Experiments with GROW

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Outline

- Metadata Project
  - IRLS 401/501
- Vocabulary Study
  - CE Lab 349
- Thanks to Ronan Dempsey and Maliaca Oxnam for great turn-around time!

Metadata Project

- IRLS 401/501 class exercise
- Sept. 1 – Oct. 1, 2002
- Three handouts:
  - http://devbox.library.arizona.edu:47744/faq.shtml
  - Ex. I, Subject & Resource Assignment, DC-Ed Q help
- Assignment
  - Create metadata using GROW interface (Contribute form) for one internal GROW resource
  - Select 10 external resources (based on given criteria) and create metadata for them
  - Write 1-page report on experience with GROW interface; using DC-Ed Q (GROW version); and, resource selection experience.

Results

- Students
  - 33 students enrolled in class
  - 27 students completed Ex. 1
- Internal Resources
  - We created metadata for 37 GROW resources
    - URL: http://devbox.library.arizona.edu:47744/ex1sa.html
  - Actual number of resources on GROW: GeoTech: 30; Rock: 19; Water: 119

Resource Criteria for Harvesting

- 1. I am searching for electronic resources in the area/topic of:_____
  (given a specified topic – topic name is expert vocabulary)

- 2. Search in Google or any of the educational digital libraries in the KS Toolbox, http://www.u.arizona.edu/~asc/kbox.html, for this topic.

- 3. When you find a resource, ask these questions and only select those that have the answer YES:

Resource Selection Criteria (2)

- 3.1. Is the resource relevant to education in Civil Engineering (or your specific topic)?
- 3.2. Does the resource function relatively well? (Is it bug-free?)
- 3.3. Have you been able to access the URL at least twice in two different weeks?
- 3.4. Does the URL begin with http:// (we do not want resources that begin with ftp:// etc.)
- 3.5. Is the resource available in full-text?

Resource Selection Criteria (3)

- 3.6. Is the resource available for free?
- 3.7. Is the resource from an authoritative source? (you define and determine authority)
- 3.8. Is the resource attractive, interesting, current (updated within the last year) and informative?
- 3.9. Is the resource interactive (requires the user to do something else besides just scrolling pages or clicking on hyperlinks)?
- 3.10. Does the resource include at least two different formats (for example, text and images, or text and datasets, or text and movie, or text and audio)

Resource Selection Criteria (4)

- 3.11. Is the resource archived or served on the server that it is currently available at? [If it is only mirrored or linked, try to find the current and primary site it is located at and use that URL – Read here for definitions of these terms: http://sunsite.berkeley.edu/Admin/collection.html.
- 3.12. Is there a contact name and address for the resource?
- 3.13. Is the resource fully in English?
- 3.14. I didn't answer YES to all the criteria. However, I think this is a really great resource; may I add it? (Yes, you may, but, please describe in final 1-page report why you think it should be included in the library.)

Resource Selection Results

- Approximately 400 resources selected
- Search engines/sources used
  - Google, KS Toolbox Digital Libraries, SearchEngine Watch
- Time spent
  - 2 weeks (to check for url stability)
  - It took more time to find and select than it took to catalog; took time to catalog (2-10 hours)
- Nature of Activity
  - Evaluation of Resource vs. Selection

Resource Selection Results (2)

- Other findings (sn=student number; where appropriate):
  - Selection is different from evaluation (sn=2)
  - Selection was the hardest part (sn=7)
  - Unstable resources (sn=3)
  - Few interactive resources (sn=5)
  - Few resources met all criteria (sn=2)
  - Not qualified to select (sn=3)
  - Criteria restrictive (sn=3)
  - Specific subjects (esp. geo-tech and rock) are of higher educational level than high school (sn=1)

Resource Selection Results (3)

- Specific subject searching
  - For complete list of specific subjects assigned see, http://devbox.library.arizona.edu:47744/ex1sa.html
  - Specific subjects are topics in Soil and Rocks only (unlinked areas in GROW themes and modules)
  - Searching for resources in these technical areas was difficult (sn=14).

