

Equitable from the Beginning

Incorporating Critical Perspectives into Your Research Design

Jodi Coalter (she/her), David Durden (he/him), Leigh Amadi Dunewood (she/her) // UMD Libraries Research & Innovative Practice Forum // June 3, 2021



Introduction & Purpose

A research data management (RDM) education diet is calorie-dense with technical and regulatory macronutrients, but often lacks essential micronutrients such as equity, diversity, inclusion, and accessibility. As part of a broader effort to improve the data management diets of undergraduate Gemstone Honors research teams at the University of Maryland, College Park.

The authors created a series of instructional modules on equitable data collection and research design practices. These modules enable researchers to assess the impact of their data across the research lifecycle, and widen their perspectives of data collection and analysis processes to consider implicit and transparent ethical, diversity, equity, and inclusion values at all stages of RDM.

Theoretical Framework

The workshop employs a scaffolded, modular approach informed by:

- The ACRL Framework for Information Literacy, most notably the **Authority is Constructed and Contextual** and **Information has Value** frames, and
- D'Ignazio and Klein's *Data Feminism* (2020).

Intended Audience

This workshop is designed for: undergraduate students, student research assistants, graduate students, experienced researchers (such as faculty or research associates) interested in equitable research design and management practices.

Learning Outcomes

Participants who attend and meaningfully engage with the workshop material will be able to:

- **Articulate** the importance of centering research data in a broader social context
- **Interrogate** their own data collection practices particularly when marginalized communities are involved
- **Assess** their data and analyses through a critical lens to determine what impact their research will have once a final research product has been published
- **Reflect** on data access and reuse in terms of equity and accessibility
- **Develop** an awareness of ethical concerns specific to data ownership and stewardship
- **Recognize** the necessity of ethical frameworks in data and research practices outside of the health sciences
- **Identify** and address how researcher proportionality/postion affects data collection, use, and analysis

Workshop Modules

Module 1: Data Literacy for Community Engagement

This module encourages workshop participants to (re)consider the significance and function of reflexivity in RDM; and offers space for them to discuss and interrogate what it means to have and define one's own positionality as a researcher.

For example, we examine the Washington, DC data portal and the City of Baltimore data portal. They are highly relevant to our researchers as our institution lies between these two cities. We examine the Baltimore portal first, show how frustrating it is to find information, how some information is missing, and how there are very few instructions on how to correctly interpret the data. We then explore the Washington, DC portal. While the two portals use the same platform, DC's portal is much easier to search, has multiple different tutorials on how to use the data, what the data means, and where to go for more information.

Building upon the aforementioned, we then show how researchers' interests, backgrounds, and positionality further nuances research processes. When working with civil engineers, for example, we may talk about how these portals could help citizens understand why a bridge needs to be built in a certain area, and then ideate ways of collaborating with area residents to build a bridge that best suits their needs. If we work with public health officials, we might instead describe how the city portal can be an excellent way to communicate research findings.

Module 2: Going Beyond Informed Consent

This module encourages workshop participants to (re)consider how the historical, systemic marginalization of individuals and groups has perpetuated the production and dissemination of mis-information, particularly data, and how their research can confront, dispel, and delegitimize mis-information.

We offer the example of a research study that investigated playing-related musculoskeletal disorders in musicians, specifically in faculty musicians in academic institutions (Coley et al. 2021). While an IRB is required for this type of work, researchers may want to think beyond IRB requirements. This very small study population may be easily identified by other musicians working in academia which may have negative implications on tenure and performance networks.

Just as an IRB is required for this type of study, so too is the researchers' concerted effort toward and investment in building a sense of trust and rapport with their participants prior to initiating their study. Such rapport has a myriad of benefits for participants and researchers; some examples include: (a) the co-construction of group/context-specific harm-reduction research practices; (b) research products that useful to the broader public; and (c) equitable access practices post-research product..

Module 3: Employing Ethical Frameworks & Identifying your Epistemological Perspectives

This module encourages workshop participants to (re)consider how their personal and professional values inform their research design and inquiry. Participants will receive foundational-level language with which to name and conceptualize their epistemological perspectives. Participants will then be prompted to make connections between their epistemological foundations (aka worldview) to critique and/or (re) negotiate their relationship to/with ideas of "neutrality" and "objectivity" in research.

Evaluation & Assessment

As a post-workshop assessment tool, we will use a 3-2-1 survey design to capture participants' reflections from the workshop and evaluate their comprehension of the material. Evaluations provide workshop facilitators with insights about which topics are impactful and which require re-focusing. The frequency of assessments throughout the workshop depends on individual teaching style, workshop length, and number of modules used. Participant takeaways and feedback gathered from compiled surveys will guide future iterations of this workshop.

References & Resources

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