

Preparing Future Digital Curators: An Overview of Digital Curation Curriculum Development at Carolina



Carolyn Hank

School of Information and Library Science
University of North Carolina at Chapel Hill

CeRch Research Seminar

King's College London
November 30, 2009

Digital Curation Education

- Developing sustainable and evolving digital curation educational programs for:
 - Professional, continuing, life-long education
 - Graduate, professional education
 - Doctoral education
- Programs need to be:
 - Integrated
 - International
 - Interdisciplinary
 - Linked to practical experiences, internships, etc.

E.g., IMLS-Funded Curriculum Projects in the U.S.

- Common theme: Prepare students for digital curation with wide variety of organizations, contexts & types of resources:
- **University of Illinois at Urbana-Champaign:**
 - Data Curation Education Program (DCEP): 2006
 - Extending Data Curation to the Humanities (DCEP+): 2008
- **University of North Carolina at Chapel Hill:**
 - Preserving Access to Our Digital Future: Building an International Digital Curation Curriculum (**DigCCurr I**): 2005
 - “Extending an International Digital Curation Curriculum to Doctoral Students and Practitioners (DigCCurr II): 2008

DigCCurr Project

say: dij-seeker

- Preserving Access to Our Digital Future: Building an International Digital Curation Curriculum.
<http://www.ils.unc.edu/digccurr>.
- 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 – December 31, 2009

DigCCurr Goal

- Build a growing and evolving **network** of international experts;
- Develop an **evolving curricular framework** and content, field experience exemplars, and enriching activities;
- Raise **public awareness** of the need for and nature of digital curation;
- Explore the creation, cost, and sustainability of a **certificate** in digital/data curation;
- Attract the best possible **students** to this emerging area of study using the IMLS-funded Carolina Digital Curation Fellowships.

DigCCurr Components

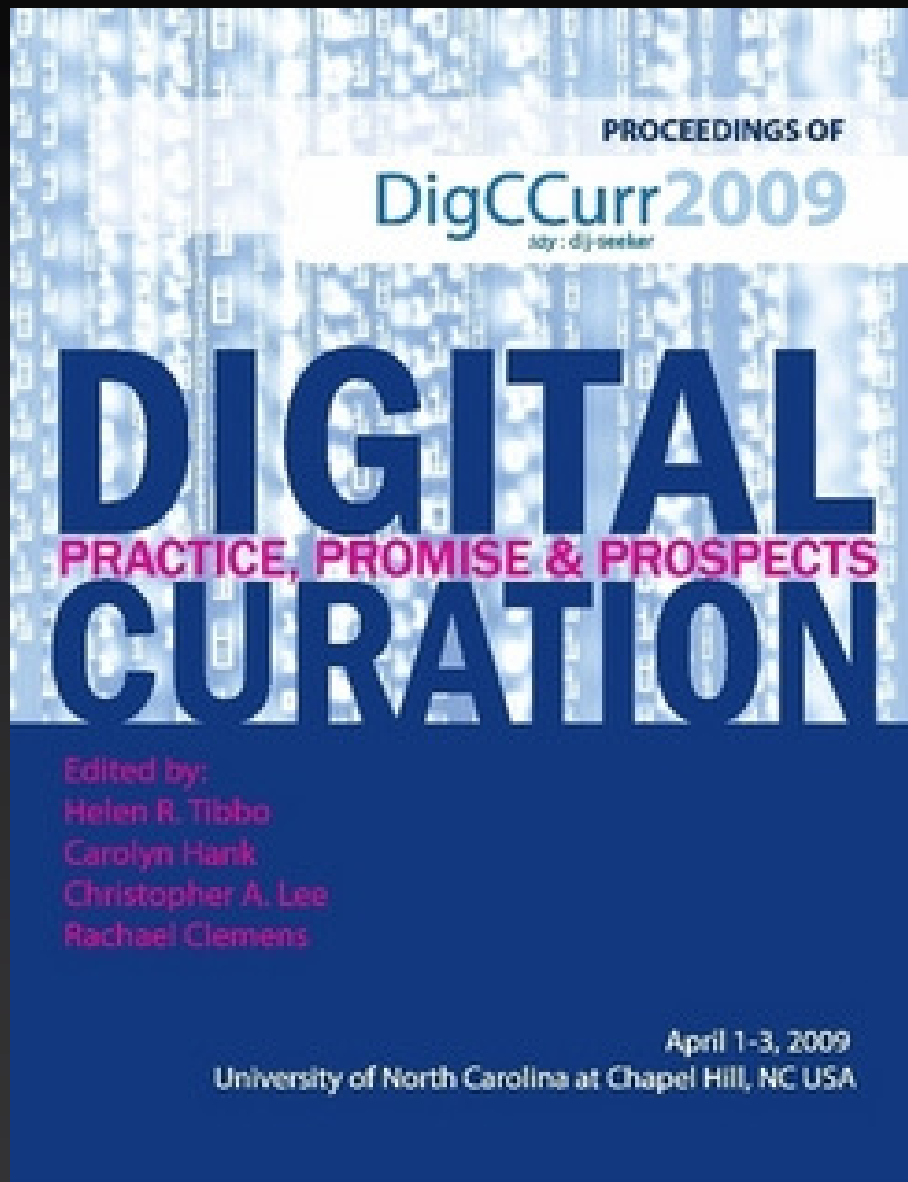
Curriculum: To prepare students for digital curation with wide variety of organizations, contexts & types of resources:

- Graduate-level curricular framework
- Course modules
- Course development
- Experiential components
- International guest speakers

Two International Symposia:

- DigCCurr2007: April 18-20, 2007 in Chapel Hill - <http://ils.unc.edu/digccurr2007/>
- DigCCurr2009: Practice, Promise and Prospects: April 1-3, 2009 in Chapel Hill - <http://ils.unc.edu/digccurr2009>

Carolina Digital Curation Fellowship program



DigCCurr 2009 Proceedings

Available as free download or
in print for nominal fee:

[http://stores.lulu.com/
DigCCurr2009](http://stores.lulu.com/DigCCurr2009)

ISBN 978-0-578-02215-4

DigCCurr Partners

NARA, UNC Libraries, UNC ITS, Odum Institute, ibiblio, and 17 international expert Advisory Board members from:

- Cornell University
- Harvard University
- IBM (The Netherlands)
- NASA
- Nationaal Archief of the Netherlands
- National Archives & Records Administration
- National Library of Australia
- National Library of New Zealand
- SDSC, now SILS
- SUNY-Albany
- University of California-Santa Cruz
- UCLA
- Università Degli Studi di Urbino
- University of Glasgow
- University of Michigan
- University of Toronto

Guiding Questions

- What knowledge and competencies do professionals need in order to do digital curation work?
- What should students learn in the classroom?
- What should students learn through field experiences?

Guiding Principles

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

Carolina Digital Curation Fellows

- 5 Digital Curation Fellows pursuing degrees at SILS - began fall 2007; funded through 2009
- UNC partners providing practical experience opportunities: ibiblio, ITS, Odum Institute, and University Library
- 4 additional Fellows supported by UNC partners for 2008-09



Carolina Digital Curation Fellows

Fellows

“In this practicum setting, I was able to carry out the entire spectrum of digital curation on a small scale, from researching best practices, to trying out different tools and writing suggested policies.”

It's a good setting for recognizing the need to steward born-digital materials, since a good number of departments are calling and asking for guidance on this topic.

“I was working with a 10 year old collection of jpeg files and I learned firsthand how important early interception is to archiving. It was too late to suggest that the creator create tiff images from his pictures; the images only existed as jpegs, they had been compressed, so some detail was lost.”

Supervisors

“Her work will be invaluable to us as we develop the necessary policies and procedures for capture and storage of historically valuable university web sites.”

“Thrilled with Fellow. Effective, serves purposes we haven't been able to get to.”

“If we could accept more, we would happily accept more”

“... developing aspects of what she is learning with what we are doing. Nothing but superlatives for how things have gone.”

“Many unmet needs across many projects.”

Fellows to Graduates

- L. Gregory, “The Practice and Perception of Web Archiving in Academic Libraries and Archives.” Cal Lee, Advisor.
- S. Guss, “The Effects of Institutional Review Boards in Social Science Data Archiving in Digital Repositories.” Helen Tibbo, Advisor.
- J. Mantooth, “Digital Preservation Activities and Attitudes in American and Canadian Academic Libraries.” Cal Lee, Advisor.
- J. Blythe, Kathy Wisser, Advisor. “Digital Dixie: Processing Born Digital Materials in the Southern Historical Collection.”
- M. Swails, “A Content Analysis of Migration and Emulation Approaches from 1980 through 2005.” Helen Tibbo & Carolyn Hank, Advisors

Curriculum Development

- High -Level Categories of Digital Curation Functions
- Matrix of Digital Curation Knowledge and Competencies
- Certificate in Digital Curation (under review)
- Module Development
- New Course Offerings

Sources of Data

- Literature review
- Interviews from 17-member expert Advisory Board
- Two surveys of digital curation professionals
- Review of syllabi and materials from existing courses and workshops
- Review of digital curation-related job postings
- Course evaluations
- Fellowship evaluations

New Courses in Support of Digital Curation

- INLS 890: **Special Topic Seminars in Digital Curation** (Tibbo, Lee, Hank)
- INLS 465: **Understanding Information Technology for Managing Digital Collections** (Lee)
- INLS 490-161: **iRODS Rule Construction** (Moore, Marciano, Rajasekar & Lee)

INLS 465

“The practical nature of the materials is very useful ... my tech fluency (or at least comprehension) is improving significantly.”

“... this course is precisely filling the goal of being able to converse more intelligently about system-level functions.”

“The most relevant thing I am learning is how relevant this stuff is for digital curation.”

“I like the exposure to the variety of topics ... I'm learning a vocabulary I knew little about. When I encounter issues/ideas we've mentioned in class elsewhere I feel like I have a good point of reference for understanding other material.”

