Introduction to Data Collection Project: Information Literacy Program at Villanova University

Information Literacy is defined by the Association of College and Research Libraries as “the set of skills needed to find, retrieve, analyze, and use information.” It is an essential skill, which is useful not only to students, but also to job seekers, employers, and professionals. The ability to retrieve and analyze information is an important part of everyday life for all people: For example, we all need information gathering skills to make informed decisions about personal healthcare, financial investments, and education. Researchers both nationally and internationally recognize its importance, and thus have conducted numerous studies measuring its effectiveness.

My data collection project focuses on the Information Literacy Program in the College of

1http://www.ala.org/ala/mgrps/divs/acrl/issues/infolit/overview/intro/index.cfm

Nursing at Villanova University, a private Catholic university located in Pennsylvania. My study concentrates exclusively on Freshman Nursing students in their Fall semester because only students in the College of Nursing are required as part of the curriculum to attend a short series of Information Literacy classes. Participation from other departments and colleges at the University is voluntary and sporadic, and thus by focusing on the Nursing students, I will have a greater amount of resources from which to gather information.

My study will measure the impact of the Information Literacy Program on the Freshman Nursing students' abilities in the following three areas: 1) willingness to ask librarians for assistance when necessary 2) use of library databases vs. google or other internet search engines 3) citations of scholarly journals vs wikipedia and other internet websites. Obviously, a study on information literacy may measure any number of topics, but because of practical constraints, such as limited financial resources and time, I need to limit my study. I chose to study these three areas in particular for the following reasons: A study conducted by Donald Case found that most students, in fact eight out of ten, do not ask librarians for advice on conducting research, on finding reference material, or on using electronic databases.\(^3\) I find this to be an alarming statistic: if students are not engaging with information professionals on a regular basis, how can they improve their information seeking skills or find relevant research material? My study will address this important issue by showing how information literacy classes persuade students to take advantage of the resources available to them at the university library. Secondly, my data collection project seeks to determine if information literacy programs change students' attitudes about electronic databases. Studies show that students rely on internet search engines when conducting research. For example, in Head and Eisenberg's study 99% of those polled rely on Google and 92% on Wikipedia.\(^4\) Lastly, do information literacy classes have any impact on the number of scholarly


citations in students' research papers? Simply using an electronic database vs an internet search engine does not necessarily mean that the student will make use of the resource. For example, are students able to find the book or article in the library? In a study conducted by O'Connor and Lundstrom, a student wrote in his or her research journal that after finding a book on the library database, he or she did not use that resource in the research paper because of the inability to locate it in the library. Another student in the same study reported that they tried using the database, but gave up because he or she was unable to use the keyword search properly⁵.

**Literature Review: The Relevance of Conducting a Study of Information Literacy Programs**

My study is important because it may have implications for the greater Villanova university community in that it might provide evidence convincing the administration to adapt a university wide mandatory information literacy program for all incoming Freshman. Such a decision would improve the quality of education at our institution of higher learning because according to the American Library Association, information literacy skills carry beyond the classroom, empowering people to succeed: “Information literacy, therefore, is a means of personal empowerment. It allows people to verify or refute expert opinion and to become independent seekers of truth. It provides them with the ability to build their own arguments and to experience the excitement of the search for knowledge. It not only prepares them for lifelong learning; but, by experiencing the excitement of their own successful quests for knowledge, it also creates in young people the motivation for pursuing learning throughout their lives.”⁶

A literature review supports and adds significance to my study: I will first summarize briefly three articles dealing with information literacy and then I will discuss in the final section how those studies have influenced the methodology in my data collection project.


