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


Abstract Only

Add to folder

2. Update on *Autism and Childhood Vaccines.*


PDF Full Text (56KB)
Add to folder
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
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)
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
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

<table>
<thead>
<tr>
<th><strong>GOOGLE</strong></th>
<th><strong>ASP</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaner and easier to see results</td>
<td>Leads to reliable sources</td>
</tr>
<tr>
<td>Familiar</td>
<td>Looked nice and organized</td>
</tr>
<tr>
<td>Only one click away</td>
<td>Suggested subjects on side</td>
</tr>
<tr>
<td>Can get to what you want right away</td>
<td>More full text and scholarly articles, not just web sites</td>
</tr>
<tr>
<td>Search words are highlighted</td>
<td>Better advanced search</td>
</tr>
<tr>
<td>Streamlined</td>
<td>Can narrow searches</td>
</tr>
<tr>
<td>User-friendly</td>
<td>Different ways to get to articles</td>
</tr>
<tr>
<td>Pulls in larger list of results</td>
<td>Takes you to interesting places</td>
</tr>
<tr>
<td>GOOGLE</td>
<td>ASP</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Less trustworthy</td>
<td>More complicated</td>
</tr>
<tr>
<td>Can’t narrow to full-text</td>
<td>Had to think of good search terms</td>
</tr>
<tr>
<td>Too random</td>
<td>Too many options that were confusing</td>
</tr>
<tr>
<td>Unreliable information</td>
<td>Too much stuff that wasn’t relevant</td>
</tr>
<tr>
<td>Hard to find citations</td>
<td>Intimidating</td>
</tr>
<tr>
<td>Not easy to narrow topic</td>
<td>Frustrated – not finding information</td>
</tr>
<tr>
<td>Can lead you in circles</td>
<td></td>
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<tr>
<td>Larger list of results</td>
<td></td>
</tr>
<tr>
<td>Left with more questions</td>
<td></td>
</tr>
<tr>
<td>Can’t use “AND “</td>
<td></td>
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</tbody>
</table>
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?
Contact Information

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