GROW Interface Results

- Usable (sn=5)
- User-friendly (sn=5)
- Intuitive (sn=5)
- Site never crashed (sn=1)
- System crashes (sn=1) – system crashed multiple times

GROW Interface (contd.)

- Two Submission forms (sn=6)
  - Finish on the first form is confusing (sn=6)
- Creator, Contributor, Publisher, Submitter (sn=10)
  - The Add Entities to get new blank boxes is confusing
- Characters (sn=5)
  - Does not accept double quotes (“”), single quotes (‘’), hyphens (-)
- Edit and/or Delete capabilities needed (sn=8)

Item for Cataloging

Unit of analysis for cataloging was varied and unclear – what is granularity needed?

	Theme	Module	Learn. Unit	Element
Soils	10	TBD	TBD	TBD
Rock	9	TBD	TBD	TBD
Water	4	TBD	TBD	TBD

Item for Cataloging in GROW

- DC does not specify (and neither did GROW) at what level an item should be cataloged (sn=2)
- DC elements that are unclear and need further rules (how to select them from resource, from where or which part of resource to select them from, and how to input them): Identifier (what else is an identifier besides URL, ISBN in context of web objects), Source, Publisher (hard to determine or find), Contributor, Format, Date, Type, Description

Cataloging Process

- DC is easy (sn=20)
- Need to set standards even within DC (sn=5)
- Cataloging is easy once resources is selected for inclusion (sn=5)
- Inputting is timeconsuming (2)
- DC Cataloging is not worth the effort (1)

DC Elements Cataloging

- Functionality needed in terms of describing each DC Element
- Creator (sn=5)
  - Ability to enter organizations and multiple authors
- Date (sn=2)
  - Incorrect instructions (sn=2)
  - Many resources don't have MMDDYYYY; they have only YYYY
  - Many resources have duplicate dates (date of revision, date of update, etc.)

Material Types & Format

- Type
  - DC vocabulary is confusing (n=4)
  - Most resources are class syllabi and professors' notes (n=3)
  - What are laboratories and experiments?
- Format
  - Need to be able to enter multiple formats (sn=3)
  - Need to define formats clearly (sn=4)

Subject & Keywords

- Only three were used - Geo-Technical, Rock, Water
  - No real choice or decision here; two users looked at LCSH and ASCE

Description

- Need clearer guidelines on what and how much description should be added into metadata (sn=1)

Rights Management

- Copyright (sn=2)
  - Difficult to find this information on websites
  - Identify clearly for metadata creators what is in the public domain and may be cataloged

Pedagogical elements

- GROW uses 4, Audience, Duration, Interactivity Type, Interactivity Level
  - These seem subjective (sn=1)

Other Findings

- Search
  - Doesn’t always appear to work
  - Works only when Search button (as opposed to hitting Enter) is pressed
- Help
  - Ability to have another window open that guides or provides the help with the metadata creation process as user is filling the form.

Notes

- Users were given a DC Ed Q help sheet, which was also made available under the FAQ hyperlink. This listed the DC elements, their definition as in the Z39.85 standard, the GROW label for this element, the Chief source of information (from which data for this element may be taken from the resource), Inputting Guidelines and Notes.

Vocabulary Study

- Spring 2002
- Enrolled in the Geotechnical Laboratory
- 10 subjects + 1 lab instructor
- Completed a virtual lab and a physical lab on Consolidation
- 2 Interviews (1 included a card sorting exercise)

Goal

- Representation of subject information in a way that bridges expert and novice knowledge structures
  - Concept maps as ‘interactive resources’ for organizing themes
  - Entry vocabularies to help novices find technical, specialized information without information overload

Results

- Novice knowledge structure
  - 201 unique statements (n=10)
  - 20 categories (1=3; 2=4; 1=5; 3=6; 1=7; 1=9; 1=11 – n=10)
- Expert's knowledge structure
  - n=1; statements=12 (201) categories=2 (5)
- Virtual vs. physical lab
  - goal is to show the structures as networks (on completion of virtual lab and on completion of physical lab) and then examine differences.
- 7 students distinguished between virtual & physical labs.

Categories about Consolidation

Calculations & Formulae

Lab Process

Consolidation Theory

Student 1 - Categories

Thank You!!!

- .The End