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Learner: **Steven Diaz**

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**LTM5000**

**Dr. Amy Peterson**

**Educational Applications of the Internet**

**Assignment 6: Essay – Searching the Internet**

**Dr. Peterson,**

**I thought I was knowledgeable about using Internet search engines. This assignment proved me wrong. Very interesting assignment!**

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Essay – Searching the Internet

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Being the Internet so popular these days, using search engines to find information seems second nature for most Internet users. According to Roach (2004) who summarized a phone survey conducted by the Pew Internet & American Life Project, using search engines to find information is the second most popular online activity among Internet users. This finding probably implies that most users feel comfortable and confident using search engines to find information in the vast and unlimited space of the Internet. However, most web users are naïve on why and how they use search engines and lack the awareness on how search engines work and display its results (“Web Users Are,” 2005). I certainly belonged in the category of naïve web users. I assumed there was nothing new to learn in using Internet search engines since for me, all search engines operated the same way. This assignment proved how wrong I was with my assumption.

I have behaved as most conservative Internet users do when searching for information, “They tend to settle quickly on a single search engine and then stick with it, rather than switching as search technology evolves or comparing results from different search systems” (“Web Users Are,” 2005, para. 4). My favorite search engines are Yahoo and Google and I rarely have used other search engines when looking resources for my math courses. There is no doubt I have missed valuable and useful information when I limited my Internet searches to only two popular search engines. Goldsborough (2007) emphasized the shortcomings of relying too much on popular search engines, in particular Google, to search the wealth of information available in the Internet when he stated “Google may be the only search tool that you use, but if it is, you may be missing out” (para. 2). From this assignment, I learned there are different types of Internet

search engines that facilitate the search for information and could possibly prevent *search fatigue*. Beall (2007) defines *search fatigue* as follows:

“It is the feeling of frustration and dissatisfaction experienced by searchers trying unsuccessfully to find desired information in a database. It results when searchers cannot find what they are looking for and when they repeatedly get results that do not match their information needs” (para. 1).

Certainly, most web users at some point have felt exasperated of doing searches that has lead to not meaningful and useful information. There is no doubt I have felt such way in many instances during my academic and professional journey.

The Internet contains a wealth of resources and information, and its wealth continues growing everyday. Lang and Park (2001) stated today’s professionals have a considerable challenge finding critical information quickly due to the vastness and rapid growth of the Internet. I have searched the web for long hours looking for resources to enhance my classroom learning experiences. In many instances, I was not able to find quickly the desired information not until after the class ended and my persistence in finding it for future classes. In today’s society, information is a precious commodity and searching efficiently for information is a required skill for any professional whose job depends on it. Even Hofstetter (2006) acknowledged the importance of searching efficiently for information when he stated “The key to unleashing the research potential of the Internet is to know how to use the search engines” (p.168).

I work as a math instructor for the Academic Enhancement Center (AEC) of St. Thomas University (STU). The main purpose of AEC is to help our students achieve academic success, in particular the area of mathematics. One area students often look for help at the center is to

cope with their math anxiety, which is defined “as a feeling of intense frustration or helplessness about one’s ability to do math” (“Coping with,” n.d.). For such reason, I decided to search information about math anxiety and provide resources and readily available materials to help our students overcome their anxieties and challenges doing math. My quest for information to create a bibliography of material about math anxiety was done using the following search techniques: Subject-oriented searching, Keyword searching, Concept searching, Metasearching, Human searching, and Scholarly Searches.

I started the research for my topic doing a subject-oriented searching as suggested by Hofstetter (2006) who stated the benefits of doing this type of search technique first, “This will tell you how much information is available about your topic as a subject that other people have written about” (p. 169). I used three subject-oriented directories: Yahoo (<http://dir.yahoo.com>), Google (<http://directory.google.com>), and Dmoz (<http://www.dmoz.org>). The first directory I used was Yahoo, which according to Hofstetter (2006), “Yahoo is the most popular subject-oriented directory’ (p.169). However, I barely found information about my topic with Yahoo, only finding two sites. The following was the path of both searches:

Directory>>Science>>Mathematics>>Education>>Professor Freedman’s Math Help (<http://www.mathpower.com/>) and Directory>>Science>>Mathematics>>Education>>K-12>>Newton’s Window (<http://www.suzannesutton.com/>). With the other two directories, I found interesting these (e.g. Google and Dmoz) have a category for math anxiety, which Yahoo lacks. The following paths were used to find about math anxiety and both directories contained a total of six links: Google’s Directory >> Science >>Math >>Education>> Math Anxiety and Dmoz’s Top >> Science >>Math >>Education>> Math Anxiety. I found the navigation of subject-oriented directories cumbersome and tedious, and less content of information. However,

the names of the categories could be used as identifiers or descriptors to narrow the research of a topic with other searching techniques.

