

Search Skills of the 21st Century Student

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“...I don’t really know what there is to use. I know there are books but I don’t really know how to find them. Really the only thing I know how to do is go to Google and type in what I’m looking for.”

First year, accounting major

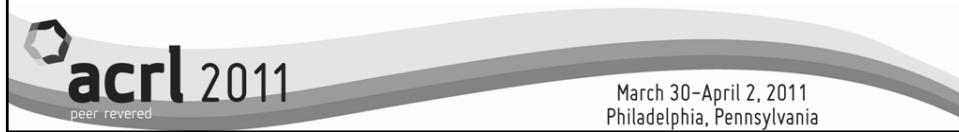
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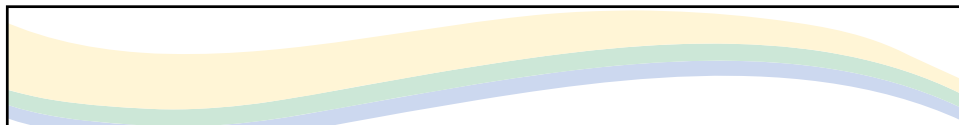
Google Mindset

- Every box is a Google-like box
- Organization / types of information



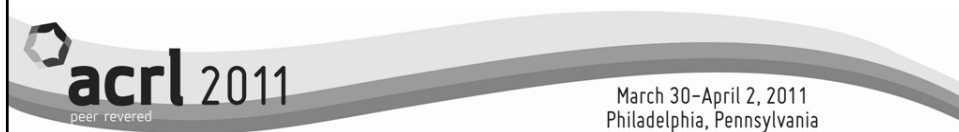
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“So I basically throw whatever I want into the search box and hope it comes up.”

Junior, nursing



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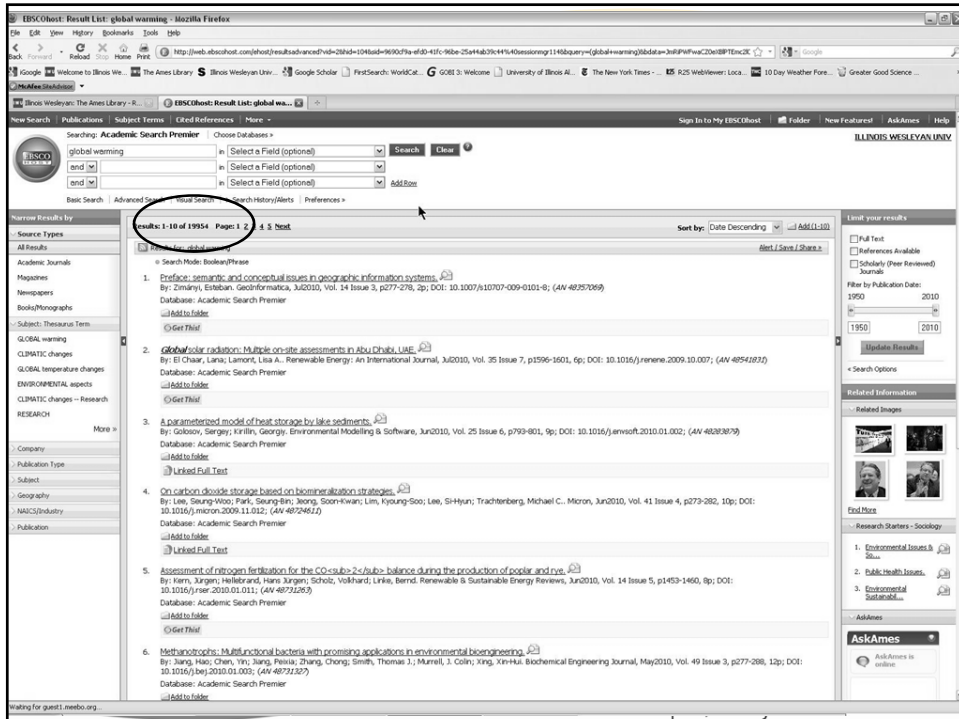
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"Apparently you don't have much on rock and roll."

