

Jul 24th, 2:45 PM - 3:45 PM

## Advanced Web Searching for Educators

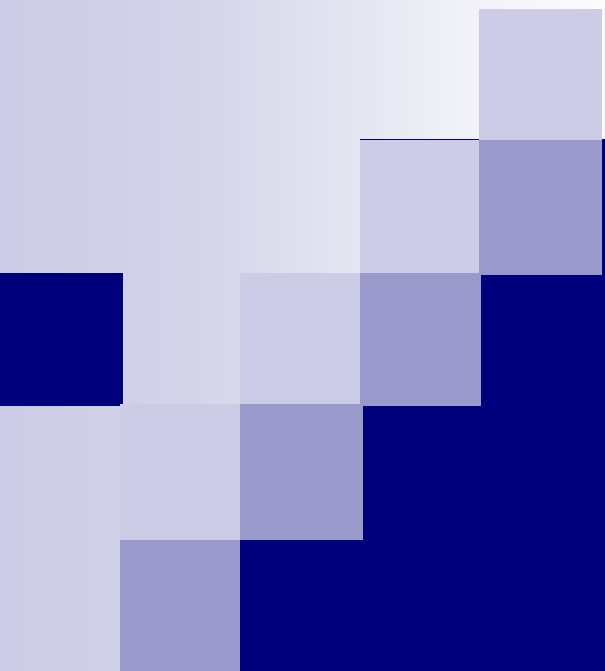
Paul Barron

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# How Google Works: Are Search Engines *Really* Dumb and Should Teacher- Librarians Care?

Paul Barron

Director of Library and Archives

George C. Marshall Foundation

[barronpb@marshallfoundation.org](mailto:barronpb@marshallfoundation.org)



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We know our students ...

I ♥ Google™



# The world also loves Google.

StatCounter Global Stats

Top 5 Desktop, Tablet & Console Search Engines on Sept 2014



# Love is blind!

- ***“Students perceive themselves as skilled searchers of Google and every other search tool. But their search queries and behaviors did not support this.”***
- ***“Educators know that neither of these perceptions is true. They are not sophisticated users of Google at all, let alone library resources.”***



What Do Librarians Do, Exactly?; Helen Georgas  
The Informed Librarian Online; <http://goo.gl/gTIYFD>

# The "Centrality of Google"

*"Even more evidence exists for the increasing centrality of Google in researchers' behaviours."*



*"This means that keyword searches are becoming a more dominant search behaviour."*

Information Behaviour of the Researcher of the Future  
**THE LITERATURE ON YOUNG PEOPLE AND THEIR INFORMATION BEHAVIOUR**

<http://goo.gl/LVz3J>

# The Definition of "Research"

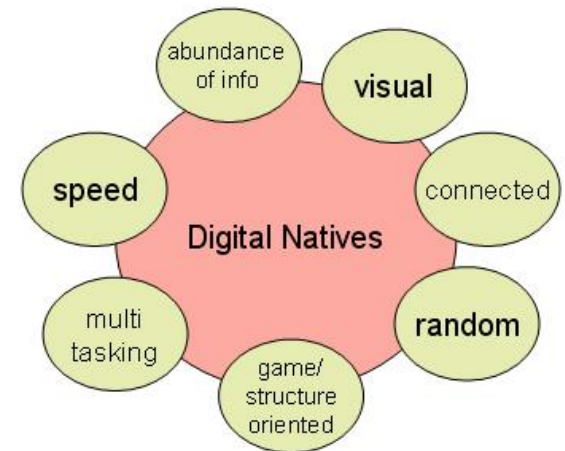
Question

How do your  
students define the  
term *research*?

# Student Research Skills @ UC Berkeley

*“At the undergraduate level, what is anecdotally apparent to most faculty and librarians: **Students lack skills needed to use digital resources for research.**”*

*“As ‘digital natives’ they are adept at finding information for personal purposes; those skills often aren’t sufficient to accomplish their academic work effectively.”*



Report of the Commission on the Future of the UC Berkeley Library

<http://goo.gl/iKER2f>









# UC Berkeley World Ranking

## Academic Ranking of World Universities 2014

Ranking

Methodology

Statistics

World Rank	Institution*	Country /Region	National Rank
1	Harvard University		1
2	Stanford University		2
3	Massachusetts Institute of Technology (MIT)		3
4	University of California-Berkeley		4
5	University of Cambridge		1
6	Princeton University		5



<http://www.shanghairanking.com/ARWU2013.html>

# Furthermore @ UC Berkeley

*“Students tended to overuse Google and misuse scholarly databases. Indeed, they’re not even very good at using Google for these purposes.”*

*“Google’s own research scientists have lamented that students are unable to take advantage of the resources that are readily available to those who know how to find them.”*

We can’t use this database; it doesn’t look like Google!



Report of the Commission on the Future of the UC Berkeley Library

<http://goo.gl/iKER2f>

# Why?

*“Students apply their **Google** experience to other sources, particularly **school library websites**. Libraries highlight their research avenues on the front page. But this rich stew of information can **confound students who are accustomed to Google’s clean interface.**”*

Study Ties College Success to Students’ Exposure to a High School Librarian

<http://goo.gl/9JBPrZ>

# Daniel M. Russell, Google's ...

Senior Research Scientist for Search Quality says,

*“In universities a lot of the Google Generation do the dumbest things you can possibly imagine.*

***Scholarly searching is not an intuitive skill; students cannot learn well by imitating peers.”***

*“That is where **librarians** come in;*

***... teach them what is possible.”***



Searching For Better Research Habits; Steve Kolowich  
<http://www.insidehighered.com/news/2010/09/29/search>

# Peers and Research Support

1. **Google** or other online search engine (94%)
2. **WikipediA** or other online encyclopedia (75%)
3. You**Tube** or other social media sites (52%)
4. **Their peers (42%)**
8. Online databases (EBSCO, JSTOR, or Grolier (17%)
9. **Research librarian at school (16%)**



# If educators hope ...

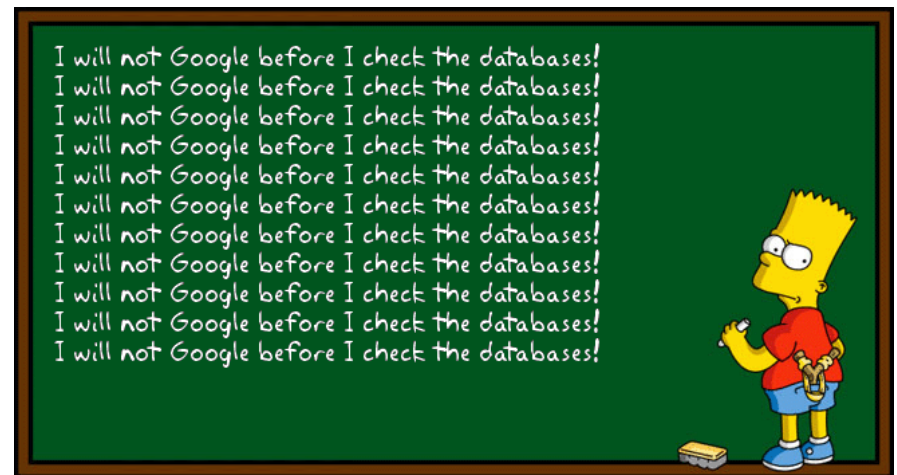
- To change students' excessive use of **Google**, teacher-librarians must **embrace**

**Google** and learn how

**the search engine works**, in order .



- To influence students to integrate **Google** use with searching the library databases.



# Presentation Objective

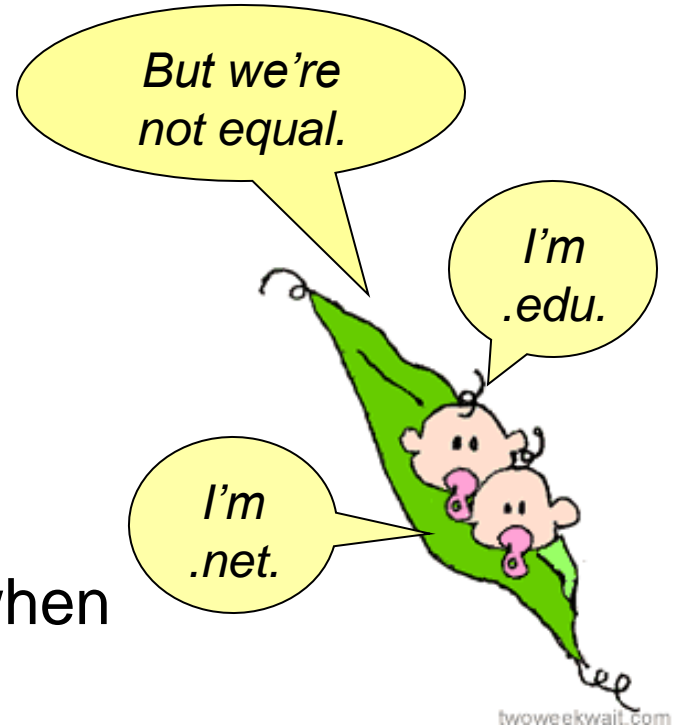
- Increase our **understanding of how search engines** and how **Google** works by dispelling search engine myths
- Propose a plan to increase the use of library databases
  - **Not by excluding Google** use
  - **Integrate Google** with the use of library databases
- Goal - Enable teacher-librarians to help our students become better researchers by building learning into **Google** searching



# Presentation Objective: Dispel ...

## ■ Search engine myths: Google

- accepts pay for placement,
- understand a searcher's query,
- evaluates all webpages the same when determining the ranking of results, and
- determines the results based on the popularity of the site with searchers.





