

June 2005

Beyond Interdisciplinarity, Interactivity, and Interoperability: Some Options for Digital Libraries Education

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Recommended Citation

Anita Coleman. "Beyond Interdisciplinarity, Interactivity, and Interoperability: Some Options for Digital Libraries Education" *Joint Conference on Digital Libraries (JCDL)* (2005).

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Beyond Interdisciplinarity, Interactivity, and Interoperability: Some options for DL Education

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*DL Education Workshop,
JCDL 2005, Denver, CO – 7th June 2005*



Overview

- ◇ The Basics
- ◇ Digital Dreams – What I dreamed of but it didn't come true. Yet.
- ◇ The Daily Grind – How I do it now!
- ◇ Radical notions – digital practice; digital communities – How I'd really like to do it!
- ◇ Realistically, what can we do

Interdisciplinarity

"One of the chief practical obstacles to the development of social inquiry is the existing division of social phenomena into a number of compartmentalized and supposedly independent non-interacting fields."

John Dewey. *Logic: The Theory of Inquiry*.
New York: Holt, 1938. p. 509

Questions about DL Education

- Source: Coleman, A. 2002. Interdisciplinarity: The Road Ahead for Education in Digital Libraries. D-Lib Magazine, 8 (7/8) July.
- ◊ Would the recommended digital libraries track increase LIS fragmentation?
- ◊ Would an integrated approach that included DL not suffice?

More Questions

- ♦ Would a special track in DL merely continue to split LIS graduates into traditional and IT-intensive roles?
- ♦ Should the hybrid curriculum be developed and implemented as an *independent* DL track housed within LIS but jointly taught with CS and other discipline faculty? Or should it be a set of *integrated* DL courses offered by an *interdisciplinary* DL department that includes faculty from LIS, CS, and other related disciplines?

Yet More Questions

- ◇ How many specializations could small LIS schools *pragmatically* and *intellectually* offer?
- ◇ What is the appropriate level of education for the DL track?
- ◇ Questions I didn't ask explicitly:
 - What are digital libraries?
 - What are ideal-type digital libraries to draw on?

Answers

- ♦ Findings from two studies (Spink & Cool, 1999 and Saracevic and Dalbello, 2001)
- ♦ Influenced by my own experiences (practice, teaching, and research – Concept of DL is not new)
- ♦ “an expansion of the traditional LIS and Computer Science (CS) curricula to encompass a more general digital libraries track.” (Spink & Cool, 1999)

Plus ça change

♦ Hybrid curriculum

- bring together complementary strengths from diverse departments such as computer science, psychology, policy studies, and library and information studies.
- Specific curriculum areas such as Theoretical and Historical Foundations; Technical Infrastructure of the Digital Library; Knowledge Organization in Digital Libraries; Collection Development and Maintenance; Information Access and Utilization of Digital Libraries; Social, Economic and Policy Issues; and Professional Issues.

Saracevic & Dalbello (2001)

1. *Why teach digital libraries?*
2. *What to teach about digital libraries?*
3. *How to teach about digital libraries?*

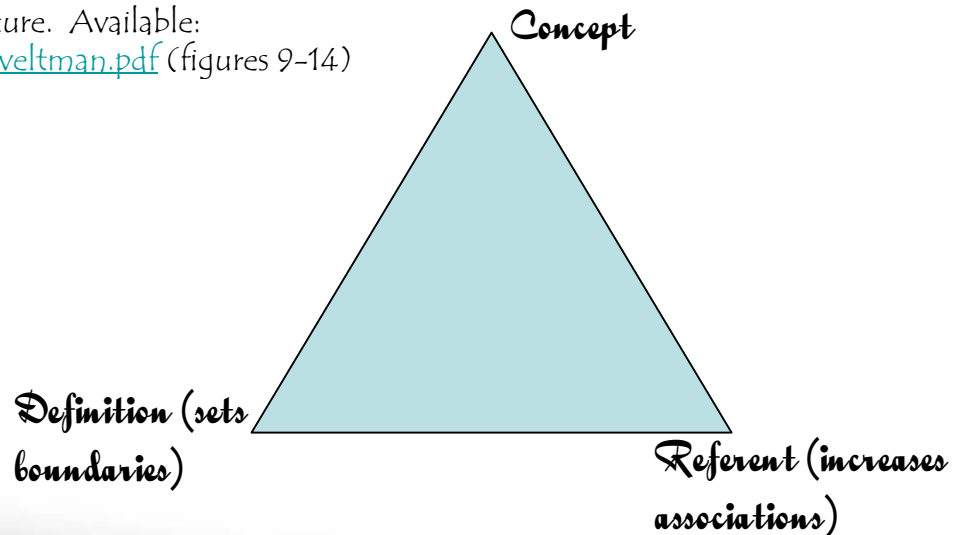
32% independent; 49% integrative

DL content was integrated within another course and without another independent DL course