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EBSCOhost: Result List: global warming - Mozilla Firefox

Searching: Academic Search Premier

global warming

Results: 1-10 of 1954 Page: 1 2 3 Next

Sort by: Date Descending

1. [Profuse semantic and conceptual issues in geographic information systems](#)
By: Zmijewski, Estaban. *Geoinformatica*, Jun2010, Vol. 34 Issue 3, p277-278, 2p. DOI: 10.1007/110707-009-0101-8; (AN 48257869)
Database: Academic Search Premier
[Add to Folder](#)
[Get This](#)
2. [Global solar radiation: Multiple on-site assessments in Abu Dhabi, UAE](#)
By: El Chaar, Liana; Lamont, Lisa A. *Renewable Energy: An International Journal*, Jun2010, Vol. 35 Issue 7, p1596-1601, 6p. DOI: 10.1016/j.renene.2009.10.007; (AN 49541932)
Database: Academic Search Premier
[Add to Folder](#)
[Get This](#)
3. [A parameterized model of heat storage by lake sediments](#)
By: Golosov, Sergey; Kirilin, Georgy. *Environmental Modelling & Software*, Jun2010, Vol. 25 Issue 6, p793-801, 9p. DOI: 10.1016/j.envsoft.2010.01.002; (AN 48282879)
Database: Academic Search Premier
[Add to Folder](#)
[Get This](#)
4. [On carbon dioxide storage based on biomineralization strategies](#)
By: Kim, Seung-Hwan; Park, Seung-Ryeon; Jeong, Soon-Kwan; Lim, Kyoung-Soo; Lee, Si-Hyun; Trachtenberg, Michael C. *Micro*, Jun2010, Vol. 41 Issue 4, p273-282, 10p. DOI: 10.1016/j.micron.2009.11.012; (AN 49724612)
Database: Academic Search Premier
[Add to Folder](#)
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5. [Assessment of nitrogen fertilization for the CO₂-soil-2r/soil balance during the production of poplar and rye](#)
By: Kim, Sang-Ho; Hellerand, Hans Jürgen; Scholz, Volkhard; Link, Bernd. *Renewable & Sustainable Energy Reviews*, Jun2010, Vol. 14 Issue 5, p1453-1460, 8p. DOI: 10.1016/j.rser.2010.01.011; (AN 48722263)
Database: Academic Search Premier
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6. [Methanobacteria: Multinational bacteria with promising applications in environmental bioengineering](#)
By: Jiang, Hao; Chen, Yin; Jiang, Peiwei; Zhang, Cheng; Smith, Thomas J.; Murrell, J. Colin; Xing, Xinhui. *Biotechnological Engineering Journal*, May2010, Vol. 49 Issue 3, p277-288, 12p. DOI: 10.1016/j.bej.2010.01.005; (AN 48722267)
Database: Academic Search Premier
[Add to Folder](#)

Evaluation of Sources

- Confusion over scholarly / primary

"I never go past the first page."

First year, music education

- Minimum expectations of the assignment

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Citations & Ethical Use

- Citation questions:
 - 15% of students answered all 4 correctly
 - 42% answered 0 or 1 questions correctly
- Confusion about copyright and citing

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Obstacles

- Technical
- Fragmented systems
- Lack of knowledge
- Path of least resistance

“...I’m lazy and I use the Internet.”