⁶http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm
In their article *Contribution of an Information Literacy Programme to the education Process: The Case of Greek Academic Library*, Aphrodite Malliari and Ilias Nitsos discuss the online information literacy program of the Alexander Technological Education Institute of Thessaloniki (ATEITh). Only a few departments at the Institute require students to take the course, but the results of their study show that such an online course would be beneficial to the greater university community. As part of their data collection, they distributed questionnaires to faculty members whose students were not involved in the information literacy program. The questionnaires were distributed via e-mail and initially received a poor response, and consequently, in-person interviews became necessary. In the end 362 Faculty members responded to the survey. The questionnaires included 19 closed type questions and measured 28 variables. The results of the survey showed that 93.5% of the teaching staff required their students to write research papers and yet 47% of faculty members reported that students had difficulty in finding resource materials. Most professors (75%) reported that they supported the idea of Information Literacy courses and believed that they should be made mandatory for all students at the Institute. A similar survey was distributed to 253 undergraduate students: 35% of students reported having difficulty finding resources, 58% reports problems using keywords in a the library database, and 93% thought that an information literacy training session would prove useful for them.7

Malliari and Nitsos' study adds relevance to my idea for a data collection project because its results show that students' information seeking skills are lacking, and that both students and professors support the idea of an information literacy program to strengthen those weak skills. The goal of Malliari and Nitsos' study is also very similar to mine in that they are trying to build a case for expanding a limited information literacy program: At both Villanova University and ATEITh only certain departments have mandatory information literacy courses. Our studies both try to show the benefits of expanding such programs to the greater university community.

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In the article *Texas Information Literacy Tutorial on the Information Seeking Ability of First Year College Students*, William A. Orme analyses the effectiveness of the library information program at his institute of higher education. Indiana University-Purdue University Indianapolis (IUPUI) in 1996 created an information literacy program which included collaboration between professors, librarians, advisors, and student mentors. The program became very popular and soon there weren't enough librarians to fill all the course sections. In order to solve this problem the librarians at IUPUI began using a computer-assisted instruction program called Texas Information Literacy Tutorial (TILT).

Orme argues that information literacy is a practical lifelong skill, and to accurately measure the effectiveness of information literacy programs, one must study the influence it has on the students' long term academic career. He divided the students into four groups in the Fall 2000: 1) students who receive no Information Literacy classes 2) students who attend only TILT sessions 3) students who participated in both TILT and classroom information literacy sessions 4) students who attended classroom information literacy sessions. In order to measure the long term effects of the various programs, students were given a questionnaire in Spring 2001 after their classes were completed. In addition to the questionnaire, students were also given the task of researching the term *Information Literacy* on a specific library database. The results showed that students who received information literacy training (either online or in the classroom) faired better than those who did not. The most interesting part of the study showed that students exposed to TILT were better able to transcribe critical citation elements (article author, article title, periodical title, volume, issue, and date of publication) than students who received only classroom instruction or no instruction at all.

Orme's study adds relevance to my own because it gives further proof that students lack the necessary information seeking skills to succeed and gives evidence supporting the idea that

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information literacy courses, whether on-line or in the traditional classroom, improve the student's researching skills. This article also discusses the practical side of implementing an online information literacy course which may be useful in my study: For example, Villanova has limited financial resources and staff, and so how can administrators even consider expanding their information literacy programs even if they do prove beneficial? Orme addresses these issues and suggests ways of implementing online informational literacy tutorials.

Lisa O'Connor and Kacy Lundstrom's study supports my idea for a data collection project because it gives further evidence of the effectiveness of information literacy programs. In their article *The Impact of Social Marketing Strategies on the Information Seeking Behaviors of College Students* they examine differing teaching methodologies in their information literacy program. They compare the traditional skills based method with the Social Marketing Method. The Social Marketing Method attempts to apply strategies used in marketing and advertising to influence consumers to teaching techniques in the classroom. For example, according to this article, studies indicate that students are less concerned with the reliability of resources than they are with the ease in which they can use them. Thus, instead of telling students that they should turn to librarians for help because it will help them find more useful information, students are told they should do so because it is easy, reliable, and convenient. As part of the data collection, the students were divided into three groups: 1) no information literacy program 2) social marketing method 3) traditional method. The results of the data collection showed that students enrolled in information literacy courses (whether traditional method or social marketing method) fared better than students who didn't receive any instruction. One of the key differences between the social marketing method group and the traditional group is that students in the social marketing group were more enthusiastic about information literacy and libraries than their peers in the traditional group. The authors reflect on this information and suggest that enthusiastic students will probably be more likely to frequent...
libraries and to improve their information seeking skills than their less enthusiastic peers. As part of their data collection, O'Connor and Lundstrom used student journals, surveys, bibliography pages and questionnaires. Students were not required as part of their class to participate in any aspect of the data collection survey. In other words, student participation in the study was voluntary.

