The Good, The Bad and the Ugly of Federated Searching

By
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Background

• CSU system - 23 campuses
• History of consortial purchases
• CSU Council of Library Directors (COLD)
• CSU Chancellor’s Office purchased one MetaLib server accessible to all 23 CSU campuses.
Implementation Teams

- CSU System Implementation Team
  - UIAS Project Manager
- Northridge Implementation Team
  - Systems, Cataloging, Reference, Collection Development
Implementation Process

• Coordination with consortium (CSU System)
• Data population
  – MetaLib Global KnowledgeBase
  – Consortium (CSU System)
  – Campus
• Customization
  – Subject categories and resources
  – Interface
• Promotion and training
First Version
Next Version

Oviatt Library

Find Database

Titles | Locate | Category

Category
- American Indian Studies
- Anthropology
- Armenian Studies
- Art
- Asian Studies
- Asian American Studies
- Biology
- Business & Economics
- California Studies
- Central American Studies
- Chemistry & Biochemistry
- Chicana & Chicano Studies

Sub-category
- Databases (7)
- Research Guides (1)
- ALL (8)

Show all | Show unrestricted
The Good

• Simultaneous search
  – Heterogeneous resource types
• Define user attributes
• Personal portal
  – Search history and alerts from multiple resources
  – Personal database and E-journal lists
• Integration with OpenURL
  – Discovery and Delivery
The Bad

• Cross-database search
• Limited search capability
• Intermixes meta-searchable with non-meta-searchable resources
• Differences in thesauri, index
• De-duping
Search Databases

Search for "Any word=(bilingual education) AND Any word=(mandarin)" in "Education"

<table>
<thead>
<tr>
<th>Database Name</th>
<th>Status</th>
<th>Hits</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERIC (OCLC)</td>
<td></td>
<td>29</td>
<td>View</td>
</tr>
<tr>
<td>ERIC (CSA)</td>
<td></td>
<td>19</td>
<td>View</td>
</tr>
<tr>
<td>Academic Search Elite (EBSCO)</td>
<td></td>
<td>3</td>
<td>View</td>
</tr>
<tr>
<td>Expanded Academic ASAP (Gale)</td>
<td></td>
<td>1</td>
<td>View</td>
</tr>
<tr>
<td>Education Full Text (Wilson)</td>
<td></td>
<td>2</td>
<td>View</td>
</tr>
<tr>
<td>JSTOR Education</td>
<td></td>
<td>71</td>
<td>View</td>
</tr>
<tr>
<td>PsycINFO (EBSCO)</td>
<td></td>
<td>3</td>
<td>View</td>
</tr>
<tr>
<td>Oviatt Library Catalog</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Cal State Union Catalog</td>
<td></td>
<td>3</td>
<td>View</td>
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</table>

**Combined Results**

First 90 records 131 View
<table>
<thead>
<tr>
<th>No.</th>
<th>Rank</th>
<th>Author</th>
<th>Title</th>
<th>Year</th>
<th>Database</th>
<th>Action</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td>Liow, Susan J. Rickard</td>
<td>Language SOS : useful phrases in English</td>
<td>c1974</td>
<td>Cal State Union Catalog</td>
<td>Find Text</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>The Development of Bilingual Children's Early Spelling in English</td>
<td>2006</td>
<td>Education Full Text (Wilson)</td>
<td>Find Text</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Jarratt, Susan C.</td>
<td>Transnational Identifications: Biliterate Writers in a First-Year Humanities Course</td>
<td>2006</td>
<td>ERIC (OCLC)</td>
<td>Find Text</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Debowski, Shelda</td>
<td>Across the Divide: Teaching a Transnational MBA in a Second Language</td>
<td>2005</td>
<td>ERIC (CSA), ERIC (OCLC)</td>
<td>Find Text</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Dixon, L. Quentin</td>
<td>Bilingual Education Policy in Singapore: An Analysis of its Sociohistorical Roots and Current Academic Outcomes</td>
<td>2005</td>
<td>Academic Search Elite (EBSCO), ERIC (CSA), ERIC (OCLC)</td>
<td>Find Text</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Dixon, L. Quentin</td>
<td>Duplicate item - see # 5</td>
<td>2005</td>
<td>ERIC (CSA), ERIC (OCLC), Academic Search Elite (EBSCO)</td>
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<td>ERIC (OCLC), ERIC (CSA), Academic Search Elite (EBSCO)</td>
<td>Find Text</td>
</tr>
</tbody>
</table>
The Ugly

• Time-outs and extreme slowness

• Interface too complex

• Not intuitive to follow & no help offered
Hopeful Signs

• More searching methods

• Clustering of Results

• X-Server to allow separation of front-end interface with back-end MetaLib
X-Server Experiment

• MetaLib X-Server
  – XML Server
  – Application Programming Interface (API)
• Xerxes.calstate.edu
  – http://library.csusm.edu/search/
  – http://pharos.sjsu.edu/sanjose/databases/ElementaryEducation
Search for articles
Search multiple databases by subject in this new beta service.