First year, math

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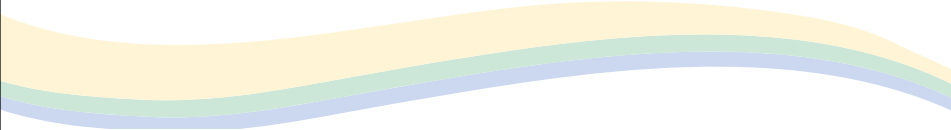
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Responses to Obstacles

- Give up / move on
- Fall back on what they know
- Talk with other students or their professors
- [Perhaps] talk with a librarian

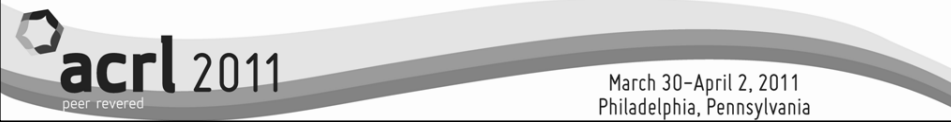
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“I pretty much pick the least amount of work necessary. If I don't have access to it, I search for something else.”

Senior, women's studies



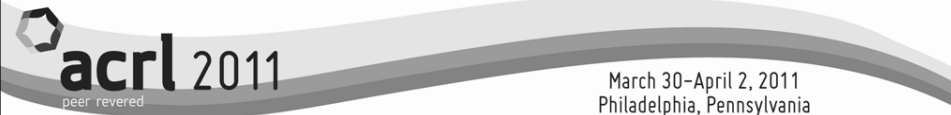
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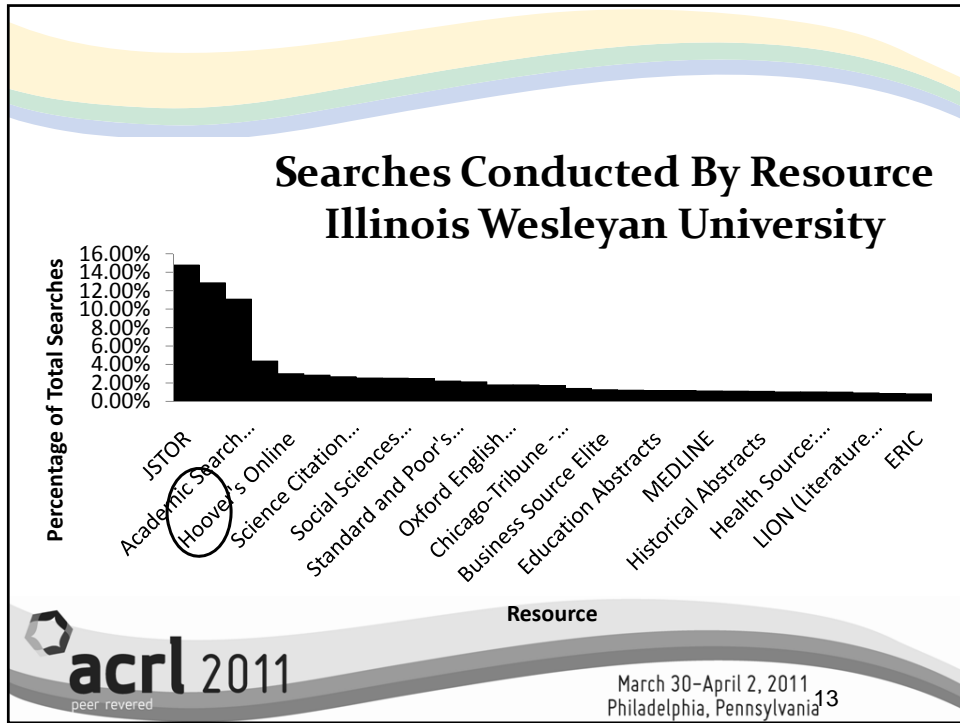
Choice of Database

- 60% of searches are conducted in 10 databases
- 76 resources with < 1% share of total searches



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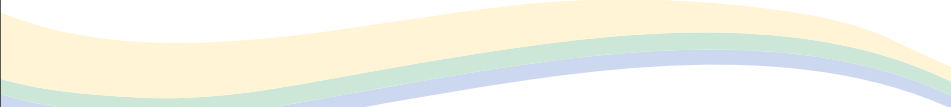


"I've never done that. I always assume librarians are busy doing library stuff and it's just not the first thing that pops into my head when I think of a librarian, like helping with papers ..."