The next search technique I used was keyword searching, which search for keywords in all documents posted in the Internet. This was done using the AltaVista search engine (<http://www.altavista.com>). The keyword used with this search engine was *math anxiety*, which I found a wealth of information (about 5,200,000 hits) such as websites, papers (in PDF format), books for sale, discussion forums, literature review, interview questions to diagnose math anxiety, and many more. I was overwhelmed with the high number of hits about math anxiety, so I decided to narrow the search using the option *The exact phrase* by inserting quotation marks to the keyword *math anxiety*, which resulted in 247,000 hits. Even though the high number of hits with AltaVista search engine, I found the first 20 pages of displayed search results relevant, informative, specific, and useful information. However, keyword searching is considered the main cause for *search fatigue* due to the potential of an excessive amount of irrelevant hits of a topic (Beall, 2007).

According to Hofstetter (2006), concept searching is ideal to overcome and ease the difficulties of keyword searching. I decided to use the Excite search engine (<http://www.excite.com>) since Hofstetter (2006) stated is a concept-based search engine to research about my topic. Using the same keyword (i.e. *math anxiety*) from the previous search technique, the number of hits using concept searching (75 hits) was significantly less than with keyword searching (e.g. 5,200,000 hits). However, there were many hits irrelevant to my topic. For example, one of the hits was about counseling for depression since the description of the site contained the concept word *anxiety*. The search results improved when using the option *The exact phrase*, which resulted in 56 hits and the irrelevant sites were not displayed anymore in the

list of search results. A useful tool of the Excite search engine was the option of *automatic categorization technology* which helps refine the search of my topic. A list of categories or concepts was displayed in a separate list than the search results with categories or concepts such as *Cause of Math Anxiety, Math Anxiety Research, Math Anxiety Strategies, Fear of Math*, etc. In addition, Excite provides a list of recent searches done by the user, which helps track the keywords used during the searching process.

I continued searching for information about math anxiety using next the metasearching technique, which Hofstetter (2006) stated “is the searching of searching” (p. 172) by using a variety of other search engines simultaneously. I tried two metasearch engines, MetaCrawler (<http://www.metacrawler.com>) and CNET Search.com (<http://www.search.com>). With MetaCrawler, I received similar results as with the Excite search engine. Both engines have identical search tools and options. The only difference was that I received less number of hits (71) with MetaCrawler than with Excite (75 hits) when using the option *All of these words*. The number of hits was also less when using the search option *The exact phrase* (MetaCrawler: 52 hits versus Excite: 56 hits). Due to the similarities of these two search engines, I made the inference that the Excite search engine is not only a concept search engine as stated by Hofstetter (2006), but also a metasearch engine. One useful tool I liked about MetaCrawler was the ability to display parallel lists of the metasearch results, and one from the search engines (e.g. Google, Yahoo, MSN, Ask.com and About.com) used in the metasearch. This tool could be used to compare the relevance of the top search results among the search engines which could provide additional details about the reliability of the information.

Due to the similarities between Excite and MetaCrawler, I decided to use CNET Search.com (which was also suggested by Hofstetter) to find out if the search results of my topic were

different. CNET Search.com search engine gave me more hits than the previous metasearch engine with a total of 80,920 when using the search option *All of these words* and 10,820 hits when using the search option *The exact phrase*. What I found interesting about this search engine was the options *Narrow Your Search* and *Expand Your Search*, which could help refine the search of a topic. These options provided a list of related topics to help me narrow or expand my search about math anxiety. Another useful tool is the option to preview my hits before activating the link. A thumbnail or small image of the site is shown next to each hit of the search results list. In my opinion, I found most of the search results from CNET Search.com relevant to my topic.

The next search technique I used to find information about math anxiety was human searching, which according to Hofstetter (2006) a skillful person doing research will help me search for my topic and e-mail me the results. I have never used this search technique before, and it was an interesting experience getting help from professionals dedicated to answer my queries. Following Hofstetter (2006) suggestion, I used Refdesk.com (<http://www.refdesk.com/expert.html>) which the site contains a list of *Ask the Experts* and is divided into two categories: Services and Subjects. Using the Service category, I chose two sites to post my question (i.e. *Is math anxiety a learning disability?*): *MathCentral: Quandaries & Queries* (<http://mathcentral.uregina.ca/QandQ/>) and *Teacher2Teacher* (<http://mathforum.org/t2t/>). In each of these sites, I had two options: look in their archives or post a question. With *MathCentral: Quandaries & Queries*, I sent my question which was answered by a person (i.e. Victoria West) in less than 24 hours after my submission. The response was the expert's opinion about my question and suggestions on how to find more information. What I found interesting about using *MathCentral: Quandaries & Queries*, it was

that my question initiated the topic of math anxiety in the site. With Teacher2Teacher site, there was already posted discussions on Math Anxiety. I search through the list, but I was not satisfied with the information available; therefore, I decided to post my question. At this moment, I have not received a reply with the answer of my question, which it was disappointing.