Data Collection Techniques

As outlined in my introduction I want to measure how students find information: Do they prefer library databases or internet search engines? Do they ask librarians for help when appropriate? In order to find answers to these questions, I will administer a short pre and post written questionnaire to the Nursing students. The questions will be both multiple choice and open ended. Orme, Malliari, Nistsos, O'Connor and Lundstrom all used questionnaires in their study. Malliari and Nistsos reported difficulty with getting faculty and student responses. Consequently, they had to conduct in person interviews in order to get the information. I may face the same challenges in my data collection if the students are not required to hand in the survey as part of the information literacy course. Perhaps, I could help resolve this problem by administering the survey during the class period and giving students time to complete it in class. However, students who are absent might not get the chance to complete the form, and students taking the survey may leave open ended questions blank.

I also want to measure how many times students cite scholarly articles vs. websites, and wikipedia articles in their papers. O'Connor and Lundstrom's study suggests collecting the students' bibliography pages. They assign different categories to each type of citation, such as: government publications, websites, wikipedia, scholarly journals, books, and other. Next they simply count how many times the students cite sources from the various categories. I will use this method because I think it is quite useful even though, given the large number of students in my
study, it is very work intensive. As in O'Connor and Lundstrom's study, I will have to obtain permission from the professor and the students in order to collect and use the bibliography page.

Finally, I will administer a pre and post assessment to the students. The tests will be multiple choice and will measure, for example, the students ability to identify relevant Nursing databases, to conduct a keyword search, and to identify the title of a Journal Article and Publication in a citation. My reason for using a pre and post assessment are as follows: Librarians who conduct information literacy courses at Villanova University, in particular Barbara Quintiliano, all use pre and post assessments to measure the effectiveness of their program. The assessments are not voluntary, and are part of the students' grade for the course. This assures that I will be able to collect enough data from the students. Moreover, several books on information literacy suggest using a pre and post assessment as a data collection instrument.\(^\text{10}\).

**Data Collection Method:**

1. On the first day of the Information Literacy Class I will administer a Pre Questionnaire. Students will be required to complete it in class. It counts as a homework grade. The students will be instructed not to write their names on the survey so that I can get honest/unbiased answers.

2. On the first day of the Information Literacy Class I will administer a Pre Assessment. The students will complete it in class as part of a mandatory class activity. It will not be graded, but it will count as a homework grade. If they complete the Pre Test, they will receive 100% homework grade, but if they do not, they will receive a 0% homework grade for that day. Students will write their names on the test.

3. On the last day of the Information Literacy Class I will administer a mandatory Post Assessment which will be graded. Students will write their names on the test.

4. On the last day of the Information Literacy Class I will administer a Post Questionnaire.

Students will complete it in class and it will be mandatory. It counts as a homework grade. The students will be instructed not to write their names on the survey so that I can get honest/unbiased results.

5. At the end of the semester, students will hand in a copy of their bibliography page. (I will have to obtain permission from both the students and the professors before collecting the bibliography.) I will categorize each of the student entries into one of the following eight categories: 1) Books 2) Government Websites 3) Popular Journals/Magazines 4) Websites 5) Video 6) Scholarly Articles 7) Interview 8) Other.
Pre questionnaire:

This survey is designed to give us an idea of your present and past research behaviors. This survey is mandatory and will count as your first homework grade. Your instructor will not grade the survey, but will record that you submitted it. He/She will not see the results of this survey until all final grades have been submitted for this class. Your responses will remain anonymous.

1) Age: Please place a check mark next to your age group.
   ___18-22 years old
   ___23-30 years old
   ___30-40 years old
   ___more than 50 years old

2) Gender: ___Male   ____Female

3) How useful are the following resources when you are conducting research for a paper?
   Internet Search Engine (yahoo, google, etc): 4)very useful 3)useful 2)somewhat useful 1)not useful
   Wikipedia:    4)very useful 3)useful 2)somewhat useful 1)not useful
   Library Database:    4)very useful 3)useful 2)somewhat useful 1)not useful

4) When you need help with your research, do you ask for help? ___yes ___no
   If yes, place a check mark next to the persons that you have asked for help when conducting research. Check all that apply.
   ___University Librarian
   ___College Professor
   ___Parents/Family
   ___Classmates
   ___other: ____________________

5) Did you ask a librarian for help when you were conducting research on your paper this semester? ___yes ___no
   If yes, was the experience helpful? Explain.