Sophomore, international studies

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Instruction Sessions

I would not have gotten an A in Gateway if it had not been for that lab {instruction} session.

First year, biology student




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Cross Institutional Themes

- Inadequate information literacy skills
- Google mindset
- Full-text, on-line resources
- Role of librarian
- Faculty as mediators
- Library is a social institution



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Implications

- Web scale searching tools
- Concepts of information literacy
- Observation of students
- Collaboration with teaching faculty

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The Necessity and Nature of Library Instruction: Perceptions of Teaching Faculty

Annie Armstrong
Coordinator of Library Instruction
University of Illinois at Chicago

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Teaching Faculty Interviews

- Project anthropologists conducted 75 retrospective faculty interviews with teaching faculty at 5 participating institutions
 - DePaul University, Illinois Wesleyan University, Northeastern Illinois University, University of Illinois Springfield, University of Illinois at Chicago
- Analyzed transcripts and identified themes pertinent to library instruction and instructional services



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Sample Interview Questions

- What is your role in insuring student success in research?
- Do you expect your students to need help with their research projects?
- Normally in your classes, do you request an instruction session from a librarian, or consult with a librarian about the assignment?
- What would you say is the most significant thing librarians can do to help students who are conducting research?



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Student Need for Research Instruction

Overall consensus: students need help...

- Finding research tools beyond Google and Wikipedia
- Understanding the purpose of the library
- Navigating the library (physical and virtual)
- Assessing quality and reliability of information
- Discerning between different types of materials
- Conducting effective searches
- Narrowing topics
- Citing sources & avoiding plagiarism

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"... They're not aware of the difference between a good source, a mediocre source and a terrible source. To them they're all the same... they need guidance and as I say this, I realize I'm the one who has to give that guidance as to quality."

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Who Should Teach?

Iterations of Instruction

- Research instruction by teaching faculty
 - In classroom or in library
 - Office hours
- Research instruction by librarians
 - Library instruction sessions
 - Classroom visits
 - Dedicated library liaisons throughout the semester
 - General orientations

“... So obviously teaching them specific things and teaching them how to judge a source is all beautiful and everything but I think there is a really important human aspect to what the librarians do and that is crucial to helping students.”

Obstacles to Instruction and Collaboration

- Demands on time
- Confusion about making arrangements
- Lack of awareness of options and services
- Mixed quality of experiences

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Time Constraints, Inconvenience & Confusion

“I really like having the librarian come in, but I don’t do it for every class. It is only where I think it is really necessary. Because we have a limited number of sessions, and it takes one of the sessions”

“On this end, it would be time. Because it takes time to figure out how to get somebody to help you.”

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Quality of Experiences

"...So often I have students who leave the library feeling discouraged...even if they have a really horrible time trying to find something...they should be sent back with a positive message saying, 'well now that you know it's not there, how can you think of ways of reconfiguring your research that will work with some of the sources we have?'"



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Overcoming Obstacles

- Thinking beyond the library instruction session:
 - How can librarians augment research instruction taking place in the classroom?
- Raising and Maintaining Awareness of diverse array of options



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Sustained Interaction

“An ideal scenario—depends on the class. Having a person, dedicated again, to a discipline, having that person interact frequently with a class, so definitely having them come to class to introduce the library, and then creating opportunities for subsequent interaction and help the students as they progress and work on their project.”



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Marketing Instruction & Services

- Launching a systematic and sustained campaign on multiple fronts:
 - Print/Traditional materials
 - Exploiting electronic communication
 - Building relationships



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↕ Building Relationships

“People need relationships, they need face time, they need people to get out there from the library and promote the library. And there’s a lot of quality here, it needs to be championed and you do that face-to-face, right? ... Having a program of support...I’m not saying it has to be really creative, it doesn’t. But having that and having one or two key relationships on a very small scale on different colleges around the campus...”