- Accounting
- Anthropology
- Biochemistry
- Biology
- Business
- Chemistry
- Communication
- Computer Science
- Criminology
- Dance
- Economics
- Education
- Ethnic Studies
- Film
- Finance
- Geography
- History
- Human Development
- Kinesiology
- Linguistics
- Literature
- Mathematics
- Music
- Nursing
- Philosophy
- Political Science
- Psychology
- Science
- Sociology
- Theatre
- Visual Arts
- Women's Studies
- World Languages
- Writing & Rhetoric

I'm looking for a specific article
When you already know the article title, journal, issue, etc., and just need to find the full-text.
Biology

Journals & Newspapers -- Most useful

- Biology Journals (Bio Abs)
- Medical Journals (PubMed)
- Medical Journals in Full-Text (PubMed Central)
- Science Journals (ScienceDirect)
- Science Journals (Wiley Interscience)
- Life Science Articles (ELS)

Journals & Newspapers -- Also useful

- Chemistry Journals (ACS)
- Conference Proceedings (Proceedings)
- Scholarly Journals (JSTOR)
Articles & Databases

Library Research Help
For assistance with these databases, please contact Susan Kendall at (408) 808-2039 or send an email to susan.kendall@sjsu.edu.

Primary Elementary Education Resources

- Books -- In the Library
  The Library Catalog lists the books, periodicals (magazines, journals, newspapers), media and government publications in the Dr. Martin Luther King, Jr. Library.

- Academic Search Premier (SJSU Only)
  Remote access to this database is restricted to current SJSU students, faculty and staff. Full text for more than 4,650 publications, including more than 3,600 peer-reviewed journals. PDF backfiles to 1975 are available for over 100 journals. Designed specifically for academic institutions, it's the world's largest multi-disciplinary database. The majority of full text titles are available as searchable PDFs, and some are scanned in color. This scholarly collection offers information in nearly every area of academic study including: computer sciences, engineering, physics, chemistry, language and linguistics, arts & literature, medical sciences, ethnic studies, and many more. For search information, select Basic Search Help Sheet or User Guides & Additional Information For more information about this database, please contact Michael Condon at (408) 808-2116

- Education Full Text (SJSU Only)
  Remote access to this database is restricted to current SJSU students, faculty and staff. Indexes and abstracts articles in English-language periodicals and yearbooks published in the United States and elsewhere. English-language books relating to education and published in 1995 or later are also indexed. Full-text coverage begins in January 1996. For more information about this database, please contact Bernice Redfern at (408) 808-2038
Xerxes

- Requires knowledge of programming, PHP 5, XML, XSLT
- Server to host the application
- Still requires MetaLib management
Advantages

• Customize for local needs
  – Information for your users
  – Features for your users
  – Structure options for your library and users
• Interface easier to change and maintain
• Integration with campus systems
Ideal Federated Search

• Google Universal Search
  – All content sources (no silos)
  – Local indexing of full text
  – Weakness - lack of licensed content

• USASearch.gov
  – Clustering of results
Earth Observatory Reference: **Global Warming** [new window] [preview]

Global warming is happening now, and scientists are very confident that greenhouse gases are ... by Holli Riebeek • design by Robert Simmon • May 11, 2007. The original version of this fact sheet ... earthobservatory.nasa.gov/Library/GlobalWarming - Cached - More from NASA

NCDC: **Global Warming** [new window] [preview]

Answers to frequently asked questions about climate change.
www.ncdc.noaa.gov/oa/climate/globalwarming.html - Cached - More from National Climatic Data Center

EO Experiments: **Global Warming** [new window] [preview]

description. Global Warming: The Earth’s average temperature rose by more than half a degree Celsius over the ... earthobservatory.nasa.gov/.../GlobalWarming/GW.html - Cached - More from NASA

EO Library: **Global Warming** [new window] [preview]

