Curating data collections in the classroom: lessons learned

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The *data curation project* was piloted in Fall 2013 as part of the Foundations of Data Curation course, a required class for the Data Curation Specialization at the Graduate School of Library and Information Science (GSLIS) at the University of Illinois, Urbana-Champaign.

The course was conducted in a synchronous online environment with students at different stages of the graduate program who were generally novices to data curation principles and data management.

Project objectives

Each student individually curated a digital data collection by identifying curation needs, designing and implementing a curation plan, and producing products suitable for use by a repository.

ACKNOWLEDGEMENTS:

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Data collections for curation

Available collections were categorized as:

- Data upgrade– accessible data and documentation (easiest to curate)
- Original ingest– no/minimal documentation (intermediate)
- Data rescue– limited access to data due to obsolescence or other risk factors (challenging)

Disciplines included:

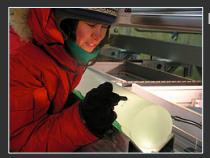
- History (personal collection)
- Local & Traditional Knowledge
- Chemistry
- Hydrology
- Social sciences
- Glaciology
- Climate Studies

Project Milestones

Select data collection

- Collections came primarily from domain repositories including: ICPSR, ACADIS, NOAA@NSIDC, and AGDC
- Report on status of collection based on National Science Board (NSB)[1] digital data collections types

EXAMPLES OF DATA TYPES IN COLLECTIONS FOR CURATION



Ice cores from the West Antarctic Ice Sheet Divide.[2]

Narwhal tusk research integrating interviews with local communities in Canada and Greenland.[3]

Development of draft Curation Plan

- Assess curation needs of available data and documentation
- Establish contact with repository and data producer

Progress presentation

- Share data collection and discuss curation work with colleagues (in-person)
- Additional space provided for discussion via online course website

Final report

- Include new data products and updated Curation Plan based on implementation experiences
- Discuss lessons learned from curation experience

[1] National Science Board. (2005). *Long-lived Digital Data Collections.* Retrieved from http://www.nsf.gov/pubs/2005/nsb0540; [2] Photo credit: Dr. Kendrick Taylor (http://www.waisdivide.unh.edu/Gallery/Best-of-WAIS-Divide.shtml); [3] Photo credit: Glenn Williams (https://eloka-arctic.org/communities/narwhal/index.html)

Success requires…

- Data repository and researcher participation and support
- Instructor background with
  - hands-on data curation experience
  - adequate disciplinary knowledge
  - familiarity with data center requirements

Lessons learned

INSTRUCTOR INSIGHTS:

- Adequate time needed for students to work on the project (2.5 to 3 months)
- Provision of time and space for students to discuss work in progress (synchronous and asynchronously)
- Challenge of assigning 'grades' for work completed

STUDENT INSIGHTS:

- Data curation involves "detective work" and "strategic thinking"; it is a creative, evolving, complex process that encompasses mediation and collaboration
- Curation requires understanding the data and research being done
- There is no one-size-fits-all solution for curation

Improving the project

Need better ways to ensure students share progress and results (i.e., maximize learning). Possibilities for project improvement include:

- Incorporating verbal reports into weekly class sessions
- Integrating additional milestones to mark project progress, which allows instructor to provide additional guidance as needed
- Proposing group rather than individual projects to mirror real-world collaborative work