

International Digital Curation Curriculum: DigCCurr Project

International Conference on Preservation of Digital
Objects (iPres)
Beijing, China
October 12, 2007

Christopher (Cal) Lee
School of Information & Library Science
UNC- Chapel Hill



Background & Motivation

Professional Evolution

- Advances in management, preservation & dissemination of digital resources
- Many streams of 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 data sets
- Seen by many as more inclusive – in disciplinary scope & coverage of 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 & components within graduate programs (most in LIS programs, but also e.g. computer science, business, public policy, history)
 - professional workshops (usually 1-5 days)
- Training in specific disciplines generally doesn't address issues such as long-term access, integrity, contextual information
- LIS students would benefit from more understanding of specific digital environments & resource types

DigCCurr Project

- IMLS Grant # RE-05-06-0044
- Collaboration of School of Information & Library Science (SILS), 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

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 - began fall 2007
- UNC partners providing practical experience opportunities: ibiblio, ITS, Odum Institute, University Library

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) & other feedback from 17-member expert Advisory Board
- Materials generated at DigCCurr2007 Symposium (including participant survey)
- Experience in implementing curriculum at SILS
- Ongoing feedback from Fellows

Guiding Principles

- Build on work of others
- Digital curation activities span entire life of digital resources
- Build from modules, rather than entire courses
- Emphasize core, generalizable modules
- Avoid tying curriculum to specific institution type

Matrix of Digital Curation Knowledge & Competencies

- Tool for thinking about, planning for, identifying & organizing curriculum
- Each unit of curriculum content can address one or more dimensions
- Helping to address fundamental issue: All digital curation students should get some aspects of curriculum, but other aspects only 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

- 24 main functional categories - e.g. Production; Selection, Appraisal & Disposition; Transformation of Digital Objects/Packages
- 4 meta-level functional categories:
 - Analysis & Documentation of Curation Functions
 - Evaluation & Audit of Curation Functions
 - Research & Development to Support Curation Functions
 - Education & Sharing of Expertise or Guidance on Curation Functions
- Each category grounded in various sources in the literature

Prerequisite Knowledge

- Terminology
- Characteristics of Technologies

Themes from Advisory Board Interviews

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

Breadth vs. Depth in Curriculum

- Need to get general **core** foundation, in order to
 - Have a holistic view of digital curation picture
 - Remain flexible in moving between jobs/environments
- Need some **specialized** knowledge (e.g. domain, function, or management/technological level), 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

- Several suggested different levels of education with different associated degrees or certificates
- Several indicated that PhD required for most intensive digital curation research & development

Digital Curation Scope & Definition

- Many characterize digital curation work being at higher (management) level than other lower-level technical jobs
- National Library of New Zealand distinguishes (from highest to lowest technical granularity):
 - 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
- Working with creators, producers & donors

Practical Field Experience

- Should engage in at least two different field experiences in different institutional contexts
- Should involve some hands-on work with digital objects with actual consequences, rather than just conceptual or policy work
- Importance of partnering with sites that already actively engage in digital curation

Specific Skills & Knowledge Areas

- Two very frequent responses:
 - Management principles & practices
 - Interaction with those in producer environment
- Negotiation (with vendors, administrators for funding, donors)
- Communicate between stakeholders, including curators & IT staff
- Markup & XML
- Systems analysis
- Project management
- Risk management

Prerequisite Knowledge

- May require knowledge & experience before entering curriculum, including:
 - Domain expertise - e.g. research experience in physics, in order to work with physics data
 - IT expertise - one suggestion that students may need CS degree

Next Steps

Data Collection & Analysis

- Further feedback from various professional communities – including this one!
- Further collection & analysis of data (e.g. interviews, job postings, potential further surveys)

Work with CDC Fellows

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

Curriculum Development & Implementation

- Development & solicitation of modules for use by educators internationally
- Identification & incorporation of elements into existing classes at SILS
- Development of new classes (e.g. Understanding Information Technology for Managing Digital Collections, Digital Curation Seminar)
- 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>