, professors and then classmates. OT students preferred to ask classmates and friends followed by librarians. Pharmacy students aligned themselves with OT students in disliking the traditional lecture, while nursing students preferred traditional lectures. A final similarity between OT and pharmacy students is their preference for handouts with screen shots, while nursing students pre-

ferred more text. Even though the sample sizes of the pharmacy and nursing students are smaller, patterns emerged as to what specific disciplines prefer when it comes to how library instruction is delivered.

CONCLUSION

Little scholarship exists on how occupational therapy students are taught library skills. This survey attempted to seek answers to different types of pedagogical techniques related to information literacy for OT students. This paper attempts to continue the research by Powell and Case-Smith and to offer further insight into how OT students learn and want to be taught library instruction.

Understanding how incoming millennial OT students study and how they seek reference assistance can help both OT faculty members and librarians in finding effective teaching techniques and formats. There continue to be methods for educating OT students that work well according to the students surveyed such as personal interactions, hands-on instruction in learning, and using case studies. Most OT students want organized information literacy sessions at the beginning of a semester, they want handouts that combine a balance between text and images, and they want to consult with colleagues and instructors for assistance. Working together, occupational therapy faculty and librarians can reduce the stress of literature review assignments while at the same time improving the quality.

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