Not satisfied with the above human searching sites, I decided to follow the suggestion of Monson (2007) to use ChaCha search engine (<http://www.chacha.com>) and who stated that “ChaCha Search lets you chat with a real live professional guide who takes your query and returns related results tailor-made to your specifications. The service is quirky enough to be a lot of fun, and it's completely free” (para. 1). Using a chat room, I asked for help to find more information of my query (i.e. *Is math anxiety a learning disability?*). Two guides searched Internet sites to answer my query and posted relevant sites or hits on my screen. The advantage of this service is that the guides eliminate those hits that are not related or relevant to my query. However, I found during my previous searches most of the search results posted by the guides.

The last search technique I used to find more information about math anxiety was the scholarly searches, which according to Hofstetter (2006) is one way to filter unreliable or bad information posted in the web since is a public resource and its searches are restricted to information that has been evaluated by experts in their field. Two search engines were used: Educational Resources Information Center or ERIC (<http://www.eric.ed.gov>) and Google Scholar (<http://scholar.google.com>). With ERIC, I had 529 hits about math anxiety. Once I have the search results, I had the options to view the *full text* (PDF files) of the information if available and to *find in a library* or *visiting the publisher's web site* if the information was not readily available at ERIC. This last option allowed me to search the article in the publisher's site and to find related articles of the topic. The option *finding in a library* provided a list of libraries

by my area code where I can find the article. It was interesting that many articles were available in the library of the university I work for. ERIC indicates if the articles are peer-reviewed, which are preferable for research papers. ERIC provides descriptors which could help refine my search. Abstracts are available for a quick view of what the article is about without looking the entire document.

With Google Scholar, I received 40,100 hits when using the search option *All of these words* and 3,010 hits when using the search option *The exact phrase*. Many of the search hits were coming from ERIC and SAGE Journals. It was interesting that scholar.google.com provided additional information about my search results. For example, the option *Cited by* identifies other papers that have cited articles in the group, the option *Related Articles* finds other papers that are similar in the group, and the option *Library Links* locate libraries with electronic or hard copies of the document. These options are useful to expand or narrow my research.

In summary, I had a unique, productive and meaningful experience using different search techniques. I discovered that no single search engine is capable to reach all the vast information available in the Internet. Hofstetter (2006) stated “To find what you want, you need to understand how the different kinds of search engines work. Then you will be ready to conduct a search that has a better chance of finding what you seek” (p. 167). There has been instances that I thought what I was seeking was not available in the Internet; however, it was my lack of knowledge on how search engines work which closed the doors of opportunity to discover new information. Each search technique has its advantages and disadvantages, and for such reasons, a mixed of search techniques should be used to find effectively and quickly the information I seek.

In my opinion, I prefer using scholarly searching since the results were relevant and reliable than any of the other search techniques. However, I will supplement the scholarly searching with metasearching and concept searching due to the availability of search tools and options that help me refine the search. In addition, metasearch and concept search engines are ideal to avoid the redundancy of search hits a user could find when using single popular search engines (e.g. Yahoo, Google, etc.). I agree with Beall (2007) that keyword searching is preferable when searching for a rare word or when the search is not as crucial or serious for the researcher. Subject-oriented and human searching will be my last resource to search for information in the Internet. These search techniques were ineffective for quick searching of information and lacked content; however, these techniques could be convenient and practical for the novice Internet user.

Goldsborough (2007) stated “Since the inception of web search engines in 1993, one of the mantras of the Internet has been ‘seek and ye shall find’” (para. 1). However, finding what we want has become an art or a skill. There is no simplicity using the simple search blank field of a search engine.

## References

Beall, J. (2007). Search Fatigue. *American Libraries*, 38(3), 46-50,3. Retrieved December 18, 2007, from Research Library database. (Document ID: 1271157321).

Goldsborough, R. (2007). New developments in web searching. *Teacher Librarian*, 35(1), 50,64. Retrieved December 18, 2007, from Research Library database. (Document ID: 1379475001).

Hofstetter, F. (2006). *Internet Literacy*. New York: McGraw-Hill Irwin.

Lang, R. , & Park, S. (2001). Speed Up Your Internet Searches. *Occupational Hazards*, 63(4), 44-47. Retrieved December 18, 2007, from Research Library database.

Monson, K. (2007). 11 Ways to Search Without Google; Hooked on Google? Here are a few ways to break your addiction and still find exactly what you need. *PC Magazine*, 26(17), 72-74. Retrieved December 18, 2007, from Research Library database. (Document ID: 1322497511).

Platonic Realms (n.d.). *Platonic Realms Mini Text: Coping With Math Anxiety*. Retrieved December 18, 2007, from <http://www.mathacademy.com/pr/minitext/anxiety/index.asp>.

Roach, R. (2004). Search Engines Essential to Internet, Study Finds. *Black Issues in Higher Education*, 21(16), 37. Retrieved December 18, 2007, from Research Library database. (Document ID: 711309211).

Web Users Are Unsophisticated Searchers, Survey Finds. (2005). *Information Outlook*, 9(4), 8. Retrieved December 18, 2007, from Research Library database. (Document ID: 824556471).