# Implicit in the Presentation: Would you agree?

*“There are **consequences to our students and our educational system if we [allow] a search engine to define the parameters of effective research.**”*



*The University of Google: Education in the (Post) Information Age*

Tara Brabazon

# Especially when ...

*“The prevalence of Google in student research is well-documented, but the Illinois researchers found something they did not expect.”*

- *“Students were not very good at using Google.”*
- *“They were clueless about how the search engine organizes and displays its results.”*
- *“Consequently, the **students did not know how to build a search query that would return good sources.**”*

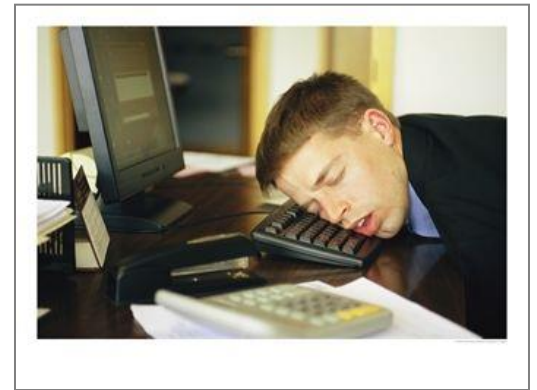


What Students Don't Know  
Ethnographic Research in Illinois Academic Libraries Project  
Inside Higher Ed (<http://tinyurl.com/3m6yyhp>)

# Why learn how Google works? Because ...

*“We expect a lot search engines. We ask them vague questions about topics that we are unfamiliar and anticipate a concise organized response.”*

*“You would have **better success** if you **laid your head on the keyboard** and **coaxed the computer to read your mind.**”*



*Understanding Search Engines: Mathematical Modeling and Text Retrieval*

Michael W. Berry and Murray Browne

# To understand how search engines work ...

...we must understand, “**search engines have no understanding of words or language.** (They) don't recognize user intent, can't distinguish goal-oriented search from browsing search.”



A ResourceShelf Interview: 20 Questions with Dr. Gary Flake, Ph.D.

Head of Yahoo Research Labs

<http://searchenginewatch.com/showPage.html?page=3372051>

Thursday, June 3, 2004

And in 2010 a Google Software Engineer says...

*“We can write a computer program to beat the very best human chess players, but we can't write a program to understand a sentence anywhere near the precision of a child.”*



Helping Computers Understand Language”  
Steven Baker, Google Software Engineer  
Official Google Blog  
January 19, 2010

... in 2012 ...

*“Google has a confession to make: It **does not understand you.**”*

*“Google Fellow Amit Singhal says Google **doesn’t understand the question.** ‘We cross our fingers and hope someone on the web has written about these things or topics.’ ”*



Google Knowledge Graph Could Change Search Forever

<http://mashable.com/2012/02/13/google-knowledge-graph-change-search/>

... in 2014 ...

*“The heart of **Google** is still search. We’ve made a lot of progress on delivering you the right answers. We made more than 890 improvements to **Google** Search last year alone. But we know that we have a long way to go -- **it’s just the beginning.**”*



Amit Singhal

**Google** Head of Search Quality

<https://plus.google.com/u/0/+AmitSinghal/posts/XF5QP7CVNQY>

# ... and the future of Google search ...

*“Search  
this for two d*

*“The so  
where we're  
will walk.”*

*“I hope  
I'll see search enter its adolescence.”*

REMINDER



is only 16  
years old.

*em. I've been at  
ut of its infancy.”*



Google Fellow Amit Senghal

This stuff is tough

<http://googlepolicyeuropa.blogspot.com/2010/02/this-stuff-is-tough.html>



# Myth: Google Accepts "Pay for Ranking"

*"At Google we take our commitment to delivering useful and impartial search results very seriously."*

*"We don't ever accept payment to add a site to our index, update it more often, or improve its ranking."*



Matt Cutts  
Head of Google's Web Spam Team  
<http://goo.gl/S40MJJ>

Google does accept payment for ...

...advertising. Ad

Search Marketing

# WSJ: Search Engines Ignoring FTC Rules About Labeling Search Ads

Article asserts search engines intentionally deceiving consumers.

Greg Sterling on October 13, 2014 at 5:45 pm

**You Could Save Over \$500 on Car Insurance - Get a ... - Ge...**

<https://www.geico.com/getaquote/auto/> GEICO

Get a free **car insurance** quote in 15 minutes or less and see how much you could save today on **auto insurance**. Start your free **car insurance** quote now.

**Auto Insurance & Car Insurance Quotes—Allstate**

[www.allstate.com/auto-insurance.aspx](http://www.allstate.com/auto-insurance.aspx) Allstate

Customized **car insurance** coverage options, discounts galore and amazing features.

[auto-insurance.quotelab.com/VA](http://auto-insurance.quotelab.com/VA)

Get a Free Quote & Save 55-75%

But not in the generic search results that are shown below

the ads.

# Google Webpage Rankings

- Google's ranking algorithms rely on more than 200 unique signals known as metrics to determine a webpage's ranking.

- Factors include:

- On the webpage metrics
- Off the webpage metrics



<http://www.google.com/insidesearch/howsearchworks/thestory/>

<http://www.google.com/insidesearch/howsearchworks/algorithms.html>

# "On the Webpage" Factors

- How often the search terms occur on the webpage
- If the search terms appear in the:
  - **Webpage title**
  - **Webpage URL** (webpage address)
    - The webpage address can function as a descriptor or subject heading.
- Whether synonyms for search terms are on the page
  - **Google** can match up to 20 synonyms for some search terms.
    - This reduces the need to find an exact match for the search terms.



An Update to our Search Algorithms (8/10/12)

<http://insidesearch.blogspot.com/2012/08/an-update-to-our-search-algorithms.html>

# "Off the Webpage" Factors

## ■ PageRank

□ PageRank – A measure of the number and the quality of links to a webpage.

□ Assumption - Important webpages receive more links from other webpages.

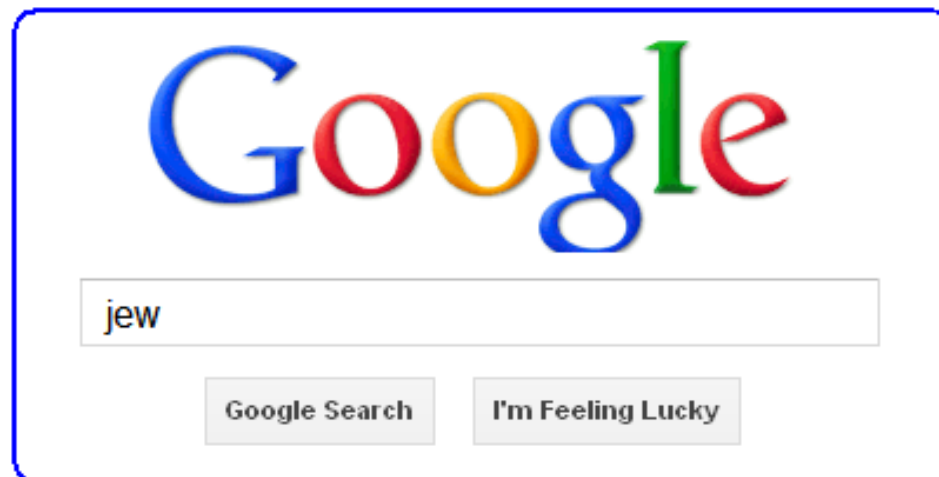


Matt Cutts of Google states,

*“Popularity is different from accuracy and PageRank is different than popularity.”*

<http://www.youtube.com/watch?v=rNsRpJm3z2g>

Therefore, PageRank is different from accuracy.