With the possible exception of another world war, a giant asteroid, or an incurable plague, global ... Twenty-five years ago if you made a trip to the local library and perused the periodical section ... earthobservatory.nasa.gov/Library/GlobalWarming/warning.html - Cached - More from NASA
Falling Down the Portal: Adventures in Federated Metasearch Technology at California State University Northridge

Full Presentation
by

Lynn Lampert, Coordinator of Instruction & Information Literacy, Metalib Implementation Task Force Member at California State University Northridge

Katherine Strober Dabbour, Library Assessment Coordinator and HSI Grant Project Director at California State University, Northridge

at
LITA National Forum, San Jose, California
October 1, 2005
User Assessment Focus

• CSUN users
• Satisfaction with service
• Knowledge of service
• Who is using Metasearch
User Assessment Research Questions

• Compare direct database searching with Metasearch
• Ease of Metasearch use
• Knowledge of Metasearch
• Demographics
• Comments
User Assessment
Instrument

• Web-based survey
• CTL Silhouette Flashlight™ (http://flashlightonline.wsu.edu)
• 18 questions
  – 16 close-ended
  – 2 open-ended
• Distributed via Library home page and Metasearch login
User Assessment Findings

• CSUN status
  – Grad: 62%
  – Undergrad: 31%
  – Faculty: 8%
User Assessment Findings

Frequency of Database vs. Metasearch Use

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Databases</th>
<th>Metasearch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/week</td>
<td>35%</td>
<td>1/week</td>
</tr>
<tr>
<td>1/month</td>
<td>30%</td>
<td>1/month</td>
</tr>
<tr>
<td>1/semester</td>
<td>15%</td>
<td>1/semester</td>
</tr>
<tr>
<td>1/year</td>
<td>10%</td>
<td>1/year</td>
</tr>
<tr>
<td>Never</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>
User Assessment Findings

Expectations of Finding Relevant Resources

- Always
- Mostly
- Sometimes
- Rarely
- Never

Frequency

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<td></td>
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</tr>
<tr>
<td>Never</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percent

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
User Assessment Findings

Metasearch vs. Databases Ease of Use

Percent

- Much easier
- Easier
- About the same
- More difficult
- Much more difficult

Chart showing the distribution of responses indicating ease of use between Metasearch and Databases.
User Assessment Findings

• Metasearch and Info Lit …
  – Had formal library instruction?
    • Yes: 84%
    • No: 15%
  – 62% of users said it does not require librarian training; 38% said it does
  – 60% found out about it during a library instruction session; 20% “just by clicking on it”
User Assessment Findings

• Knowledge of Metasearch . . .
  – Allows limiting to scholarly journals only?: 68% yes; 32% no
  – Allows multi-db search with one interface?: 92% true; 8% false
  – Allows single db search with one interface?: 80% true; 20% false
User Comments Summary

• Comments from 15 out of 26 (58%) survey respondents
  – Positive: 66%
  – Negative: 27%
  – Neutral: 6%
User Suggestions

• Easier navigation to save articles/searches
• Easier navigation from MySpace to current search
• Difficult to refine a search from the beginning. Needs a Boolean “cheat sheet.”
• More difficult to find full text articles than in the individual databases
• Problems logging in since upgrade
User Assessment Summary

• Frequency of use, expectations of finding relevant resources, and importance to research were similar to direct searching of databases.
• Metasearch considered easier to use than databases by majority.
• Majority had IL instruction and considered themselves having very good to excellent IL skills.
• While most found out about Metasearch in an IL session, only 38% felt they needed instruction to learn how to use it.
• However, only 32% realized you could not limit results to scholarly journals.
• Most comments were positive, with constructive criticism.
Librarian Assessment Focus

- Librarians from many academic institutions (33 different institutions in total)
- Experiences using Metasearching
- Used Web based survey with 10 open ended questions
Librarian Assessment Summary

- Most are negative about teaching federated searching
- While not required to teach it, they are confident in their skills to do so, not confident in the technology, and will teach it when appropriate to the question
- Information Literacy impact seen as equally negative or neutral
- Majority prefer to teach the native interface of individual databases
Librarian vs. Patron
Summary

• Findings: librarians are more negative than students.
• Librarians may have deeper understanding of the implications of federated searching.
• Patrons seem to consider it another tool in their search arsenal.
Concluding Remarks

• Clearly students want one stop shopping experience they get in Google!
• Current federated search software have a long way to go to compete.
• Advantage Google - Speed and Simplicity
• Advantage Federated Search - Deeper scholarly content
Bibliography


• Pace, Andrew. (2004). “Much Ado About Metasearch” American Libraries Online
Bibliography


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  lynn.lampert@csun.edu