Is Good Enough OK? Undergraduate Search Behavior in Google and in a Library Database

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Introduction

- Undergrads and research
  - Google vs. library database
- Librarians and awareness of information seeking behaviors
  - Address behaviors
  - Meet expectations
  - Promote licensed databases

Methodology

- Demographics of participants
- Observations
  - Student consent to participate
  - Pre-search survey questions
  - Choice of two pre-determined topics
  - Search in database Academic Search Premier (ASP) and in Google

Set-up

- Computer with Morae software
- Headset with microphone
  - Students to verbalize steps in search process
- Observers
  - Watched on large screen, listened to students' comments, took notes
  - Did not prompt or assist students
  - Carefully observed choice of search terms, strategies, consideration of results

Post-search interview

- Gathered student comments about:
  - Interface preference
  - Techniques used
  - Satisfaction with search results
  - Observation experience
- Analyzed data from Morae software and notes

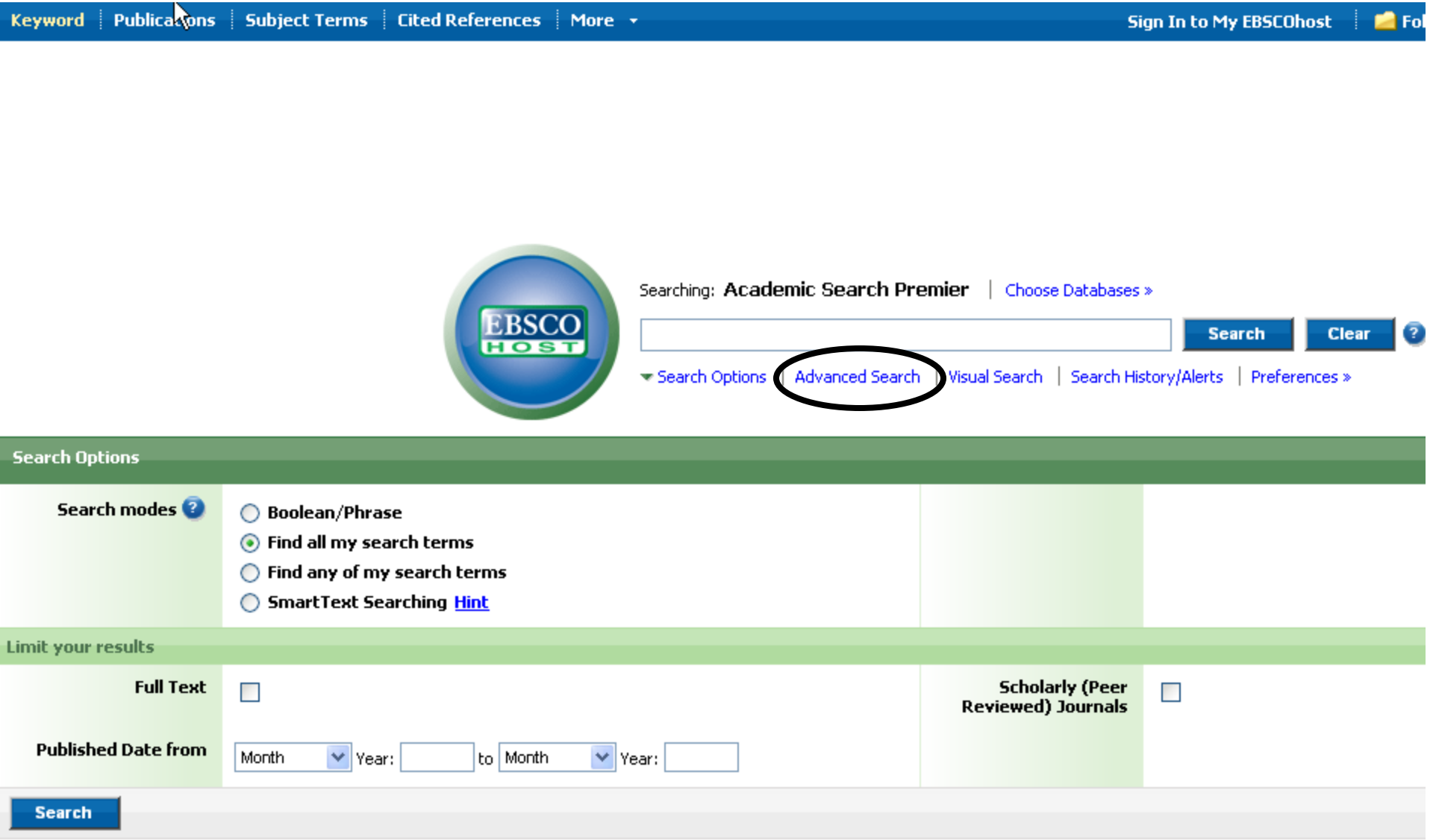
Observations: topic

- *Potential effects of vaccines on autism (9 students)*

- *Effects that the Vietnam War had on popular culture in the U.S. (5 students)*

Observations : *Academic Search Premier*

- None of the students familiar with ASP
- Little to no time spent on reviewing options on the basic screen
- 6 students entered natural language statements, e.g. "effects of the Vietnam war and popular culture"
- Half of the students included the Boolean "and" at some point during their search, although inconsistently



Observations: *Academic Search Premier*

- Only 1 student was aware of strategy to use quote marks around phrases
- Other searching mechanics used:
  - Checking the scholarly/peer reviewed option (4)
  - Applying date limits (2)
  - Restricting to full text content (3)

