

Creating a WikiHyperGlossary for ChemEd DL

Robert E. Belford^{1,*}, John W. Moore², Daniel Berleant¹, Jon L. Holmes², Michael A. Bauer¹, Roger Hall¹ and Kyle E. Yancey¹

¹University of Arkansas at Little Rock, ²University of Wisconsin Madison, *rebelford@ualr.edu (author for correspondence)

What is the NSDL ?

National STEM Distributed Learning Program
(Formerly National Science Digital Library)



What are NSDL Pathways?



NSDL Pathways are NSF Partners who provide "audience-specific" portals to STEM content

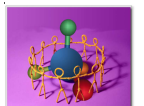


<http://www.chemeddl.org/>

ChemEd DL is the Chemical Education Pathway of the National STEM Distributed Learning



- Collections**
- Biographical Snapshots
 - ChemEd Resource Shelf
 - Chemistry Cases Alive!
 - ChemInfo
 - ChemPages Laboratory
 - Concept Maps
 - Data-Driven Exercises
 - DigDemos
 - Featured Molecules
 - Journal of Chemical Education
 - JCE Web Software
 - Learning Communities
 - Living Textbooks
 - Molecules 360
 - Historials
 - Periodic Table Level
 - eJournals
 - SynMath
 - Today's Science for Tomorrow's Scientists
 - WebWare
 - What's This?



- Communities**
- Led by small groups of dedicated volunteers with a strong and passionate interest in the mission of the community
 - Contribute, catalog, and assess library resources
 - Develop collaborative, living textbooks in their interest area
 - ChemEd DL provides communities with services and tools to help fulfill their mission

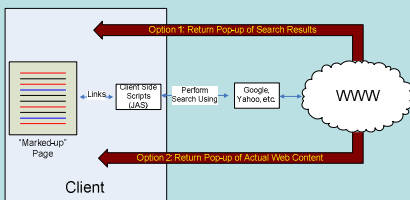


- Services**
- ChemEd Casts—podcasting
 - ChemEd Catalog—CWIS
 - ChemEd Collaborative—MediaWiki
 - ChemEd Comments—weblog
 - ChemEd Content—CMS (Affresco)
 - ChemEd Courses—Moodle

JavaScript Automated Search (JAS)

Highlighting any word or sequence of words in the document submits them to a search engine through a JavaScript Automated Search (JAS) process.

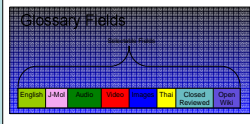
- Option 1 returns the search result
- Option 2 returns the first hit



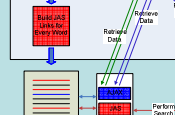
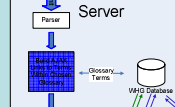
What is a WikiHyperGlossary (WHG) ?

MyWHG and Client Side Editing

Two Users Access Different Content for the Same Page



Document Before Submission to WHG



Document After Submission to WHG

Multiple Terms can be Displayed within Requesting Document

First field is textual content developed by students at Sam Houston State University and then translated to Thai by a student at Oxford Brookes University available with original work being done by students of Dr. Thomas Chatterton

Second field is a Jmed digital object which could be pulled out of the ChemEd DL

Digital Objects can be Manipulated within Requesting Document

WHG inside the Classroom?

Ideas?

A. Use of Automated Markup

• A "Learning Cycle" assignment could be developed where students submit their own MS WORD documents to the ChemEd DL through the WHG. A document is returned as a dynamic web page linking to the multimedia content of ChemEd DL. The content could be further explored and refined.

B. Use of Glossary Content Generation

• Could students create Glossary Content associated with an e-textbook and use the wiki tool to edit/peer review each others work in a fashion where the instructor can monitor work through the version history?

WHG outside the Classroom?

Ideas?

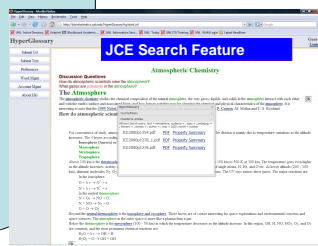
A. Informal Learning

• Could discipline specific glossaries connect digital text documents to digital library content in a way which provides targeted resources relevant to those documents?

B. Connect Parents to Kid's Work

• Could the WHG provide parents access to resources which would help them understand their children's STEM assignments?

JCE Search Feature



Acknowledgments

Development Site - <http://bioinformatics.ualr.edu/HyperGlossary/hg/about>

This project has been supported by NSF grants DUE-0632303 and DUE-0840830.

We thank the MidSouth Bioinformatics Center for their technical support.