Concept Triangle

Or what do terms or phrases really mean? A term stands in place of a concept. Here is the triangle I used for concept formation... other concept triangles can be found in this article:

Kim H. Veltman, Towards a Semantic Web for Culture. Available:
<http://jodi.tamu.edu/Articles/vO4/iO4/Veltman/veltman.pdf> (figures 9-14)



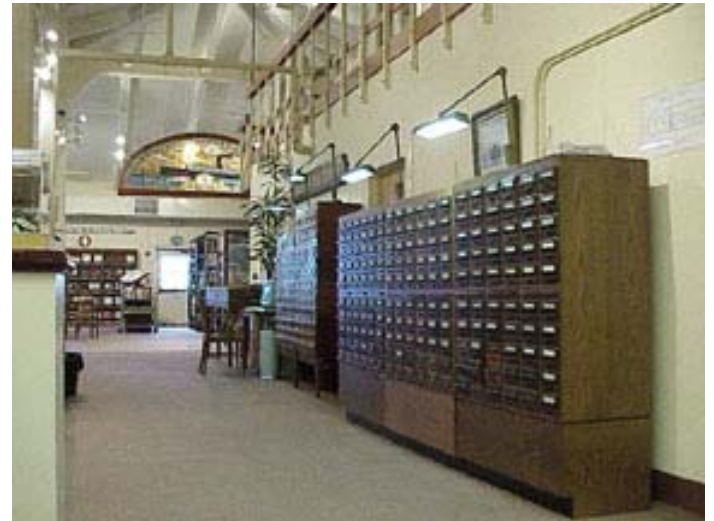
The IT word

♦ IT or ICTs? – Communication

The predominant LIS educational approach uses an *information technology* context. (Spink & Cool, 1999)



OPAC



We've always been about IT



Colophon



The Future of the Book

- ❖ Patrick Bazin (a librarian, Director of the Bibliotheque de Lyon, France) discusses "metareading"
- ❖ James J.O. Donnell discusses how Trithemius, a 15th century abbot criticised the new technology of print and couldn't bring himself to see it as a part of monastic life!

– *The Future of the Book*, Edited By G. Nunberg.
University of California Press, 1996.

DL Topics

A categorization of DL topics: *tools* (tools and technologies to build digital libraries); *environment* (the context in which digital libraries operate); *objects* (representations, standards, etc.); and *combined* (tool, technologies, and objects) revealed that 13 LIS programs offered courses that fit into the DL category of *tools*.

- ♦ The researchers conclude that the educational needs of DL have been dictated by CS, argue that DL needs differ from LIS or CS proper, and suggest a framework around the *integrative topics* of DL concepts, content, creation, organization, technology, access, preservation, management, and context.

Back to the book

- ♦ Culture of the book
 - the way in which a certain amount of knowledge, meaning and sociability was created and disseminated. That's already passing replaced by meta reading.
- ♦ The order of the book designated stable roles for a trilogy (of three groups): author, book reader.
- ♦ Three crucial attributes of text (which is what the book embodies) are:
 - ♦ linearity, demarcation, and fixity.

Visuality vs textuality

♦ Bottom line

- We need to learn to read differently than we did with printed text. Hypertext links of course are the opposite of fixity (here today gone tomorrow) and boundaries (demarcation) are definitely not clear on the WWW (if I link here, where does my document/text really end?).

♦ Constant militating of the 'visual' versus text.

- More people are visual learners than textual learners...and
- so every new technology and media is always trying to increase visuality (as opposed to textuality).

Interactivity

"Interactives" – "Interactivities"



Multimedia – Information resource – Interaction

Boundaries – information package?

Content Units – Collections – Services – Tools –
Interfaces

– Details:

<http://www.dlib.org/dlib/november02/coleman/11coleman.html>

Interoperability

OAI-PMH – Open Archives Initiative-Protocol
for Metadata Harvesting



Federated searching – Open Access



Digital Repositories – Digital Libraries

Details: <http://www.dlib.org/dlib/july04/coleman/O7coleman.html>



Unity Amid Diversity

- ♦ A lot of stuff out there!
 - HTML, DTD, SGML – HotMetal Pro
 - Scripting – Perl or PHP
 - Databases – MySQL
 - XHTML, CSS, Javascript, RSS, XML, WML, SOAP, RDF, DC, CDWA, EAD, OAI, OAIS, BOAI, CrossRef, DOI, SFX

Professional Organizations

- ♦ ALA, IFLA, ASIST, ALISE
- ♦ ACM, IEEE
 - Computing Curricula Report & IFLA 10 Core Elements for LIS

Workplace needs

- ♦ Steele and Guha sampled 30 library job advertisements in the UK, USA, and Australia between July 1997 and January 1998.
- ♦ They found that the overwhelming number of requirements were for traditional skills and only four advertisements listed requirements for IT skills.

Opinion Pieces

♦ Roy Tennant

- “Universe of possibilities”
- Digital Librarian should know ASP from PHP
 - ♦ Understand and evaluate a variety of IT for selection & use
- Ideal-type of DL Education at University of Michigan: Introduction to XML, Usability Methods in Web Design and Digital Librarianship.

Educational Research

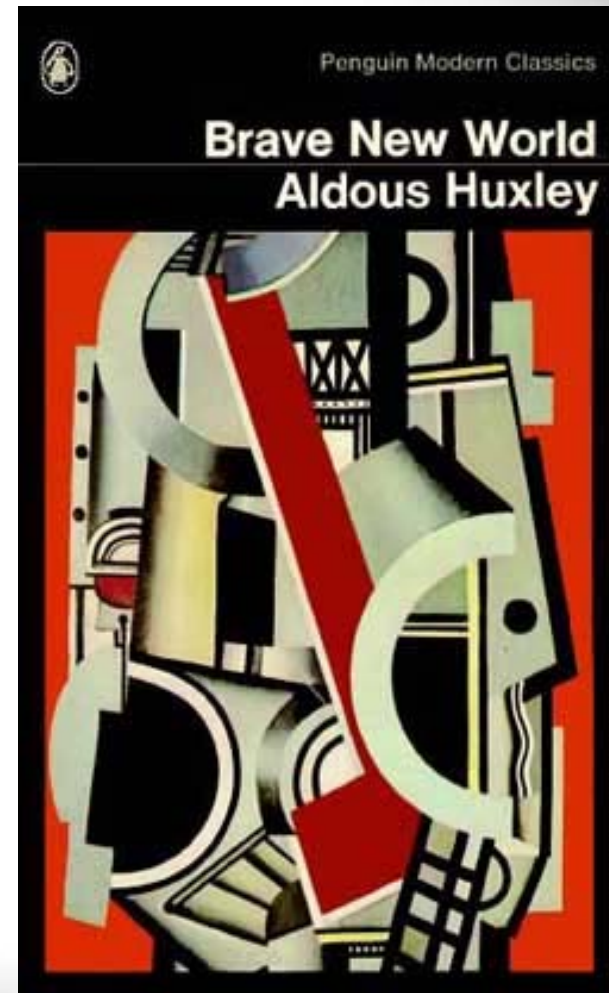
- ♦ Interdisciplinary curriculum
- ♦ Constant learning – lifelong learning
- ♦ Interdisciplinary teams for teaching & learning
 - 8-step process

Eight step process

1. Assemble an interdisciplinary team.
2. Select a topic.
3. Identify disciplines from which the course needs to draw.
4. Develop the subtext for the course (subtext is the abstract issue or issues which form the substantive topic of the course).
5. Structure the course by identifying the conceptual glue that holds it together, keeping in mind not only what is taught but to whom.
6. Select the readings.
7. Design the assignments.
8. Prepare the syllabus

Knowledge Organization

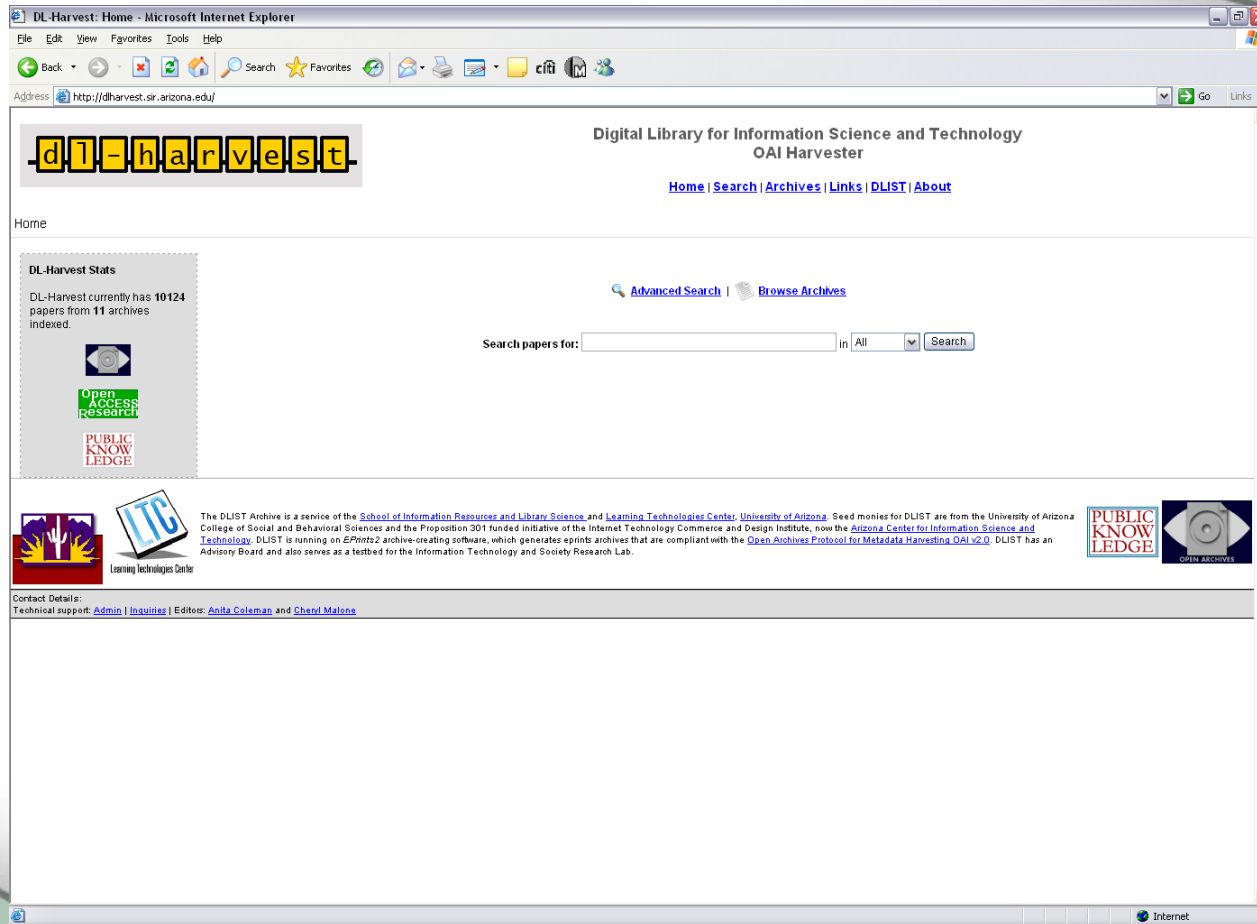
- ◇ Organization of Information
- ◇ Cataloging & Metadata Management
- ◇ Indexing & Abstracting
- ◇ Theory of Classification
- ◇ Controlled Vocabularies
 - On the books
 - Knowledge Structures
 - Digital Libraries



Open access archive for LIS



Open access aggregator for LIS



ASC Online – Mentoring weblog

ASC Online - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites

Address <http://radio.weblogs.com/0109575/> Go Links

ASC Online
A weblog of Information Science & Technology education and mentoring for LIS graduates.

Home
[LIS Learning Showcase](#)
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IT News
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[Scholarship](#)

XML

Thursday, May 26, 2005

Yesterday, we announced the establishment of the first DLIST Advisory Board and our open aggregator service DL-Harvest. You can read the complete details at [DLIST Recent News](#).

[comment \[0\]](#) 9:10:14 PM #

Sunday, May 22, 2005

A few days ago, I read *You've got email but who's got the rules?* in the LA Times. I thought it was a great article highlighting as it did some of the trends and etiquette of email communication. I wanted to post it here, but today I couldn't find it using the LA Times search. I was able to find it using Google however! Surprise...you can now read it without registering with the LA Times on [SZCentral](#) and on the [Depraved Librarian's blog](#) (but you'll have to do that free registration with the Times first). Read the article for yourself to see into which category you fall. Do you check your email once a day or several times a day? Do you reply right away, every day, or do you reply less often? May you are like some others - who never reply :). Do you use a [Blackberry](#)? Do you avoid cell phones with email messaging capabilities?

[comment \[0\]](#) 4:43:32 PM #

Monday, May 16, 2005

In April [DLIST](#) welcomed the [Learning Technologies Center](#) as our hosting partner. Thanks to the Arizona Health Sciences Library, especially Paul Bracke, for hosting DLIST almost since inception and welcome to the LTC. This move has prompted me to look into the whole issue of digital preservation much, much more closely. RLG's 1998 study by Margaret Hedstrom and Sheon Montgomery is, of course, a classic, by now. By this I mean [Digital Preservation: Needs and Requirements in RLG Member Institutions](#). Hedstrom's [Digital Preservation Research Agenda](#) is also worth a read (although in her conclusion here about SDSC as a testbed and the importance of testbeds in connecting developers to collection managers, Hedstrom forgets other important groups such as evaluators and end users) as is the widely available talk, [Digital Preservation: A Time Bomb for Digital Libraries](#). Important challenges include the life-long support and almost constant maintenance of digital objects. The bibliography I liked best (although dated) is from the National Library of Australia - [PADI, Preserving Access to Digital Information](#).

[comment \[0\]](#) 6:30:58 PM #

Friday, April 08, 2005

Yesterday, in class, we explored Concept Space, <http://conceptspace.london.edu/>, the visual search tool for business concepts. It is the only working interface that I know of where the concepts are generated from a bibliographic classification scheme - a classification scheme used by two libraries in UK business schools (London and Manchester) - for Management Education literature. The concepts are also linked to a variety of information resources (books held by the libraries, journal articles in electronic databases, and WWW resources). The classification scheme itself is also interesting because it divides all concepts in management education into three broad categories: 1) The Enterprise, 2) The Environment, and 3) Techniques for Analysis and includes a related class, Information Science. Browsing the class of Information Science (I couldn't tell if this is an Environment category but suspect it is) we find that Libraries form many narrower concepts. Libraries of different types, for example. Unfortunately, the IS concepts are not inclusive of all that LIS schools today try to cover:

<http://conceptspace.london.edu/main.asp?id=YA&term=Information+science>

May 2005

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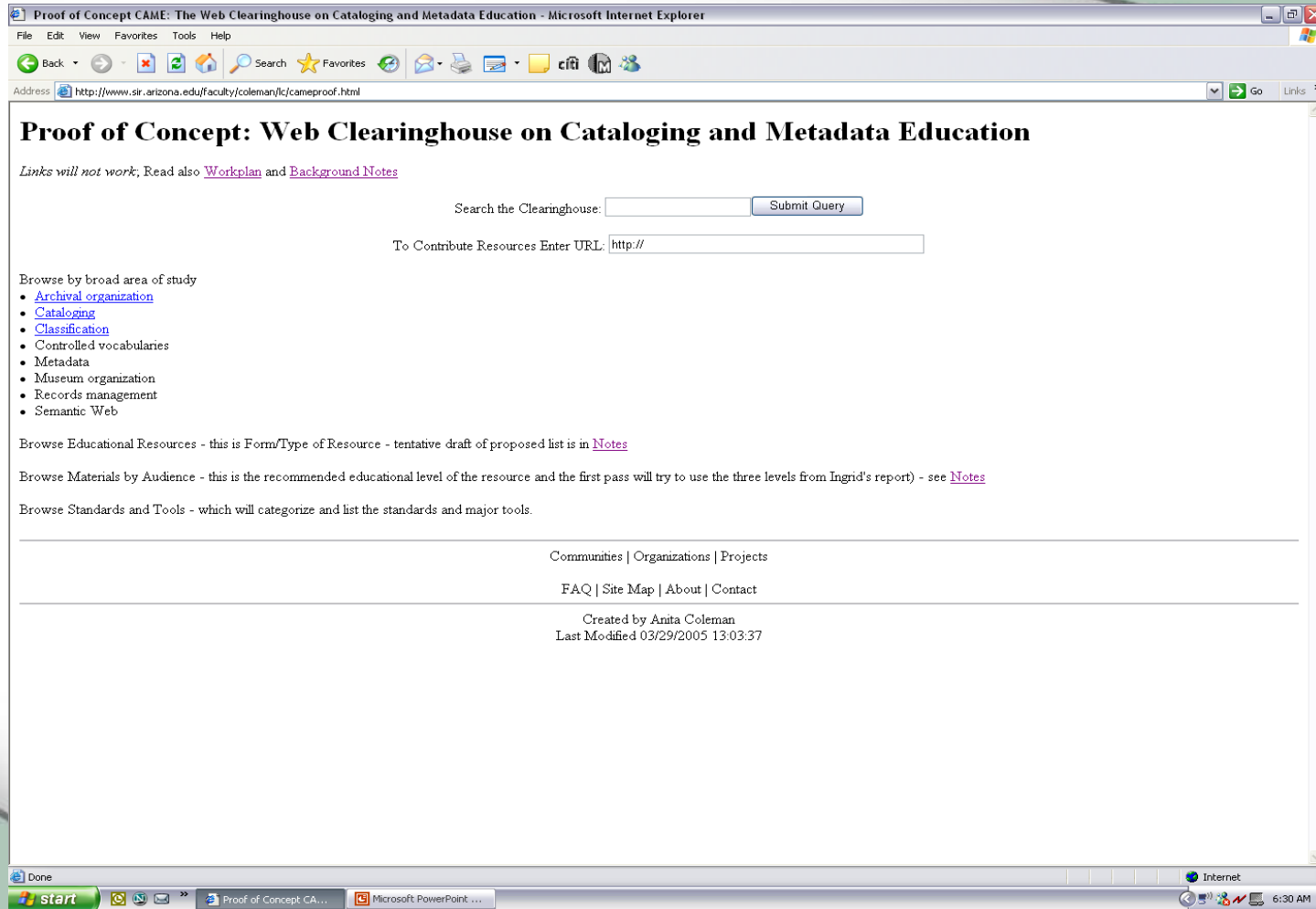
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ASC Online - Microsoft... Microsoft PowerPoint ...