# Search Results (11-2-2014)

About 4,190,000 results

## Jews - Wikipedia, the free encyclopedia

[en.wikipedia.org/wiki/Jews](http://en.wikipedia.org/wiki/Jews) ▾ Wikipedia ▾

The **Jews** also known as the **Jewish** people, are an ethnoreligious group originating from the Historical Israelites of the Ancient Near East. According to **Jewish** ...

[Jewish history](#) - [Lists of Jews](#) - [History of the Jews in India](#) - [Ethnoreligious groups](#)

## Who is a Jew? - W

[en.wikipedia.org/wiki/Who](http://en.wikipedia.org/wiki/Who)

Who is a **Jew** is a basic question of self-identification. The question is based in ideas about Jewish ...

## Judaism - Wikipedia, the free encyclopedia

[en.wikipedia.org/wiki/Judaism](http://en.wikipedia.org/wiki/Judaism) ▾ Wikipedia ▾

The **Jews** are an ethnoreligious group and include those born **Jewish** and converts to Judaism. In 2012, the world **Jewish** population was estimated at about 14 ...

## Jew Watch News

[www.jewwatch.com/](http://www.jewwatch.com/) ▾

The most comprehensive and easiest to use website dedicated to both current and historical **Jewish** news, organizations, goals and related information.

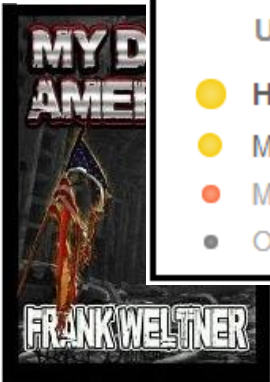
*Jew Watch News is the 4th most “popular and accurate result” for our search.*

# Jew Watch - A Popular & Accurate Site?

This Scholarly Library of

**The Jew Watch Project Is The Free Educational Library for We Reveal Zionist Banksters, The Jew Watch Project's 1.5 An Oasis of News for American**

*Jew Watch's Futuristic Action*  
**Frank Weltner Was Brave Enough Are You Brave Enough**





**WOT**

## Warning!


jewwatch.com

This website has a poor reputation based on user ratings

Trustworthiness	Child safety
	

Users have identified the following issues

- Hate, discrimination
- Misleading claims or unethical
- Malware or viruses
- Other



**Zionist Leon Trotsky of the Zionist USSR**

**MAJOR PRESS NEWS**

[nians](#) | [Israeli Defense Force](#) | [Settlements Policy](#) | [Tel Aviv](#) | [Syria](#) | [Saudi Arabia](#) |  [Hamas](#) | [Zionism](#) | [AIPAC](#) | [Jewish Lobby](#) | [Anti-Defamation League](#) | [Israeli Genocide Against Non-Jews](#) | [Zionist Christianity](#) | [Jews in Crimes](#) | [Zionist White House](#) | [Jewish](#) | [Jewish Entertainers](#) | [Six Zionist](#) | [Zionist Federal Reserve System](#) | [Rothschild](#) |

**ZIONIST CRIMES IN THE NEW AMERICAN USSR**



At the bottom of the search results ...

## Offensive Search Results

Ad [www.google.com/explanation](http://www.google.com/explanation) ▼ Google ▼

We're disturbed about these results as well. Please read our note here.

## Jews Scapegoated Again

Ad [www.icej.org/](http://www.icej.org/) ▼

Jews don't feel safe in Ukraine Won't you help them?

**Google** states, *"We're disturbed about these search results as well."*

# Google's Explanation



An explanation of our search results

If you recently used Google to search for the word "Jew," you may have seen results that were very disturbing. We assure you that the views expressed by the sites in your results are not in any way endorsed by Google. We'd like to explain why you're seeing these results when you conduct this search.

A site's ranking in Google's search results relies heavily on computer algorithms using thousands of factors to calculate a page's relevance to a given query. Sometimes subtleties of language cause anomalies to appear that cannot be predicted. A search for "Jew" brings up one such unexpected result.

<http://www.google.com/explanation.html>

# Will Google remove the site?

The beliefs and preferences of those who work at Google, as well as the opinions of the general public, do not determine or impact our search results. Individual citizens and public interest groups do periodically urge us to remove particular links or otherwise adjust search results. Although Google reserves the right to address such requests individually, Google views the comprehensiveness of our search results as an extremely important priority. Accordingly, we do not remove a page from our search results simply because its content is unpopular or because we receive complaints concerning it. We will, however, remove pages from our results if we believe the page (or its site) violates our Webmaster Guidelines, if we believe we are required to do so by law, or at the request of the webmaster who is responsible for the page.

<http://www.google.com/explanation.html>

# The Value of Authoritative Links

*“With PageRank, five or six high-quality links from websites would be valued much more highly than twice as many links from less reputable or established sites.”*



Librarian Central

How does Google collect and rank results?

[http://www.google.com/librariancenter/articles/0512\\_01.html](http://www.google.com/librariancenter/articles/0512_01.html)

# Checking the Links to JewWatch.com



link:www.jewwatch.com AND site:edu

Google Search

I'm Feeling Lucky

Google will return .edu sites that are linked to JewWatch.com.

About 225 results (0.18 seconds) from .edu sites

["Jew" is not a bad word](#)

[www.mit.edu/~jik/jewish.html](http://www.mit.edu/~jik/jewish.html)

Rather, the way to drive **JewWatch** and other offensive sites lower in Google's search results is to create **links** all over the web to other, unoffensive sites.

[Internet and Ignorance - Divinity School at the University of Chicago ...](#)

[divinity.uchicago.edu/martycenter/publications/...2004/0506.shtml](http://divinity.uchicago.edu/martycenter/publications/...2004/0506.shtml)

by M Center - Related articles

May 6, 2004 – ... a vehemently anti-Jewish site, **JewWatch.com**, as the first **link**. "Jewish Mind Control," "Jewish Power Lords," and "Jewish-Run Organizations" ...

# Law School Links to Jew Watch.com

## Specific Sites Excluded from Google.fr and/or Google.de

cyber.law.harvard.edu/filtering/google/results1.html

Oct 24, 2002 – Each site listing below includes a 'confirm' **link** that allows review of the specific results currently provided by .... Jew Wat

[PDF] Law Review Template 53.4 v8.indd - New Y

www.nyls.edu/user\_files/1/3/4/17/49/.../11Grimmelmann

File Format: PDF/Adobe Acrobat - Quick View

by J GRIMMELMANN - Cited by 29 - Related articles

about by looking at the pages that **link** to it, since there learned .... number-one Google hit for a search on "jew"

## LawMeme - Google's Censorship Policies

lawmeme.research.yale.edu/modules.php?name

**Links:** Google's Censorship Policies Questioned ... at some of Google's responses to censorship requests (Wall Street Journal on Google and **JewWatch**. com).

[PDF] Seton Hall University School of Law - Yale Law School

www.law.yale.edu/.../Pasquale\_Ranking\_Reductionism\_and\_Respo...

File Format: PDF/Adobe Acrobat - Quick View

by F Pasquale - Cited by 65 - Related articles

number of pages that **link** to the **linking** pages, and so on, recursively. [FN15]. \* 119 Over ..... ("The ranking of **Jewwatch** and other hate sites is in no way due to a ...

Google evaluates not only the number of links but the quality (reputation) of the linking site.

# Why not consider searchers' preferences?



*"We believe the approach which relies heavily on an individual's tastes and preferences [to rank results] just doesn't produce the quality and relevant ranking that our algorithms do."*

Amit Singhal; Google Fellow

"This is tough stuff;" 25 February 2010

[http:// google.policyeurope.blogspot.com/2010/02/this-stuff-is-tough.html](http://google.policyeurope.blogspot.com/2010/02/this-stuff-is-tough.html)

# What do searchers really want?

*“We want Google to pick the winners and losers for us so that we don’t have to waste time sifting through the losers ourselves.”*



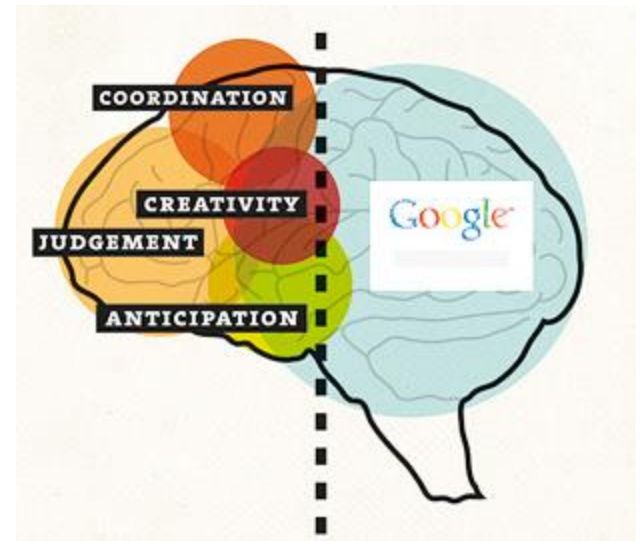
Stop Being Evil: A Proposal for Unbiased Google Search  
Joshua G. Hazan

<http://www.michiganlawreview.org/assets/pdfs/111/5/Hazan.pdf>



# Why think?

*“Empirical work shows that users place a large degree of **trust in Google’s** perceived neutrality in ranking relevance to queries, often **substituting Google’s** algorithmic judgment of relevance for their own evaluation of search results abstracts.”*



SEARCH NEUTRALITY AND REFERRAL DOMINANCE

Journal of Competition Law & Economics

<http://jcle.oxfordjournals.org/content/early/2012/07/18/joclec.nhs014.full>

Why rely on Google's judgment?