Observations: *Academic Search Premier*

- Modification to initial search
  - 11 students modified original search strategy
    - *vaccines and autism* to *autism and causes*
    - *Vietnam War and popular culture and folk music* to *Vietnam War and popular culture*
  - 6 students selected subject terms on the left side of the results screen
  - A few students identified more relevant terms in titles and abstracts to focus search (e.g. thimerosal; MMR; immunization)

Searching: **Academic Search Premier** | Choose Databases »

autism and thimerosal and vaccines

Search Clear

Advanced Search | Visual Search | Search History/Alerts | Preferences »

Narrow Results by

- Source Types
- Subject
  - RISK factors
  - CENTERS for Disease Control & Prevention (U.S.)
  - FRIST, William H.
  - MMR vaccine
  - MERCURY in the body
  - UNITED States. Court of Federal Claims
  - More »
- Subject: Thesaurus Term
- Author
- Publication

All Results: 1-10 of 121 **Page: 1** 2 3 4 5 Next

Sort by: Date Add (1-1

Results for: autism and thimerosal and vaccines Alert / Save / Share »

1. ***Thimerosal*** exposure in infants and neurodevelopmental disorders: An assessment of computerized medical records in the Vaccine Safety Datalink.

   By: Young, Heather A.; Geier, David A.; Geier, Mark R.. Journal of the Neurological Sciences, Aug2008, Vol. 271 Issue 1/2, p110-118, 9p
   DOI: 10.1016/j.jns.2008.04.002; (*AN 32983957*)
   Abstract Only
   Add to folder
   KULink

2. Update on ***Autism*** and Childhood ***Vaccines***.

   By: Weber, Carol J.. Urologic Nursing, Aug2008, Vol. 28 Issue 4, p290-291, 2p; (*AN 34536866*)
   PDF Full Text (56KB)
   Add to folder

Observations: *Academic Search Premier*

- Reviewing the results
  - 12 students accessed the full records and looked at the abstracts
  - Most students pulled up the full article or used KU's link resolver to locate the article
  - Half of the students clicked through to the second page

Observations: *Google*

- 11 students entered terms in the search box
- 3 students switched to Google Scholar
  - Two of these students selected the advanced search.
- As with ASP, the same number of students (6) input natural language statements
- Although Google inserts "and" between words, half of the students included "and" in their search statement, again inconsistently
- 4 students used quotes to search for phrases, also inconsistently (e.g. "Vietnam War" pop culture)

Web Images Video News Maps **more »**

Search

Advanced Scholar Search
Scholar Preferences
Scholar Help

Stand on the shoulders of giants

Google Home - About Google - About Google Scholar

Observations: *Google*

- 11 of 14 students indicated that Web content needs to be reviewed for credibility.
  - 3 students were cautious of .com sites
  - 5 students tried to identify more credible domain sites
  - 1 student stated the need to identify author's credentials

Observations: *Google*

- Reviewing the results
  - Students not concerned with 1000s of hits
  - 13 students opened the web sites
  - Only 5 students went past the 1st page
  - Some students searched for additional links within an opened web site

Student Recordings

- Some examples of students searching using Morae software

Post-Search Summary

- 9 of 14 students preferred Google to ASP
- Most were aware that academic database leads to more reliable and scholarly information
- 10 of 14 students found results more relevant in ASP, but would still go to Google first
- Used Google as a resource discovery tool

Comparison of Interfaces: What They Liked

GOOGLE

- Cleaner and easier to see results
- Familiar
- Only one click away
- Can get to what you want right away
- Search words are highlighted
- Streamlined
- User-friendly
- Pulls in larger list of results

ASP

- Leads to reliable sources
- Looked nice and organized
- Suggested subjects on side
- More full text and scholarly articles , not just web sites
- Better advanced search
- Can narrow searches
- Different ways to get to articles
- Takes you to interesting places

Comparison of Interfaces: What They Didn't Like

GOOGLE

- Less trustworthy
- Can't narrow to full-text
- Too random
- Unreliable information
- Hard to find citations
- Not easy to narrow topic
- Can lead you in circles
- Larger list of results
- Left with more questions
- Can't use "AND "

ASP

- More complicated
- Had to think of good search terms
- Too many options that were confusing
- Too much stuff that wasn't relevant
- Intimidating
- Frustrated – not finding information

Comments about Google

- "As far as searching, Google is cleaner and easier to see what you get"
- " I like the randomness – it gives you more ideas or tangents"
- "It is easier to see good sites and the results seem more factual"
- "Google can lead you in circles – too random"
- "No option for full-text"
- "Sources are not as reliable or relevant"

Comments about ASP

- "More geared to writing a paper"
- "Results were more relevant and academic"
- "Can't tell if it's a good result based on title"
- "More reliable for specific stuff"
- "Relevance depends on what you are searching"
- "More recent articles"

Why Google?

- Google
  - Familiar
  - Easier to find things
  - Students like the simplicity of interface
  - Good place to start looking for a topic
- ASP database
  - Interface too complex
  - Too many options available
  - Unfamiliar terminology – library jargon

Conclusions

- Students aware of need to:
  - Verify or confirm information found in Google
  - Look in scholarly sources as well
- Although students "tech savvy", often unskilled in developing search strategies
- Overall, we were impressed with their knowledge and information-seeking behavior

Future Study

- Larger and more diverse group of undergraduate students
  - Non-library student assistants
  - Representation from freshman to senior
- Give more time for searching
  - Ask students to analyze initial results
  - Provide opportunity to revise search

Discussion

Have you carried out any assessment activities at your library?

Do our findings match your experience when working with students?

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- Supporting documentation in KU ScholarWorks at : **http://hdl.handle.net/1808/3869**