



Bringing Digital Data Management Training into Methods Courses for Anthropology

General Principles and Practices of Digital Data Management

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Bringing Digital Data Management Training into Methods Courses for Anthropology is a set of five modules:

General Principles and Practices of Digital Data Management

Archaeology: Principles and Practices of Digital Data Management

Biological Anthropology: Principles and Practices of Digital Data Management

Cultural Anthropology: Principles and Practices of Digital Data Management

Linguistic Anthropology: Principles and Practices of Digital Data Management

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Organization

- I. What are data?
- II. What is data management?
- III. What are the advantages of making data accessible?
- IV. What are ethical dimensions of data management?
- V. What is a data management plan?
- VI. Exercises
- VII. References
- VIII. Acknowledgments

What are data?

The recorded factual materials that are commonly accepted in the scientific community as necessary to validate research findings. These include:

- Text: any written documents
- Audio recordings
- Visual images
- Film and video recordings
- Artifacts: objects, samples, and materials
- Numerical: quantification or measurement variables
- Metadata: information about the primary research data and the processing steps thereof

What is data management?

A purposeful approach to data across the project lifecycle and beyond

- Data management and archiving begin at the research design phase!
- They include preparing to collect data with materials and permissions that anticipate analysis and access goals.

Data management encompasses

- Backing up data as regularly and securely as is feasible.
- Collection of data in and/or conversion of data into durable (i.e., digital) and reusable formats.

What is data management?

- Recording the analysis/processing steps in enough detail to ensure reproducibility, and making this record part of the metadata.
- Permanent data archiving in dedicated public repositories.
 - Carried out with appropriate confidentiality and privacy considerations
 - Planned from the outset to maximize data accessibility and reproducibility

[In-class exercise: Consult NSF data management web information]

What are the advantages of making data accessible?

Making data accessible

- Often is an ethical obligation and a requirement for obtaining and using taxpayer or foundation funds that support research.
- Maximizes the impact and visibility of research.
- Aids in preserving data that are perishable or irreplaceable because cultural traditions and practices change, are displaced, or are threatened with disappearance.

What are the advantages of making data accessible?

- Provides opportunities for future generations to use the data.
- Gives back to the community that helped provide the anthropologists with the research opportunities.
- Helps ensure that anthropology maximizes its relevance in an increasingly data-rich, digital, and computational climate.

What are ethical dimensions of data management?

Anthropologists' responsibilities prior to and during data collection, and decision-making about future access, include

- Team membership with colleagues from different academic disciplines.
- Collaborative research with community members.
- Responsibility to maintain the confidentiality of respondents.
 - Informed consent, including information about archiving, access, and possible identification of participants
 - Preference not, or refusal, to provide written consent.
- Protect privacy rights, including medical records, not identify subjects and dispose of sensitive data.
- Legal requirements, including national laws of host and researcher countries and to international law.

What are ethical dimensions of data management?

Decision making about data collection includes careful consideration of appropriate reasons not to collect data, share data, or make data accessible.

Further discussion of such considerations is available in the American Anthropological Association's [Principles of Professional Responsibility](#) (2012) and [Handbook on Ethical Issues in Anthropology](#) (1987).

[Outside-class exercise: Consult AAA Handbook on Ethical Issues]

What is a data management plan?

For a given project or research program, the data management plan (DMP) documents the approach to data management across the project's full lifecycle.

The DMP:

- Is increasingly required by funding agencies and universities.
- Creates a “contract” with the agency and your scholarly community.
- Allows evaluation of appropriate resource availability for execution of the plan.
- Facilitates the request for any funding resources necessary to implement the plan's data management steps.
- Encourages or specifies permanent data archiving through a permanent repository rather than a personal, laboratory, departmental, or other temporary website or server.

In-class exercise: Data management at the NSF

Look at the FAQs page of the National Science Foundation, identify key features of its approach to data management, and relate this approach to Anthropology.