## Question

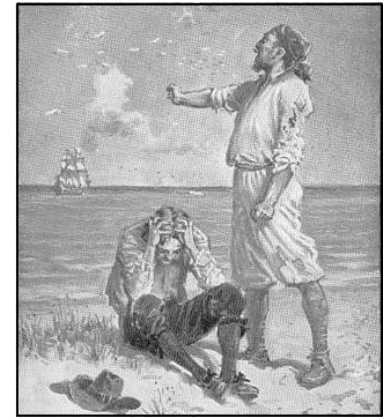
What result do your students select most often in a Web search?

# Trusting Google too Much?

Second: *“For informational queries ... if a result on page 4, provides better information than the results on the first three pages, users will not know this result exists!”*

*“Therefore, usage behavior does not provide the best feedback on the rankings.”*

*But we are the best results!*



“How Google Measures Search Quality”

Datawocky

<http://tinyurl.com/6mpt4u>

# Why?

*“Kids won’t click to the second page of Google results because they expect the algorithm to place what they need up top.”*

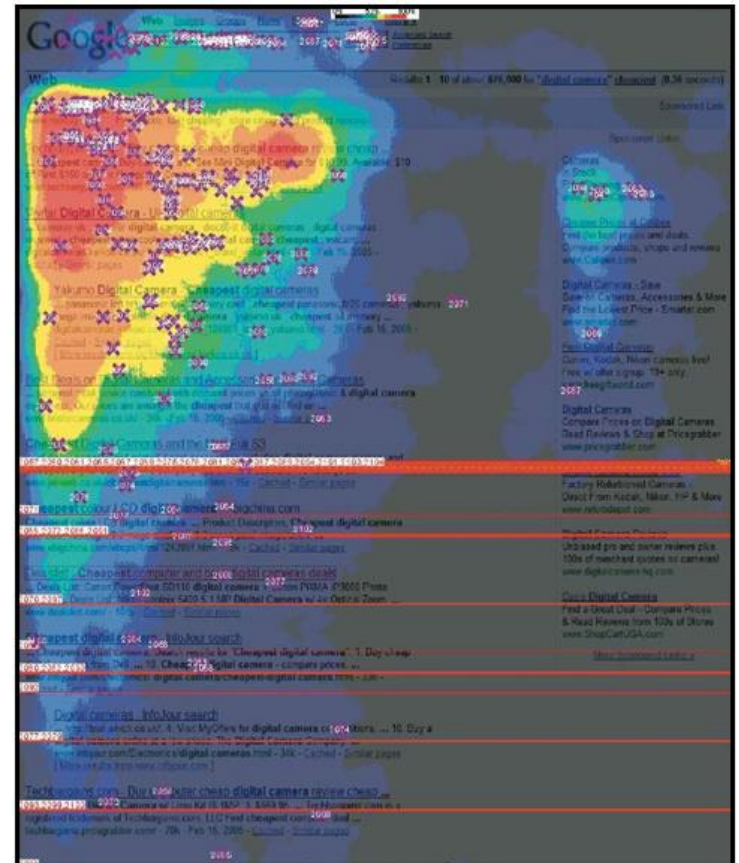
Trust

Study Ties College Success to Students’ Exposure to a High School Librarian  
<http://goo.gl/9JBPrZ>

# And look at only the first three results.

Organic Ranking Visibility  
(% of searchers looking at a result)

- Rank 1 - 100%
- Rank 2 - 100%
- Rank 3 - 100%
- Rank 4 - 85%
- Rank 5 - 60%
- Rank 6 - 50%
- Rank 7 - 50%
- Rank 8 - 30%
- Rank 9 - 30%
- Rank 10 - 20%

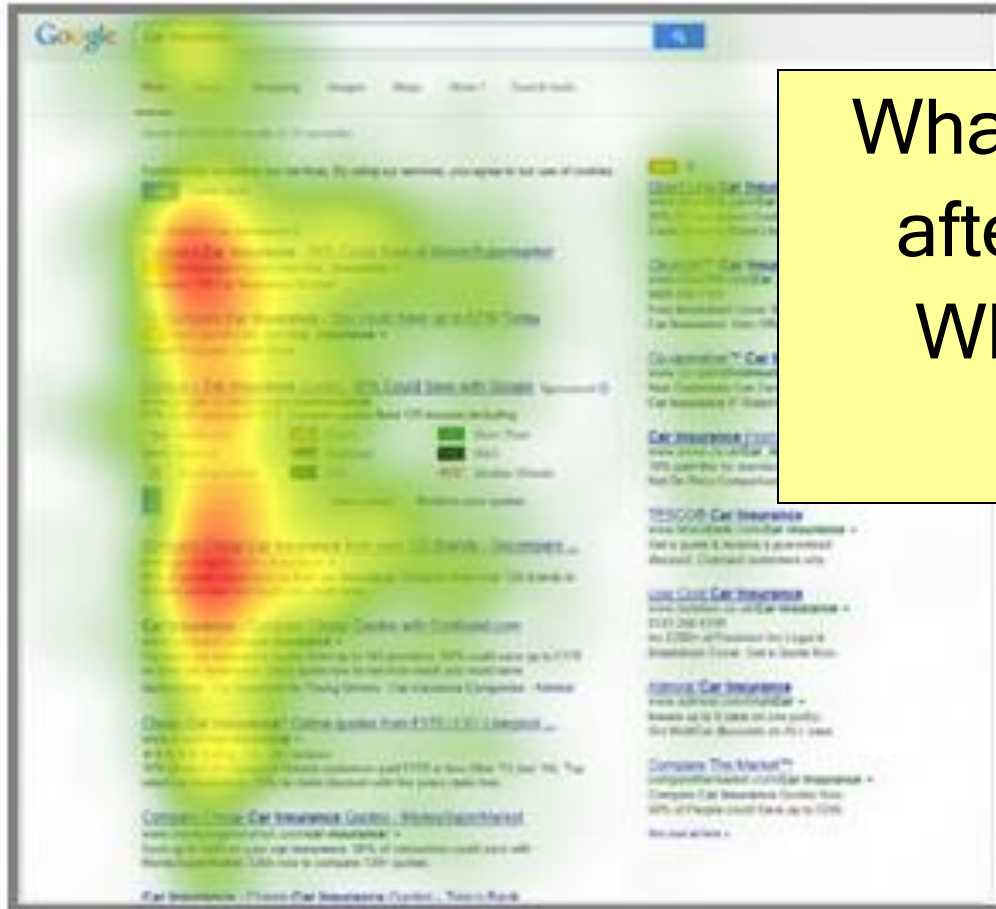


Eye Tracking Web Usability Study Reveals the “Golden Triangle”

June 14, 2010

<http://www.prweb.com/releases/2005/03/prweb213516.htm>

# Eyetrack Study 2014



What do searchers do after the 5<sup>th</sup> result?  
What explains their behavior?

NEW Google ADWORDS FORMAT: OUR 2014 RESULTS

<http://goo.gl/Ft7hHh>

# Google Gullibility

*“Many **users** are at the search engine's mercy and mainly **click the top links** — a **behavior***

*[called] **Google** Gullibility. Sadly, while these top links are often not what they really need, **users don't know how to do better.**”*



Jakob Nielsen's Alertbox, February 4, 2008

User Skills Improving, But Only Slightly

<http://www.useit.com/alertbox/user-skills.html>

# The Research Conclusions

## Question

Are your students  
critical reader of  
webpages?

How Little Do Users Read?

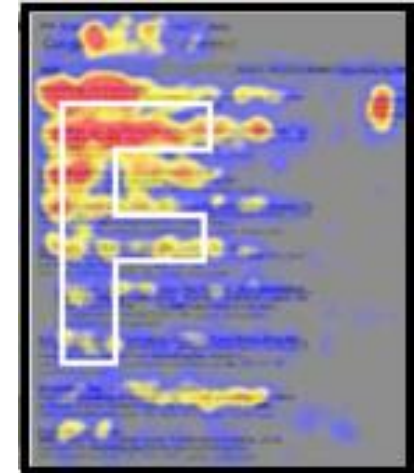
<http://www.nngroup.com/articles/how-little-do-users-read/>



# And in 2014 ...

Users typically read Web pages in an F-shaped pattern involving a pair of horizontal scans:

- the first across the top of the content,
- the second being lower and shorter,
- followed by a left-oriented vertical scan.



***“Most users will not read all of a page’s content.”***

Tailored and Integrated Web-Based Tools for Improving Psychosocial Outcomes of Cancer Patients: The DoTTI Development Framework

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3971205/>

J Med Internet Res. Mar 2014; 16(3): e76.

Note that the study was accessed from the National Library of Medicine database.

# Consider this ...

*“The **computer screen is ... literally**  
**a small thing [that] may display just**  
**over 300 words. If this world becomes**  
**our reality, we actually are relying on**  
**less information, not the more that is available.”***



“The **Google** -ization of Knowledge”

Natasja Larson, Laura Servage, and Jim Parsons ; Faculty of Education; University of Alberta  
[http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/28/03/99.pdf](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/28/03/99.pdf)

# Relevance in Google = *Only* an Opinion

Google's ... **"assessments of the "value" of a web page are subjectively-determined [by] formulae to come up with a ranking. PageRanks are **opinions**. They're professional opinions, but they remain opinions."**



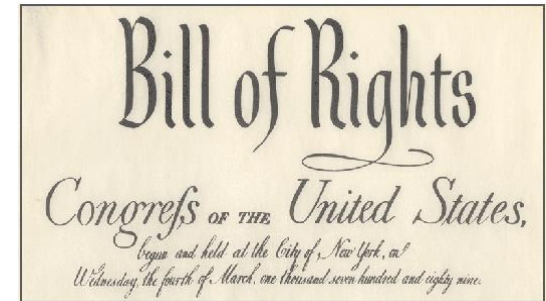
"Google Replies to SearchKing Lawsuit"

<http://research.yale.edu/lawmeme/>

Thursday, January 9, 2003

# Google's rankings are protected opinion.

*"The court simply finds there is no conceivable way to prove that the relative significance assigned to a given*



*Web site is false. Accordingly, **the court concludes***

*Google's PageRanks are entitled to full constitutional protection."*

"Judge Dismisses Suit Against Google"

[http://news.cnet.com/2100-1032\\_3-1011740.html](http://news.cnet.com/2100-1032_3-1011740.html)

May 30, 2003

# Evaluating Google's Opinion



Google returns all sites with the words, *martin* and *luther* and *king*.

# Google's 2nd Result (11-2-2014)

About 3,620,000 results

[Martin Luther King, Jr. - Wikipedia, the free encyclopedia](#)

[en.wikipedia.org/wiki/Martin\\_Luther\\_King,\\_Jr.](http://en.wikipedia.org/wiki/Martin_Luther_King,_Jr.) ▾ Wikipedia ▾

**Martin Luther King, Jr.** (January 15, 1929 – April 4, 1968) was an American pastor, activist, humanitarian, and leader in the African-American Civil Rights ...

[Martin Luther King, Jr. Day - Assassination of Martin Luther ...](#) - [I Have a Dream](#)

[Martin Luther King Jr. - A True Historical Examination](#)

[www.martinlutherking.org/](http://www.martinlutherking.org/) ▾

The truth about **Martin Luther King**: Includes historical trivia, articles and pictures. A valuable resource for teachers and students alike.

[The Beast as Saint: The Truth ...](#) - [Black Rap Lyrics and the ...](#) - [MLK Pop Quiz](#) - [Books](#)

[Martin Luther King Jr. - Biography - Civil Rights Activist ...](#)

[www.biography.com/people/martin-luther-king-jr-9365086](http://www.biography.com/people/martin-luther-king-jr-9365086) ▾ Fyi ▾

**Martin Luther King Jr.** led the U.S. Civil Rights Movement from the mid-1950s until his assassination in 1968. Learn more at [Biography.com](http://Biography.com).



## Martin Luther King, Jr.

Pastor

Martin Luther King, Jr. was an American pastor, activist, humanitarian, and leader in the African-American Civil Rights Movement. [Wikipedia](#)

Google returns [martinlutherking.org](http://martinlutherking.org), a “valuable resource for teachers and students alike.”

# Martin Luther King.org Homepage

[Attention Students: Try our MLK Pop Quiz](#)

Martin Luther King, Jr.  
**A True Historical Examination**

That night King retired to his room at the Willard Hotel. There FBI bugs reportedly picked up 14 hours of party chatter, the clinking of glasses and the sounds of illicit sex - including King's cries of "I'm f--ing for God" and "I'm not a Negro tonight!"

Newsweek Magazine  
January 19, 1998  
Page 62



[Rap lyrics - New!](#)



[Watch the new Martin Luther King Educational Video](#)

[Why the King Holiday Should be Repealed!](#)

[Black Invention Myths](#)

[Learn more about Kwanzaa!!](#)



[Join MLK Discussion Forum](#)  
Hosted by Stormfront

**Historical Writings**

Essays, Sermons, Speeches & More

**Truth About King**

Who He Fought and Fought For

**Death of the Dream**

The Day King Was Shot

**The King Holiday**

Bring the Dream to Life

**Civil Rights Library**

History of People and Events

**Jews & Civil Rights**

Who Led The Civil Rights Movement

**Suggested Books**

The Life and Work of King

# Martin Luther King.org is hosted by ...



The screenshot shows the top section of the Stormfront.org website. On the left is a circular logo with a cross-like symbol and the text "WHITE PRIDE WORLD WIDE". To the right is the "Stormfront.org" logo in a stylized red font against a background of white clouds. Below the logo is a navigation bar with several links and text:

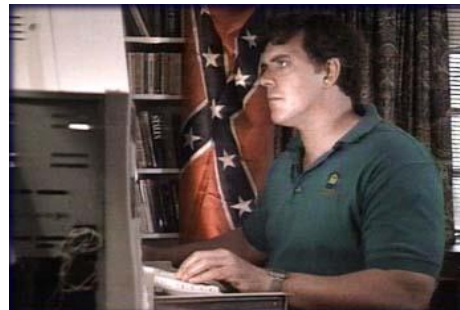
- Latest David Duke Video!** - Former Member - House of Representatives - La  
[Popup Windows Radio Player Here!](#)  
[Truck Roy SF Radio Archives](#)
- Media Portal**
- Complete Daily Schedule: [Click Here!](#)**  
Tues/Wed/Thurs 9-10am Eastern:  
Derek Black on WPBR 1340 AM  
Nightly 12am Eastern:  
Paul Fromm "For Our People"  
"From Babylon" SF Radio Drama
- DIVERSITY!!  
CAN YOU AFFORD IT?  
[Click Here](#)**

Below the navigation bar is a welcome message:

Welcome to the Stormfront.

We are a community of White Nationalists. There are thousands of organizations promoting the interests, values and heritage of non-Whites. We promote ours. You are welcome to browse our seven million posts, but you must [register](#) before you can post to any forum except those designated as open to guests.

Domain Name: MARTINLUTHERKING.ORG  
Created On: 14-Jan-1999 05:00:00 UTC  
Last Updated On: 11-Jan-2008 17:26:50 UTC  
Expiration Date: 14-Jan-2009 05:00:00 UTC  
Registrant Name: Don Black  
Registrant Organization: Stormfront Inc





## Checking for .edu Links to the Webpage



link:www.martinlutherking.org AND site:edu

Google Search

I'm Feeling Lucky

Remember the importance of PageRank which measures the number and quality of links to a webpage.

- Link Check – Returns results that are linked to a site; for example, .edu sites that are linked to Martin Luther King.org.

# Link Check Results

About 44,000 results

[Web Site Credibility Exercises - Web Credibility Exercise](#)

[www.csub.edu/~iross/projects/infocomp/.../WebCred](http://www.csub.edu/~iross/projects/infocomp/.../WebCred)

<http://www.martinlutherking.org/> ... The web site Te analysis and **links** treating a high school student's (la

[PDF] [Evaluating Online Resources - Galvin](#)

[library.iit.edu/guides/evaluate\\_/EvaluatingOnlineRes](http://library.iit.edu/guides/evaluate_/EvaluatingOnlineRes)

File Format: PDF/Adobe Acrobat - Quick View

Perform the following search: **link: martinlutherking** (see image at right). As it turns out, martinlutherking.