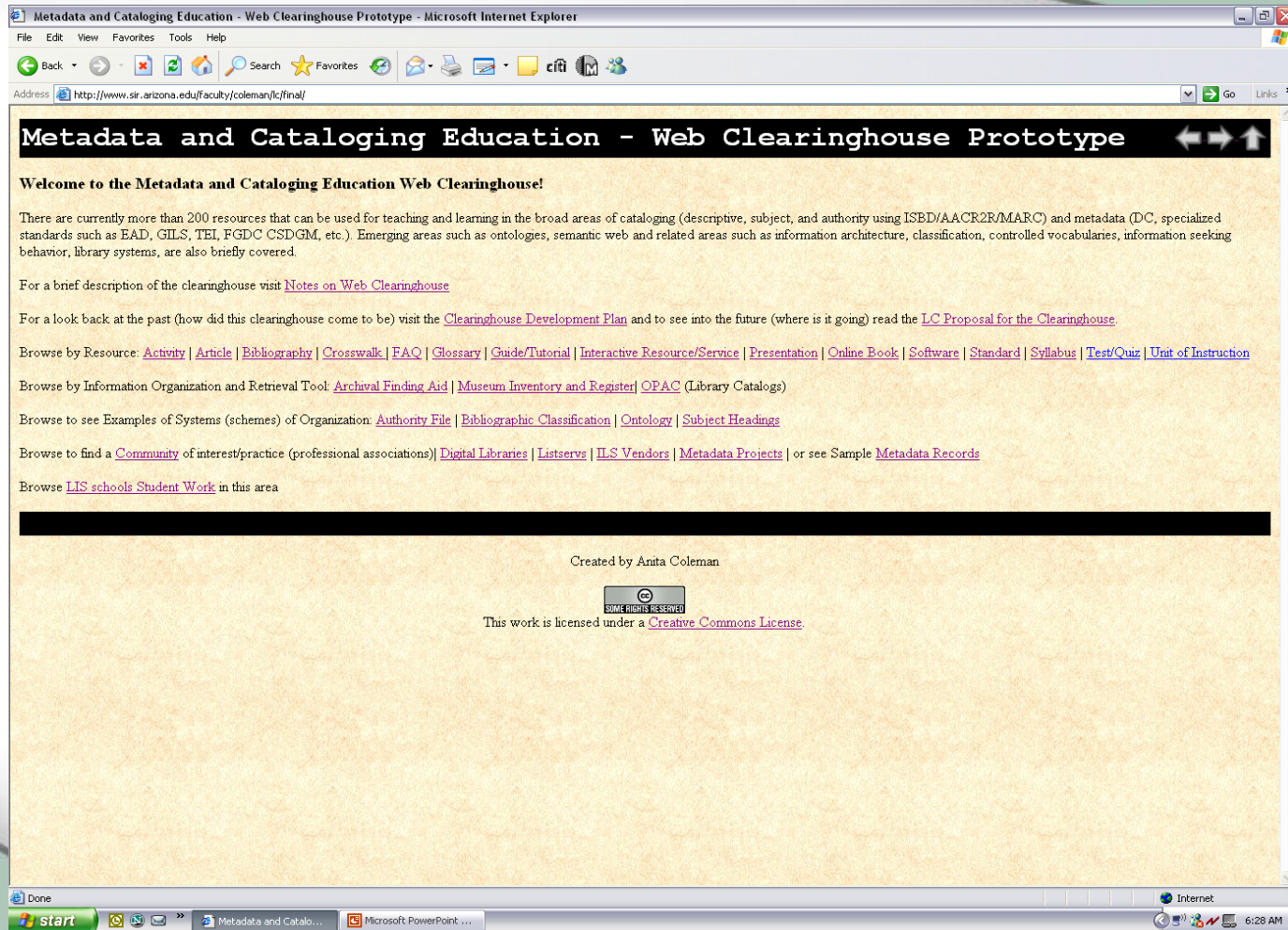
Internet

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Clearinghouse – Prototype 1



Clearinghouse – prototype 2



The Daily Grind



- Coursework
- Research projects (small n)
 - ◊ Information behavior studies
 - ◊ Citation studies
 - ◊ Organizing collections
 - ◊ Information retrieval
- Internships
 - ◊ Intellectual Property
 - ◊ Collection development
 - ◊ Metadata



Digital Library of Information Science & Technology



Dream team Option

- ◇ Characteristics of the dream team
 - Research & development & teaching experience
 - Computer Science, Geography & Regional Development, Library & Information Science, Fine Arts, etc.
 - Global (multi-lingual) experiences
 - Cultural and Gender Diversity

Radical Notions – not really!

- ♦ Digital Learning Communities
 - Communication and Writing
 - ♦ Email, Electronic Discussion lists, Web page publishing
 - Virtual (or semi-virtual) communities
 - ♦ MkDoc, Slashdot, UseMod Wiki (Plones), Blogs
- ♦ Digital Practice
 - Buzzword for automation! But it may be SEXY!

What do librarians want?

- ◇ Librarians want to teach
 - But they generally don't want to teach alone; they want to teach with a full-time faculty preferably
- ◇ Librarians want to do research
 - Again, they generally would like to collaborate

What can we do?

♦ Funders:

- Encourage (FUND) synergistic projects & workshops – projects that try to blend research, teaching & service in support of LIS education

♦ LIS schools & faculty:

- Spread the 'digital libraries' culture (load) across the curriculum; cultivate the "digital mind"

The End

- ♦ Thank you!
- ♦ Email: asc at arizona dot edu
- ♦ This presentation will be archived in DLIST – <http://dlist.sir.arizona.edu/>
- ♦ AHSL (Paul Bracke) – DLIST support (former)
- ♦ LTC (Garry Forger) – DLIST support (current)

DLIST