Building an International Digital Curation Curriculum

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Background & Motivation

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Professional Evolution

- Many advances in management, preservation & dissemination of digital resources
- Many streams of professional activity (e.g. computer scientists, archivists, records managers, librarians, scientific data engineers, museum curators, organizational IT staff)
- Increasing recognition in past decade of common challenges & opportunities
- Recent adoption of term "digital curation" – pulling together many previously distinct research communities

Digital Curation

- "The active management and preservation of digital resources over the life-cycle of scholarly and scientific interest, and over time for current and future generations of users."*

- Widely used by scientists & those responsible for managing data sets (who have substantial expertise to share with archivists)

- Seen by many as more inclusive –in disciplinary scope & coverage of entire lifecycle –– than "digital preservation"

*Digital Curation Centre. "What is Digital Curation?" http://www.dcc.ac.uk/about/what/

Education & Professional Development

- Many valuable components of a digital curation curriculum
  - Individual courses & course components within graduate programs (most in LIS programs, but also e.g. computer science, business, public policy, history)
  - 1-day to 5-day professional workshops
- Training in specific disciplines/fields generally doesn't address issues such as long-term access, integrity & contextual information; ARM & LIS students would benefit from more understanding of how to address specific digital environments & resource types

DigCCurr Project

- IMLS Grant # RE-05-06-0044
- Collaboration of School of Information & Library Science (SILS) at University of North Carolina at Chapel Hill (UNC-CH) & U.S. National Archives & Records Administration (NARA)
- Runs July 1, 2006 – June 30, 2009.

DigCCurr Goals

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Curriculum

- To prepare students for digital curation with wide variety of organizations, contexts & types of resources:
  - ◦ Graduate-level curricular framework,
  - ◦ Course modules
  - ◦ Experiential components

Carolina Digital Curation Fellows

- 5 Digital Curation Fellows pursuing degrees at SILS beginning in fall 2007.
- UNC partners providing practical experience opportunities: Academic Affairs Library, Odum Institute, ibiblio, & ITS

Two International Symposia

- First was held April 18-20, 2007 in Chapel Hill - http://ils.unc.edu/digccurr2007/
- Second to take place in late 2008 or early 2009 (near end of project)

Sources of Data for DigCCurr

- Review of literature (publications, guidelines, standards, reports)
- Syllabi & materials from existing courses & workshops
- Job advertisements
- Interviews (transcribed & coded) with & other feedback from 17-member expert Advisory Board
- Materials generated at DigCCurr2007 Symposium (including participant survey)
- Experience in implementing the curriculum at SILS
- Ongoing feedback from CDC Fellows

Guiding Principles

- Build on an installed base
- Digital curation activities span entire life of digital resources
- Build from modules, rather than entire courses
- Emphasize core, generalizable modules
- Avoid tying the curriculum to one specific institution type
  - e.g. identifying relatively simple & general set of lifecycle stages & then identifying detailed set of functions that one may apply at each stage

Matrix of Digital Curation Knowledge & Competencies

▸ Tool for thinking about, planning for, identifying & organizing material to cover in curriculum

▸ Each unit of curriculum content can address one or more dimensions

▸ Helping us to address a fundamental issue: All digital curation students should all get some aspects of the curriculum, but other aspects will only be necessary for students planning to work in particular types of places or jobs (i.e. balancing core vs. specialized knowledge)

Six Matrix Dimensions

- Mandates, values & principles
- Professional, disciplinary or institutional/organizational context
- Transition point in information continuum/lifecycle
- Type of resource
- Function or skill (elaborated in detail – see handout)
- Prerequisite knowledge

Mandates, Values & Principles

- Ethics
- Legal Requirements
- Standards
- Interoperability & Sustainability Requirements

Professional, Disciplinary or Institutional/Organizational Context

- Professional Context – e.g. archivist, librarian
- Disciplinary Context – e.g. history, physics
- Institutional/Organizational Context – e.g. state government, academic, corporate

Transition Point in Life of Digital Object

- Pre-Creation Design and Planning
- Creation
- Primary Use Environment (Active Use)
- Transfer to Archives
- Archives (Preservation Environment)
- Transfer Copies or Surrogates to Secondary Use Environment
- Secondary Use Environment

Type of Resource

- Level of Aggregation
- Level of Abstraction
- Medium
- Format
- Genre

Function or Skill – See Handout

Prerequisite Knowledge

- Terminology
- Characteristics of Technologies

Themes from Advisory Board Interviews

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Note: Themes substantially reinforced by data from survey conducted at DigCCurr2007 Symposium (findings reported elsewhere)

Breadth vs. Depth in Curriculum

▸ Students need to get a general <u>core</u> foundation, in order to

- Have a holistic view of the digital curation picture
- Remain flexible in moving between jobs/environments

▸ Students need some <u>specialized</u> knowledge (e.g. specific domain, function, or level of management/technological abstraction), because

- One person can't do it all – need teams with different backgrounds & skills
- Domain knowledge required to understand content & gain legitimacy with stakeholders (e.g. PhD in physics to work with physicists & their data sets)

Different Tiers, Levels or Degrees Offered

▸ Several indicated that there should be different degrees of education with different associated degrees or certificates

▸ Several indicated that PhD will be required for most intensive digital curation research & development

Digital Curation Scope and Definition

▸ Many characterize digital curation work as being at higher (management) level than some other lower-level technical jobs

▸ National Library of New Zealand distinguishes (from highest to lowest level of granularity in focus):
  ◦ Digital Curator
  ◦ Preservation Analyst
  ◦ Preservation Technician

Importance of Covering Whole Lifecycle

- Reason that several indicated digital curation is a better label than digital preservation
- Selection & appraisal as functions of curation (not just managing whatever you happen to get)
- Working with creators, producers & donors before resources are accessioned

Practical Field Experience

- Students should engage in at least two different field experiences in different institutional contexts.

- Field experiences should involve some hands-on work of dealing with digital objects in a way that has actual consequences, rather than just conceptual or policy work

- Importance of partnering with field experience sites that already successfully engage in digital curation, rather than just advising those who don't

Specific Skills & Knowledge Areas

- Markup & XML
- Systems analysis
- Project management
- Risk management
- Negotiation (with vendors, administrators for funding, donors)
- Management principles & practices (VERY common answer)
- Ability to communicate between different stakeholders, including curators & IT staff
- Interaction with those in the producer environment (also a very common answer)

Prerequisite Knowledge

▸ Some (most?) types of digital curation work can require knowledge & experience <u>before</u> students enter the curriculum, including:

◦ Domain expertise – e.g. research experience in physics, in order to work with physics data

◦ IT expertise – one person suggested that students may need to have CS degree before entering digital curation program

Next Steps

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Data Collection

- Further feedback from various professional communities
- Further analysis of data sources (e.g. interviews, job postings)

Work with CDC Fellows

- Specialized introductory seminar this fall
- Overseeing & learning from their practical engagement work
- Advising on course selection
- Plan for future practical engagement opportunities

Curriculum Development & Implementation

- Development of modules for use by educators internationally
- Incorporation of elements into existing classes at SILS
- Development of new classes (e.g. Understanding Information Technology for Managing Digital Collections)
- Collaborating with & mentoring doctoral students in digital curation instruction
- Arranging for Advisory Board members & other experts to serve as guest speakers

Thank you!

http://ils.unc.edu/digccurr