[PDF] [Virtual Place Naming, Internet Domain](#)

[myweb.ecu.edu/aldermand/pubs/alderman\\_mlk\\_inte](http://myweb.ecu.edu/aldermand/pubs/alderman_mlk_inte)

File Format: PDF/Adobe Acrobat - Quick View

by DH Alderman - Cited by 1 - Related articles contest. Third, I use the case of **martinlutherking.o** other sites and how often that keyword is used to des

[Evaluating Information Content: Bias Exam](#)

[www.suffolk.edu/sawlib/instruction\\_modules/evaluate/mlk.html](http://www.suffolk.edu/sawlib/instruction_modules/evaluate/mlk.html)

This is a web site entitled "**Martin Luther King Jr. - An Historical Examination**" (<http://www.martinlutherking.org/>; last ... We click on the **link** for "stormfront.org." ...

## QUESTION

By reviewing the webpage description can you determine the purpose of the .edu sites' [linking](#) to Martin Luther King.org?

# Links from .edu & .gov Sites = Trust

*“Google places a heavy bias on informational resources; .edu and .gov sites tend to rank higher than others.”*

*“Google is the best at determining true link quality and places a lot of weight on domain trust levels.”*



“Can You Please Them All?”

[http://www.bruceclay.com/blog/archives/2006/08/can\\_you\\_please.html](http://www.bruceclay.com/blog/archives/2006/08/can_you_please.html)

# Why are Wikipedia results ranked highly?



## QUESTION

Do search engines like Google “trust”  
Wikipedia or some top level  
domains when determining the ranking  
of results?

[Information Literacy Competency Standards for Higher Education ...](#)

[www.ala.org](#) > ACRL > Guidelines & Standards ▾

NOTE: While the Information Literacy Competency Standards for Higher Education are currently in force, during 2013-14, an ACRL task force is extensively ...

# Wikipedia - An Important Domain

http://www.alexa.com/topsites/countries/US- Checked 2 November 2014


## Top Sites in United States

Global

By Country

By Category

- 1 [Google.com](http://Google.com)  
Enables users to search the world's information, including webpages, images, and videos.
- 2 [Facebook.com](http://Facebook.com)  
A social utility that connects people, to keep up with friends, upload photos, share links and
- 3 [Yahoo.com](http://Yahoo.com)  
A major internet portal and service provider offering search results, customizable content,
- 4 [Youtube.com](http://Youtube.com)  
YouTube is a way to get your videos to the people who matter to you. Upload, tag and share your
- 5 [Amazon.com](http://Amazon.com)  
Amazon.com seeks to be Earth's most customer-centric company, where customers can find and disc.
- 6 [Wikipedia.org](http://Wikipedia.org)  
A free encyclopedia built



WIKIPEDIA  
The Free Encyclopedia

Wikipedia ranks 6<sup>th</sup>  
globally.

# Yes!

*“Google’s authority-based algorithm is domain-centric. Google has focused on domain-trusting by pushing to the top of the results massive sites like Wikipedia that couldn’t have been created by spammers.”*



The Google Cache

Google’s New Algorithm: `if($domain=='Wikipedia.org'){ $rank=1; }`

<http://tinyurl.com/yv3xo6>

# Google Trust

*“If Google see’s your site has links from trusted domains such as **Wikipedia**, ... or other highly trusted editorial sites, your site is more likely to be trusted.”*



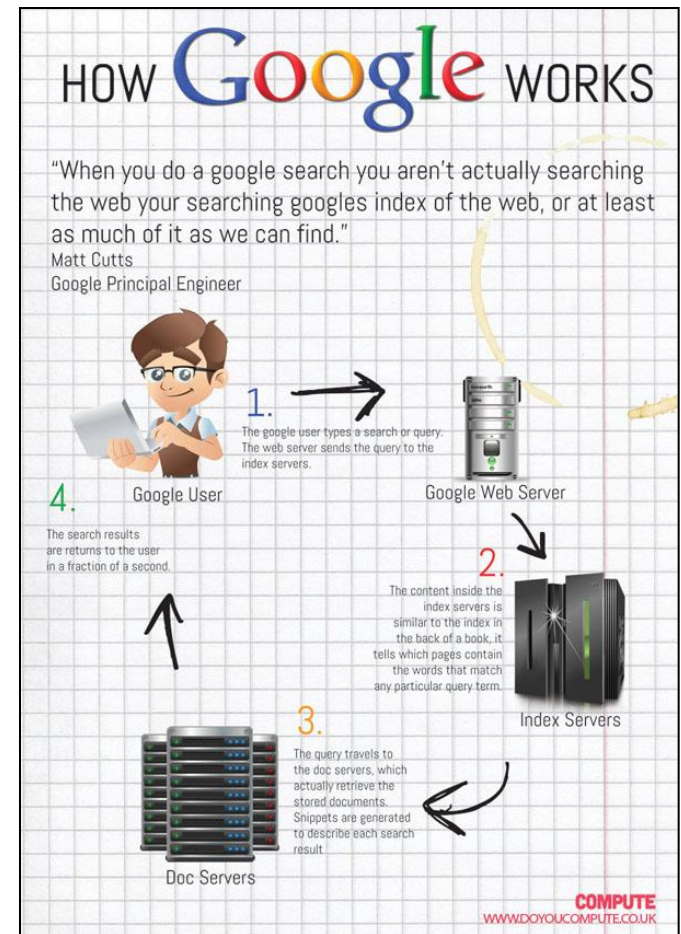
<http://www.valeriideas.com>

Understanding Domain Trust and Authority

<http://www.seowizz.net/2009/07/understanding-domain-trust-and-authority.html>

# Question Time!

- Search Engine Components
  - Spider/Web Crawler/Robot
  - Index
  - Search Engine
- The only feature that you can control is **the**  entered into the search engine.



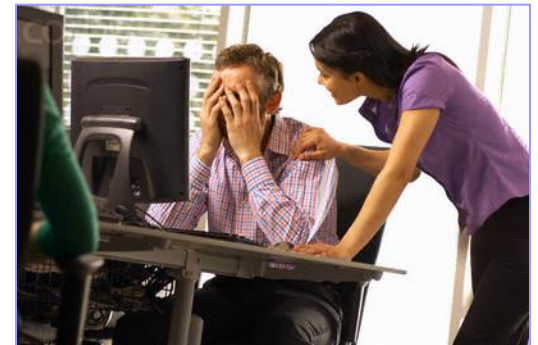


# Keyword Searching

*“Keyword-based search works well if the users know exactly what they want and **formulate queries with the “right words.”**”*

*“It does not help much and is sometimes even hopeless if the users only have vague concepts about what they are asking.”*

Let's go see the librarian.



Toward Topic Search on the Web  
Microsoft Research; March 2011

<http://research.microsoft.com/apps/pubs/default.aspx?id=145837>

# Searching with the Fewest Words as Possible

*“There's a real **imbalance** in **Web search**. **Users** give us **three words** at a time. People type the query “map,” and then they get upset if it's not the map they were thinking of.”*

81% of search engine queries are 4 words or less.



“The Future of Search:  
The head of Google Research talks about his group's projects.”

*MIT Technology Review*  
<http://tinyurl.com/2pmfsu>

# And Never Mentioning the Topic

*“We find that searchers turn so quickly to Google that they don't think about what they're searching for. It's surprising, we'll see people trying to find out something about a topic, but **never mention the topic.**”*



The Art of the Field Study

<http://googleblog.blogspot.com/2008/11/art-of-field-study.html>

# Queries by Middle School Students

*“A predominate **difficulty students experience** while performing **Web-based research** is **constructing effective search strings.**”*

*“**[M]iddle school students** demonstrate **unsophisticated skills** when constructing search strings, using mainly broad terms and phrases.”*



“Internet Searching by K-12 Students: A Research-based Process Model”

[http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/1b/a8/26.pdf](http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1b/a8/26.pdf)

# Queries by High School Students

***“[H]igh school students***

***struggle with conceptualizing***

***the topic for their query, sometimes omitting***

***required concepts.”***



“Internet Searching by K-12 Students: A Research-based Process Model”

[http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/1b/a8/26.pdf](http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1b/a8/26.pdf)

# Queries by College Students

*“[S]earch engines generally performed poorly, a lack of computer skills and **an inability to construct appropriate search statements limited college students' success.**”*

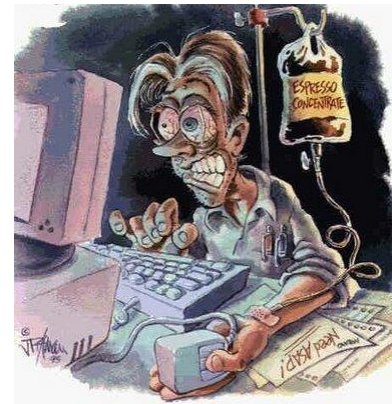


Nowicki, Stacy.