6) Have you used the library's database to conduct research? ___yes ___no
   If yes, was the database easy to use? _____ yes _____no. Explain:

   Did you find any relevant resources using the database? _____ yes _____no. Explain:
Post questionnaire:

This survey is designed to give us an idea of your present and past research behaviors. This survey is mandatory and will count as your last homework grade. Your instructor will not grade the survey, but will record that you submitted it. He/She will not see the results of this survey until all final grades have been submitted for this class. Your responses will remain anonymous.

1) Age: Please place a check mark next to your age group.

___ 18-22 years old
___ 23-30 years old
___ 30-40 years old
___ more than 50 years old

2) Gender: ___ Male  ____ Female

3) How useful are the following resources when you are conducting research for a paper?

Internet Search Engine (yahoo, google, etc): 4) very useful 3) useful 2) somewhat useful 1) not useful

Wikipedia: 4) very useful 3) useful 2) somewhat useful 1) not useful

Library Database: 4) very useful 3) useful 2) somewhat useful 1) not useful

4) When you need help with your research, do you ask for help? ___ yes ___ no

___ University Librarian
___ College Professor
___ Parents/Family
___ Classmates
___ other: ____________________

5) Did you ask a librarian for help when you were conducting research on your paper this semester? ___ yes ___ no

If yes, was the experience helpful? Explain.

6) Have you used the library's database to conduct research? ___ yes ___ no

If yes, was the database easy to use? ______ yes ______ no. Explain:
Did you find any relevant resources using the database? _____ yes _____ no. Explain:

7) Did the Information Literacy Course change the way you conduct research for a paper? Explain.

**Pre Assessment:**

1. You are writing a paper on diabetes and children. Which three keywords would you type into the search on a library database to yield the most specific results pertinent to this topic:
   A. child* and diabetes  
   B. children and diabetes  
   C. children* and diabetes

2. What truncated term would you type into the search box to retrieve teen, teens, and teenagers on a library database?__________

3. True or False: Students pay a fee to use Interlibrary Loan. ______

4. What is the title of the article in the following citation? ______________________

5. What is the title of the Journal in the following citation? ______________________

6. Which characteristics are true of scholarly journal articles, but NOT of wikipedia entries? (circle all that apply)
   a. Articles are written for other researchers, professors or for serious students of the subject.
   b. Articles are not “peer reviewed”.
   c. Articles are written by experts in field.

7. Which citation is written in the APA style format?__________

8. What is the best database to use when you want to find articles published in nursing journals?
   a) PubMed  
   b) CINHAL  
   c) Nursing Today
Post Assessment

1. You are writing a paper on substance abuse in teenagers and young adults. Which three keywords would you type into the search on a library database to yield the most specific results pertinent to this topic:

A. teen* and substance abuse
B. teenagers and substance abuse
C. teen* and substance abuse or drugs

2. What truncated term would you type into the search box to retrieve fish, fisheries, and fisherman on a library database?_________

3. True or False: Interlibrary Loan is an overnight service. ______

4. True or False: What is the title of the article in the following citation? _______________________


5. What is the title of the Journal in the following citation? _______________________


6. Which characteristics are true of scholarly journal articles, but NOT of wikipedia entries? (circle all that apply)

a. Articles are written for other researchers, professors or for serious students of the subject.
b. Articles are reviewed by a board of experts or “peer reviewed”.
c. Authors are usually affiliated with research centers and universities.

7. Which citation is written using the APA style format?


8. What is the best database to use when you want to find articles published in nursing journals?

a) PubMed
b)CINHAL
c) Nursing Today

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Student bibliography:
I will collect the bibliography pages from the students and place each of their references into the following eight categories:

1) Books
2) Government Websites
3) Popular Journals/Magazines
4) Websites
5) Video
6) Scholarly Articles
7) Interview
8) Other
Reference List


Websites Cited

http://www.ala.org/ala/mgrps/divs/acrl/issues/infolit/overview/intro/index.cfm

http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm