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Literature search on a connected path

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Library Connect Webinar, #LCwebinar  
https://libraryconnect.elsevier.com/library-connect-webinars
Agenda

• What are ScienceDirect Topics and why did we build it?
  – Rick Misra

• Lafayette Pedagogical Case Study
  – Elaine Reynolds
User Study: What goals and activities are readers engaging in while reading content.

Observation: When users come across an unknown term in an article, they stop reading, open up Wikipedia and look up the unknown term to get definitions and background information about the concept.
Cultivating a Knowledge Base

User Need

• Users are constantly growing and expanding their knowledge base through the literature.
• Different career stages (grad, postdoc, prof, etc.) in STEM fields need differing levels of information.
• Science is predicated on expanding knowledge by making inferences on the work that’s already been done.

Interdisciplinary Research

User Need

• Funding agencies and top journals are increasingly requiring interdisciplinary projects for grant funding and high impact papers.
• Such an environment requires modern scientist to expand beyond their area of expertise frequently.
Authoritative

User Feedback
• Sources on the web like Wikipedia are valuable for quick answers but not much out there to authoritatively fill in the gaps and look at things from different angles
• Trust is key for scientists and students
• Pointing back to where scientific information is derived is essential for scholarly communication

Product Design
• Provide relevant, standalone, foundational information to readers
  • Definitions
  • Overviews
• Use books: foundational, written by experts, peer reviewed
• Include references and citations
• Combine content from different disciplines
ScienceDirect Topics is surfaced at key points in the research workflow to serve important unmet user needs.

**User Workflow**
- **User Needs**
  - “I need to get up to speed on a new topic in order to understand the article I'm reading.”
  - “It is a challenge to quickly get a foundation of relevant, authoritative, knowledge on subjects that are new to me.”
  - “Understanding techniques and processes is required to understand and reuse the results or methods in a paper.”

**Solution**
- **Definitions**
  - Identify novel research topic
- **Overviews**
  - Explore subject in depth
  - Write a grant, get funded
  - Design/set up experiments
- **Methods and Processes**
  - Write a new research paper

**User Workflow**
- Learning or staying up to date in a field
- Interdisciplinary work
ScienceDirect Topics help researchers get a quick overview on a topic.

1. Clear definition
2. Related terms
3. Links to relevant Book content
ScienceDirect Topics help researchers understand the article and find relevant information at the point of need.
ScienceDirect Topics bring speed, selectivity and serendipity to user workflows

Search Engines
- Discovery Platform
- Starting point for most users
- Mixture of resource types
- Connects users to information

Journal Content
- Specialized knowledge
- Narrow focus
- Extreme depth
- Cutting-edge research

Topic Pages
- Free Layer
- Summary knowledge
- Overview
- Connects topics and content

Book Content
- Gateway knowledge
- General focus
- Comprehensive breadth
- Established cannon
Setting: Lafayette College
- Small liberal arts college, highly selective, about 2,400 students
- Small class sizes
Trial of ScienceDirect Enhanced Features at Lafayette

Courses and Objectives

- Neurobiology-200 level lecture lab style
  
  **Outcome**
  
  Students should be able to demonstrate that they can read and understand original research in neuroscience, including data presented in graphic form

- Aging and Age-related Disease-300 level seminar style
  
  **Outcomes**
  
  Students will be able identify and employ a range of strategies for discovering information
  
  Students will be able to critically read, analyze and integrate different types of scientific literature
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Implementation

- Students were given accounts and passwords that would allow them access to articles with enhanced features.
- Article links were posted to our Moodle classroom to allow access to articles that students read and discuss in class.
- Web-based literature search skills are specifically taught in Aging classroom, three web assignments are used to consolidate skill set.
- Students used the Science Direct Search engine as well as other search engines to find articles for a review paper project.
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Assessment Tools - Pre and Post Qualtrics Survey

- Comfort level with reading primary literature
- Strategies for dealing with unknown specific terms
- Tools that students use or are familiar with
- Demographic Information

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<th>Occasionally (3)</th>
<th>Seldom (4)</th>
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How often do you come across specific terms in an article or review that you are unfamiliar with or you are unsure of the term's full meaning?

- Occasionally
- Often
- Frequently
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How comfortable are you with reading primary literature articles?

Pre

Post

- Extremely uncomfortable
- Moderately uncomfortable
- Slightly uncomfortable
- Neither
- Slightly comfortable
- Moderately comfortable
- Extremely comfortable
How often have you used the following tools to find literature articles relevant to your topic of interest or an assignment?

- Publisher search engines
- Biomed Central
- Pub Med
- Medline
- Google Scholar

The chart shows the frequency of use for each tool, with options ranging from never to very frequently.
In engaging with the reference material, did you…

- Click multiple links in the same article
- Follow up on related reference material?
- Read the material linked to the word?

Did the reference material provided improve your understanding of the term?

- Never
- Sometimes
- About 1/2 the time
- Most of the time
- Always
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Quotes

- “I thought it was very helpful. I could contain my searches to the article without wasting time looking information up elsewhere.”
- “…the easy to digest definitions or explanations of scientific terms.”
- “They made the article more clear, and provided easy way to make sure one had a full understanding.”
- “I prefer to read printed out articles, not online articles, so I didn't utilize the links”

Conclusions

- So far, the enhanced features are meeting my expectations
Thank You and Questions

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