*Student vs. Search Engine: Undergraduates Rank Results for Relevance*  
portal: Libraries and the Academy - Volume 3, Number 3, July 2003

# Lack of Search Skills = Library Anxiety

*“People – including Ph.D. scholars – develop search skills incidentally to their efforts at research and **fail to develop a conscious repertoire of search skills** to help them over difficult stages.*



*“Among **college students** particularly, **discomfort regarding library research has been found to be severe enough to merit the term ‘library anxiety.’**”*

Information Behavior

Marcia J. Bates

<http://pages.gseis.ucla.edu/faculty/bates/articles/information-behavior.html>

# What we know and understand is ...

*“Librarians realize that for their **students learning a process as complex as research is like learning a new language.***

*“**Librarians see the huge gaps in actual student ability and know that the problem is more than something requiring remedial attention.**”*



Process Not Product: Learning to be Information Literate

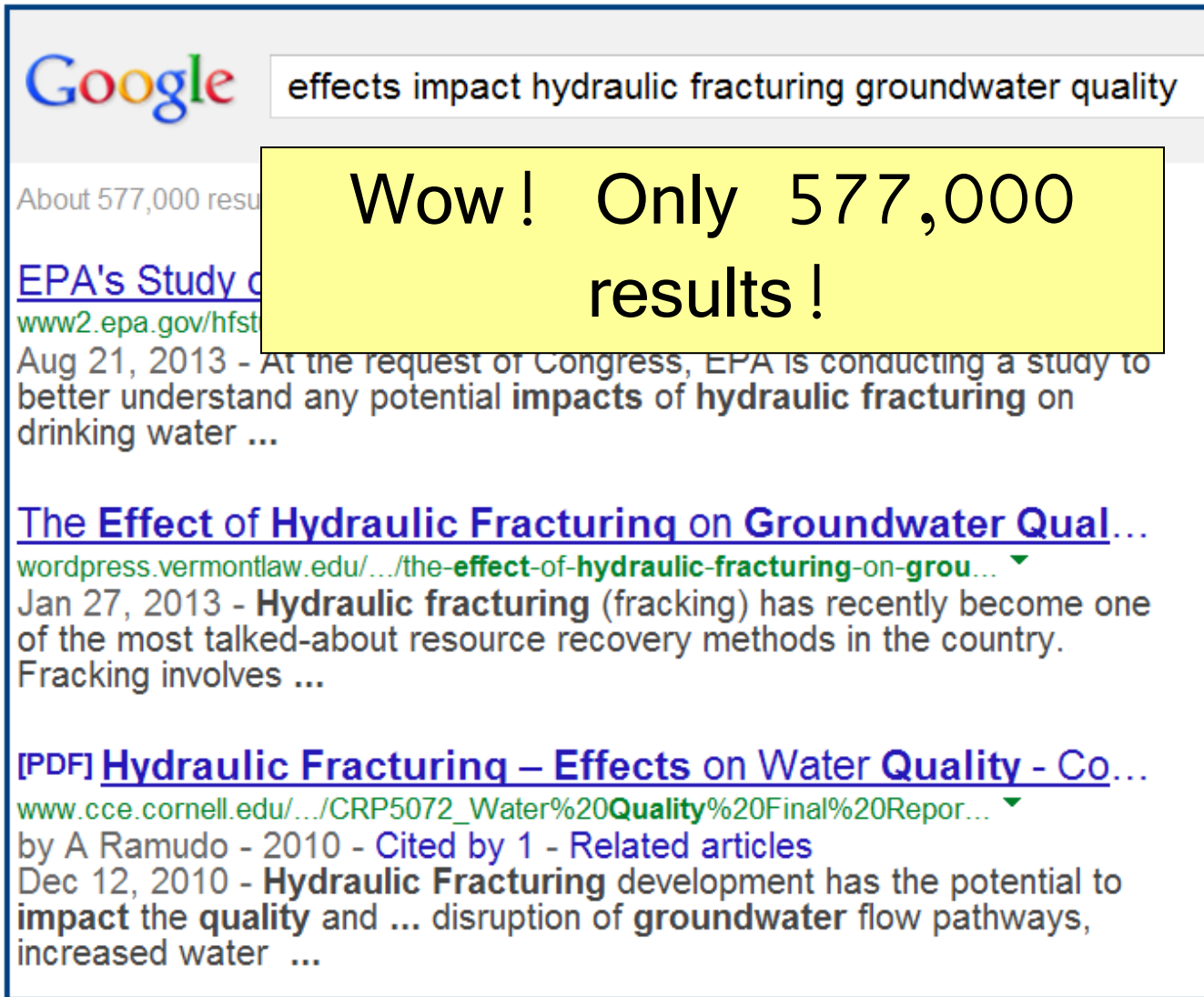
Tami Echavarria Robinson

[www.informedlibrarian.com/guestForum.cfm?FILE=gf1309.html](http://www.informedlibrarian.com/guestForum.cfm?FILE=gf1309.html)



# Can students craft a four-word query on ...

... effects  
quality



Google effects impact hydraulic fracturing groundwater quality

About 577,000 results

**Wow! Only 577,000 results!**

[EPA's Study on Hydraulic Fracturing](#)  
[www2.epa.gov/hfst](http://www2.epa.gov/hfst)  
Aug 21, 2013 - At the request of Congress, EPA is conducting a study to better understand any potential impacts of hydraulic fracturing on drinking water ...

[The Effect of Hydraulic Fracturing on Groundwater Qual...](#)  
[wordpress.vermontlaw.edu/.../the-effect-of-hydraulic-fracturing-on-grou...](http://wordpress.vermontlaw.edu/.../the-effect-of-hydraulic-fracturing-on-grou...)  
Jan 27, 2013 - Hydraulic fracturing (fracking) has recently become one of the most talked-about resource recovery methods in the country. Fracking involves ...

[\[PDF\] Hydraulic Fracturing – Effects on Water Quality - Co...](#)  
[www.cce.cornell.edu/.../CRP5072\\_Water%20Quality%20Final%20Repor...](http://www.cce.cornell.edu/.../CRP5072_Water%20Quality%20Final%20Repor...)  
by A Ramudo - 2010 - Cited by 1 - Related articles  
Dec 12, 2010 - Hydraulic Fracturing development has the potential to impact the quality and ... disruption of groundwater flow pathways, increased water ...

water  
s?

# Google Advanced Search Syntax Query



intitle:"hydraulic fracturing" AND (effects OR impact) AND "groundwater quality" AND site:gov

Google Search

I'm Feeling Lucky

- This query will find results:
  - from a .gov website,
  - with the phrase *hydraulic fracturing* in the title of the webpage, and
  - the words *effects* or *impact* and the phrase *groundwater quality* on the webpage.



# Google Advanced Search Syntax Results

About 47 results **Wow! Only 47 results!**

[Assessing Potential Effects of Hydraulic Fracturing for En...](#)

[www.fort.usgs.gov](http://www.fort.usgs.gov) Science

Jun 25, 2012 - Assessing Potential Effects of Hydraulic Fracturing for Energy ... effects of hydraulic fracturing on s

groundwater quality.

[PDF] [Summary of Studies Related to Hy](#)

[water.usgs.gov/coop/products/energy/shale.cwp.summ](http://water.usgs.gov/coop/products/energy/shale.cwp.summ)

Aug 22, 2012 - research needed to better un  
gas production and hydraulic fracturing on su  
groundwater quality.

[PDF] [Water Management Associated w](#)

[www.shalegas.energy.gov/resources/HF2\\_e1.pdf](http://www.shalegas.energy.gov/resources/HF2_e1.pdf)

Aug 1, 2009 - Transportation of water to and  
significantly impact both the cost of drilling a  
Alternative strategies ...

[PDF] [Pennsylvania Hydraulic Fracturi](#)

[www.shalegas.energy.gov/resources/071311\\_stronge](http://www.shalegas.energy.gov/resources/071311_stronge)

impact water quality, DEP must assure that  
not occur. ... commends Pennsylvania for en  
groundwater quality.

## NOTE

**From 577,000 results to 47 results.**

All results are .gov sites, with the phrase *hydraulic fracturing* in the title of the webpage, and at least one the words ---  
--- *effects* or *impact* --- and the phrase *groundwater quality* in the webpage descriptions.