1. National Science Foundation (NSF), Data Management & Sharing Frequently Asked Questions (FAQs), <http://www.nsf.gov/bfa/dias/policy/dmpfaqs.jsp#2>. Identify and discuss 3 items that you consider to be important aspects of this agency's position on collecting and archiving of data. Choose your own FAQ or one of these from that webpage:
 3. Am I required to deposit my data in a public database?
 7. Does data management and access include supporting documentation and metadata, such as validation protocols, field notebooks, etc.?
 10. What are NSF's expectations regarding the release of data that include sensitive information (e.g., information about individuals or locations of endangered species)?
2. Discuss some ways in which concepts and practices specific to Anthropology might correlate, or potentially conflict with, the answers provided.

Outside-class exercise: Ethics

In the Introduction to the AAA [Handbook on Ethical Issues in Anthropology](#), editors Joan Cassell and Sue-Ellen Jacobs present the subject of ethics in Anthropology as one having both philosophical and practical dimensions that become salient in ordinary situations. They state:

In the field especially, situations may be so complex, involve so many parties and so much factionalism, that it becomes difficult to decide what must be done.... [Having] a code of ethics can help improve anthropological practice... [and] heighten sensitivity to professional conduct. In this twofold approach, a code is concerned with aspirations as well as avoidances; it represents our desire and attempt to respect the rights of others, fulfill obligations, avoid harm, and augment benefits to those we interact with as anthropologists.

1. Identify some “aspirations” that you think connect significantly with “sensitivity to professional conduct” and ways to “augment benefits” to people with whom anthropologists interact.
2. How can data collection and data management practices intersect positively with these aspirations, sensitivities, and benefits? Name and discuss several specific practices that you see as having particularly positive or negative effects.

References

Cassell, Joan, and Sue-Ellen Jacobs, eds. *Handbook on Ethical Issues in Anthropology*. Special publication No. 23. Arlington, VA: American Anthropological Association, 1987.

<http://www.americananthro.org/LearnAndTeach/Content.aspx?ItemNumber=1942&navItemNumber=731>

Cliggett, Lisa. Qualitative Data Archiving in the Digital Age: Strategies for Data Preservation and Sharing. *The Qualitative Report* 18 (2013): 1-11. <http://www.nova.edu/ssss/QR/QR18/cliggett1.pdf>

Jahnke, Lori M., and Andrew Asher. *The Problem of Data: Data Management and Curation Practices among University Researchers*. Washington, DC: Council on Library and Information Resources, 2014.

<http://www.clir.org/pubs/reports/pub154/problem-of-data>

Levine, Melissa. "Policy, Practice and Law." In *DH Curation Guide: A Community Resource Guide to Data Curation in the Digital Humanities*. 2016. <https://guide.dhcurator.org/contents/policy-practice-and-law/>

National Information Standards Organization. *Understanding Metadata*. Bethesda: NISO, 2004.

<http://niso.org/publications/press/UnderstandingMetadata.pdf>

Nicholas, George, Catherine Bell, Rosemary Coombe, John R. Welch, Brian Noble, Jane Anderson, Kelly Bannister, and Joe Watkins. "Intellectual Property Issues in Heritage Management. Part 2: Legal Dimensions, Ethical Considerations, and Collaborative Research Practices." *Journal of Heritage Management* 3 (2010): 117-47. <http://ssrn.com/abstract=2463899>

Silverman, Sydel, and Nancy J. Parezo, eds. *Preserving the Anthropological Record*. New York: Wenner-Gren Foundation for Anthropological Research, 1992.

Strasser, Carlyn. *Research Data Management: A Primer Publication of the National Information Standards Organization*. Bethesda: National Information Standards Organization, 2015.

http://www.niso.org/apps/group_public/download.php/15375/PrimerRDM-2015-0727.pdf

Van den Eynden, Veerla, and Libby Bishop. *Incentives and Motivations for Sharing Research Data, a Researcher's Perspective. A Knowledge Exchange Report*. 2014. http://repository.jisc.ac.uk/5662/1/KE_report-incentives-for-sharing-researchdata.pdf



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