INLS 490

*“The
instructors’
knowledge/
experience.”*

*“Interactive -- I've learned a
lot from my group and
working together on
assignments.”*

*“Hands-on time in
conjunction with
lecture.”*

*“I am learning a lot about repositories and how
iRODS can be used to set up one. Lectures
and readings are very informative.”*

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: core vs. specialized (optional) education elements

1) Mandates, Values and Principles

- Professional ethics
- Legal requirements
- Standards
- Interoperability and sustainability requirements

2) Professional, Disciplinary or Institutional/Organizational Context

- Professional context:
 - History of professional activities
 - Professional development
- Disciplinary and Institutional/Organizational Contexts
 - Characteristics of information and record keeping environments

3) 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

4) Type of Resource

- Types of storage media
- Types of digital objects
 - Format, genre
- Level of aggregation
 - Component, object, collection
- Level of abstraction
 - Work, expression, manifestation, item

5) Prerequisite Knowledge

- Terminology
- Characteristics of information communication technologies (ICTs)

6) Functions and Skills

- 24 High-level functional categories across six activity areas:
 - Technical infrastructure
 - Information resource treatment
 - Metadata treatment
 - Human interaction
 - Strategies, prioritization, and judgments
 - Administration

High-Level Functions

- Administration
- Advocacy & outreach
- Analysis & characterization of digital objects/packages
- Analysis & evaluation of producer information environment
- Archival storage
- Common services
- Collaboration, coordination & contracting with external actors
- Data management
- Description, organization & intellectual control
- Destruction & removal
- Identifying, locating, & harvesting
- Ingest
- Management
- Preservation planning & implementation
- Production
- Purchasing & managing licenses
- Reference & user support
- Selection, appraisal & disposition
- Systems engineering & development
- Transfer
- Transformation of digital objects/packages
- Use, reuse & adding value to accessed information
- Validation & quality control of digital objects/packages

Meta-level Functions

- Analysis and documentation of curation functions
- Evaluation and audit of curation functions
- R&D to support curation functions
- Education and sharing of expertise and guidance on curation functions

Professional Competencies

- Personal attributes
- Interpersonal skills
- Technical skills
- Administration and management skills
- Core ILS course background
- Practical experience

DigCCurr Impact

ESOPI 21

CDCG

IDEA

DigCCurr II

DigCCurr I

DigCCurr I

DigCCurr II

- “Extending an International Digital Curation Curriculum to Doctoral Students and Practitioners.”
<http://www.ils.unc.edu/digccurr>.
- This project is funded through IMLS Laura Bush funds.
- A collaboration of the School of Information and Library Science (SILS) at the University of North Carolina at Chapel Hill (UNC-CH) and the U.S. National Archives and Records Administration (NARA).
- Project to run August 1, 2008 – July 31, 2012.

DigCCurr II Key Activities

- PhD Fellowships
- Digital Curation Exchange (DCE)
 - <http://digitalcurationexchange.org/>
- Professional Institutes
 - Week-long summer workshop for practitioners.
 - Follow-up session held approximately six months later.
 - <http://www.ils.unc.edu/digccurr/institute.html>
 - First held June 21-26, 2009 (31 participants)
- Public Symposia with Advisory Board
 - First to be held January 8, 2010
 - Engaging Communities for the Curation of Digital Products of Scholarly Endeavors



IDEA

- Has built an international network of Digital Curation educators, the IDEA Working Group.
- IDEA (International Digital curation Education and Action) WG is a collaboration of SILS, HATII at the University of Glasgow, and the UK Digital Curation Center.
- Fourth meeting to be held December 1st, in conjunction with 5th International Digital Curation Conference
- See D-Lib report (March/April 2009) for more info:
 - <http://www.dlib.org/dlib/march09/hank/03hank.html>

Closing the Digital Curation Gap (CDCGG)

- Years: 2009-2011
- Partners: IMLS, JISC, DCC
- Goals:
 - Establish and support a **network** of digital curation practitioners, researchers, and educators through face-to-face meetings, web-based communication, and various other information and communication technology (ICT) tools;
 - Establish a **baseline of digital curation practice/knowledge**, especially in small to medium-sized cultural heritage institutions in the US and UK, through surveys, interviews and case studies;

ESOP1 21

- Years: 2009-2012
- Partners: UNC School of Government, National Archives, NC State Archives, UNC
- Goals:
 - Dual Degree Program
 - Fund 8 master's students for 2 years leading to both a Masters of Science in Library Science (MSLS)/Masters of Public Administration (MPA) or a Masters of Science in Information Science (MSIS)/MPA.

ESOP1 21 Goals, Continued

- Integrate
 - Policy development;
 - Issues of legal compliance;
 - extensive knowledge of government structures and information ...
 - With archival principles, digital curation fundamentals, and electronic records management workflows and information technologies.
- SILS and the SOG are uniquely positioned for this educational challenge as these are the only MSIS/MSLS/MPA dual degree programs in the United States.

THANK YOU



Questions?

Resources...

<http://www.ils.unc.edu/digccurr/>

Feedback...

hcarolyn@email.unc.edu



**DigCCurr Professional Institute:
Curation Practices for the Digital Object Lifecycle**

May 16-21, 2010 & January 6-7, 2011
Chapel Hill, NC, USA

<http://www.ils.unc.edu/digccurr/institute.html>