Data as Stepping Stones in the Research River: Using Data Across Disciplines When You’re Not a Data Expert

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# Data as Stepping Stones in the Research River: Using Data Across Disciplines When You’re Not a Data Expert

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## Many Ways of Knowing

Disciplines have different *epistemologies*, each with its own view of “good” analysis.

It is hard to accept other disciplines’ views.

Build discussions to move past assumptions.

Resources like the Toolbox Dialogue

http://toolbox-project.org/help

## Wading into Workflows

- Good workflows support rigor, ethics, data management, and communication.
  - How do computers/programs “talk” to each other to move data around?
  - How do findings come together for conclusions?
  - For computational research, ask if they can output a workflow diagram as an appendix.

- Workflow planning supports Data Management Plans and builds Rigor & Reproducibility also supports clarity.

- If the project is hard to follow, ask PIs to sketch the flow/handoffs of the data.

## Stepping Towards Convergence

Assess convergence-readiness:

- Disciplines with different data collection and analysis are more innovative, but face deeper challenges.

- Disciplines with similar data collection and analysis concepts are more convergence-ready.

RD professionals can help keep focus on the **problem → logic → solution**.

Data infrastructures must be flexible to support numbers, text, images, more.

We use Open Science Framework

https://osf.io/ which can be built, used, & shared many ways.

Flexible, sharing-friendly software supports public access.

## Don’t Focus on the Quantitative

Data is not always numbers. For better research paths, add variety.

Data include images, text, objects, observational notes, and more.

Help PIs get beyond their silos by focusing on *why* this data and analysis addresses project goals.

Dealing with unfamiliar methods? Concentrate on outcomes logic!