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Expanded Suite of Services Communicated through Multiple Channels

- Nothing we do is a waste of time; every instructional service librarians offer has the potential to reach a different faculty niche
- If services are expanded, they must be promoted through a variety of channels, on a continuing basis to appeal to a wide range of communication preferences



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When it comes to library space, what do students want?

Applying Ethnographic methods to
the Study of library space



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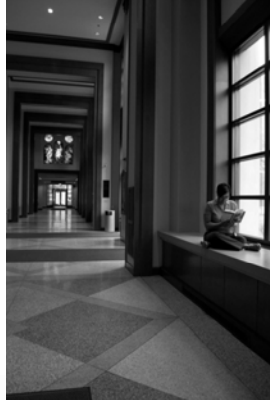
Do they want this?



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Or this?

- Richardson Library
- Kelly Hall



- Richardson Library
- O'Neil Reading Room



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And, who wants what?

- UIS posited a difference between traditionally-aged (18-22 yrs) residential students & older (25+) commuter students
- Other members of the ERIAL group studied space informally

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Library space trends, 1995-2010

- Information/learning commons
- Group studies
- Reading room
- Classroom(s)
- Media Lab
- Smaller “footprint” for print volumes



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How is library space usually studied?

- During design/redesign, through architect-led charettes
- Through informal observation
- As an element of more comprehensive user studies (i.e. LibQual+, etc.)
- Not studied at all; simply follow trends



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How space was studied in the ERIAL Project

- Interviews
- Photo diaries
- Cognitive maps
- Space design workshops
- Flip chart suggestions



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Forms of Data Collection: Interviews

- What do you like most about the library?
- What don't you like about the library?
- Thinking about space...what would you like to see changed?

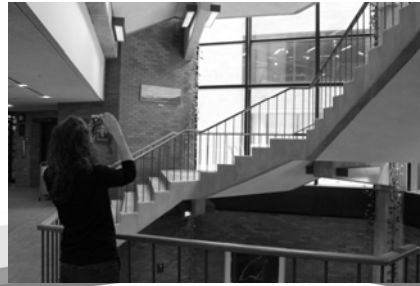


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Forms of Data Collection: Photo Diaries

- Q: *What would you change about the library?*
- A: *...Down the stairs, I would change that.*

- Q: *Why would you change that?*
- A: *Cause they're crooked and I'm about to fall down the stairs. I don't like those stairs.*

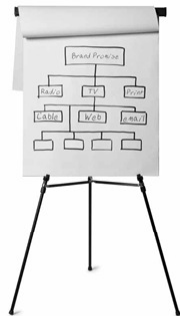


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Forms of Data Collection: Flip charts

What do you like
about this floor?



What is missing from
this floor?

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What did students think about the space?

- LIKED:
- Mary Jane's Café
- Quiet study spaces
- 2nd Floor Info Commons
- Media Lab
- Lounge Areas
- DISLIKED:
- Difficult to navigate, confusing
- Not enough/better signage
- Lighting
- Decorum, noise
- Furniture
- Not enough computers
- Lack of security



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Space Improvements Suggested by ERIAL Data

- Address noise issues better
- Fix signage issues
- Better/faster computers on upper levels
- Longer hours at night (not really space)
- Nicer Furniture

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Considerations for Library Redesign

- Quiet study areas
- Open floor plan with clear navigation
- Computer classroom(s)
- Group studies



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Service changes implemented based on ERIAL data

- 99 comfortable chairs and 1 couch purchased, spring 2010
- 30 lamps purchased, spring 2010
- Opened café to student organizations for meetings
- Moved faster computers to Levels 3 & 4



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UIS Hypothesis Not Supported

- All students, regardless of age or residential status, preferred quiet study spaces
- Parallel desire for more & better group study spaces
- Want “more connected and open” space



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Questions

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