# Teach Students Advanced Search Syntaxes

*“Advanced syntax users demonstrate search expertise that the majority of user population does not. They are:*

- *more adept at combining query operators to formulate powerful query statements and*
- *return more relevant results*

The logo for Microsoft Research, featuring the word "Microsoft" in a smaller font above the word "Research" in a larger, bold font, all set against a blue gradient background.

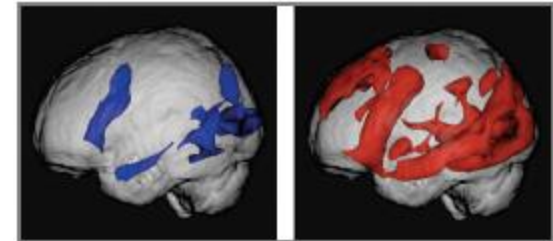
*Not only were they more successful **in their searching**, they were **consistently more successful.**”*

# Advanced Syntax Searching & Complex Reasoning

*“Previous research suggests that engaging in mentally stimulating tasks may improve brain health and cognitive abilities.”*

*“The Net Savvy searching group demonstrated significant increases in signal intensity in regions controlling decision-making, complex reasoning.”*

**Conclusion: “Internet searching may engage a greater extent of neural circuitry not activated while reading text pages but only in people with prior computer and Internet search experience.”**



**Left:** Internet Naive subjects while performing the reading task and the Internet task.

**Right:** Net Savvy subjects performing the reading task and the Internet task.

Your brain on Google: patterns of cerebral activation during internet searching

<http://www.ncbi.nlm.nih.gov/pubmed/19155745>

<http://www.psychologytoday.com/files/attachments/5230/136.pdf>

# From Google to the Library Databases



- Demonstrate that Google syntaxes and queries, with minor modification work in the proprietary databases and may provide more relevant sources.

# From Google to a Library Database

GALE CENGAGE Learning

CHANGE DATABASES TOOLBOX REMOTE ACCESS RETURN TO LIBRARY NOT SIGNED IN?

## Student Edition

INFOTRAC

HOME BROWSE SUBJECTS BROWSE PUBLICATIONS **ADVANCED SEARCH**

### Advanced Search

[Search Tips](#)

Currently searching *Student Edition* with 9,814,842 articles updated as recently as February 10, 2010.

	<input type="text" value="climate change"/>	in	<input type="text" value="Subject(su)"/>
And	<input type="text" value="global temperatures"/>	in	<input type="text" value="Entire Document(tx)"/>
And	<input type="text" value="sea level"/>	in	<input type="text" value="Keyword(ke)"/>

[Add a Row](#)

Limit your search by any of the criteria listed below. Limiters may be combined with terms entered in the above Boolean search.

Limit Results:

- to documents with full text
- to peer-reviewed publications
- to document with images

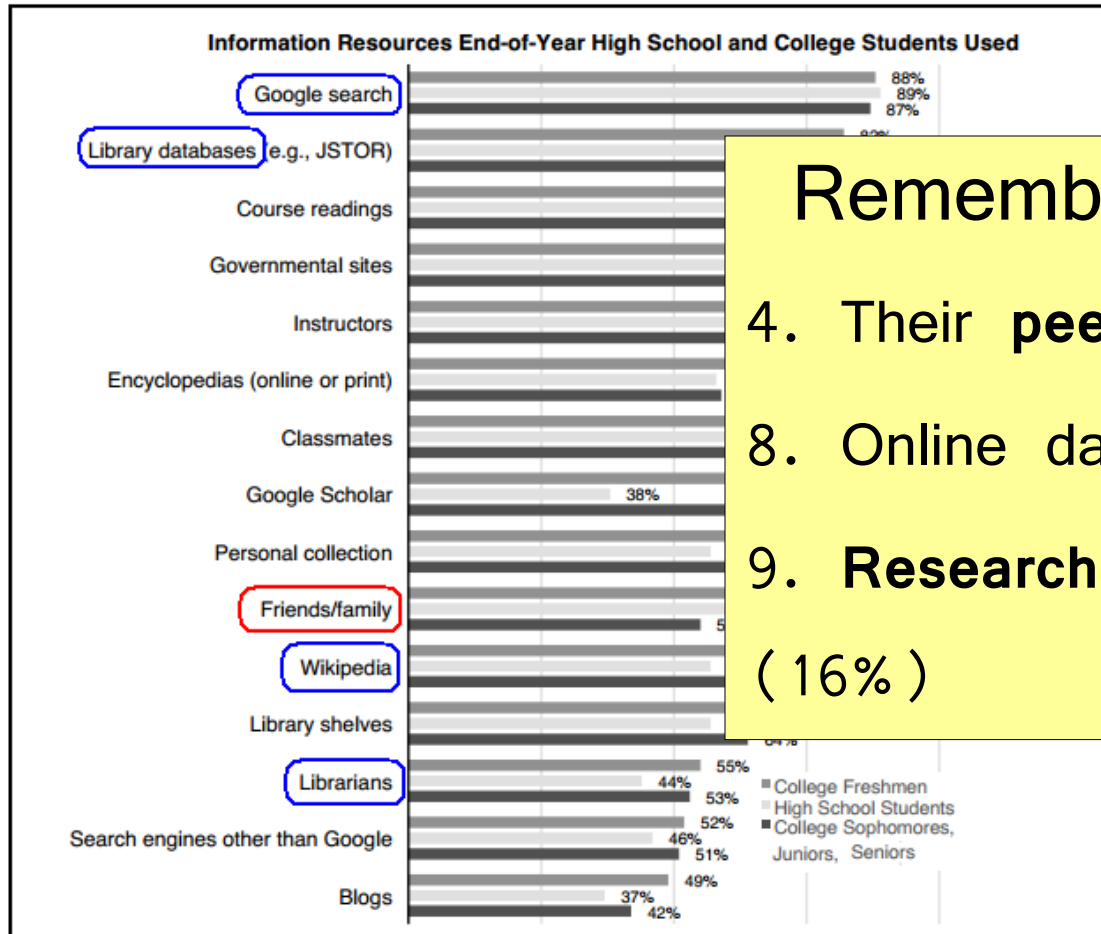
Students can limit the search to the segments of the document.

# Academic Journals

- TITLE:** Getting to the bottom of the Greenland ice sheet: glacial lakes accelerate flow of ice to the sea.(Cover story)  
**PUB:** *Oceanus*  
**DETAIL:** Amy E. Nevala. 47.2 (Oct 2009): p24(6). (1354 words)  
... Greenland's 2-mile-thick ice sheet melts completely, it will ultimately raise global sea level by 23 feet, drowning significant portions of coastal regions under water. ...  
[Full-text with graphics](#)      [6 PDF pages](#)
- TITLE:** Sleeping giants: set certain changes in motion and they will carry on whether we slash emissions or not. (Climate change)  
**PUB:** *New Scientist*  
**DETAIL:** 185.2486 (Feb 12, 2005): p9(3). (1758 words)  
... Antarctic ice sheet rests mostly on a part of the continental shelf that is below **sea level**. This may mean that the ice sheet is particularly prone to collapse, John ...  
[Full-text](#)
- TITLE:** **Modern global climate change.(State of the Planet)**  
**PUB:** **Science**  
**DETAIL:** Thomas R. Karl and Kevin E. Trenberth. 302.5651 (Dec 5, 2003): p1719(5). (3463 words)  
... specific location is typically halfway around the world a week later, making **climate change** a truly global issue. ...



# The Importance of "Friends"



Remember these stats?

- 4. Their **peers** (42%)
- 8. Online databases (17%)
- 9. **Research librarian at school** (16%)

Learning the Ropes: How Freshmen Conduct Course Research Once They Enter College

<http://tinyurl.com/kg7kk7q>

# For Further Research

Description	Source
<b>Video</b> – “How Search Works” Source - Google Lays the foundation to how Google gathers and organizes information on the web	<a href="http://goo.gl/SI7v8Q">http://goo.gl/SI7v8Q</a>
<b>Video</b> – “What is a "paid link"?” Source – Google How Google defines a paid link	<a href="http://goo.gl/FQLjll">http://goo.gl/FQLjll</a>
<b>Video</b> – “How Google Crafts Its Search Results” How does Google create its search algorithms	<a href="http://goo.gl/WSJXdC">http://goo.gl/WSJXdC</a>
<b>Online Bookmarks</b> – Google Portaportal Paul’s online bookmarks about Google	<a href="http://goo.gl/wpfepV">http://goo.gl/wpfepV</a>
<b>Online Bookmarks</b> – How Search Engines Work Portaportal Paul’s online bookmarks about how search engines work	<a href="http://goo.gl/g05Dbx">http://goo.gl/g05Dbx</a>