Data Visualization
ARL DSI 2019

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Data to Viz

Was there a chart you really liked? (Why?)

A chart you really disliked? (Why?)

A chart you hope to create today?

Review the Walls

1. Each group starts at one wall and each person looks at a different sheet. (leave them on the wall)
2. Then, move clockwise to the next wall, and decide which question or visualization or dataset matches your first sheet.
3. Then, one more move to find the last piece.
4. When you’re finished, regroup by question.

Review the Walls

Reflect with your group and report back. Some things to consider:

- Did it matter where you started the process?
- Did you agree with the visualization choices?
- Did the questions and visualization “match up”?

1. Data Collection

Reflection as survey -taker

What did you think about the survey?

Any questions you really liked?

Questions you didn’t like?

(go.illinois.edu/DSI-survey)

Planning to analyze

Any questions for which you're especially interested to see the results?

Questions you don't care about?

Questions you would have included?

go.illinois.edu/DSI-data

2. Data Cleaning

What is data cleaning?

The process of preparing your data for analysis

OpenRefine

- Free
- Open source
- Powerful

Launch OpenRefine

Break time!

3. Data Analysis

Quantitative vs. Qualitative

Qualitative coding

“How do you organize your books at home?”

1. Get familiar with the responses
2. Create “codes” for the responses

   (code: an essence capturing word or short phrase)

1. Categorize your codes into broader themes

4. Data Visualization

Visualizing, Questioning, Understanding

- What questions do we have for this data?
- Are there trends we can identify?
- Are there relationships we can identify?
- How can a visualization help us understand the group?
- How can a visualization help us ask better questions?

Tableau Public

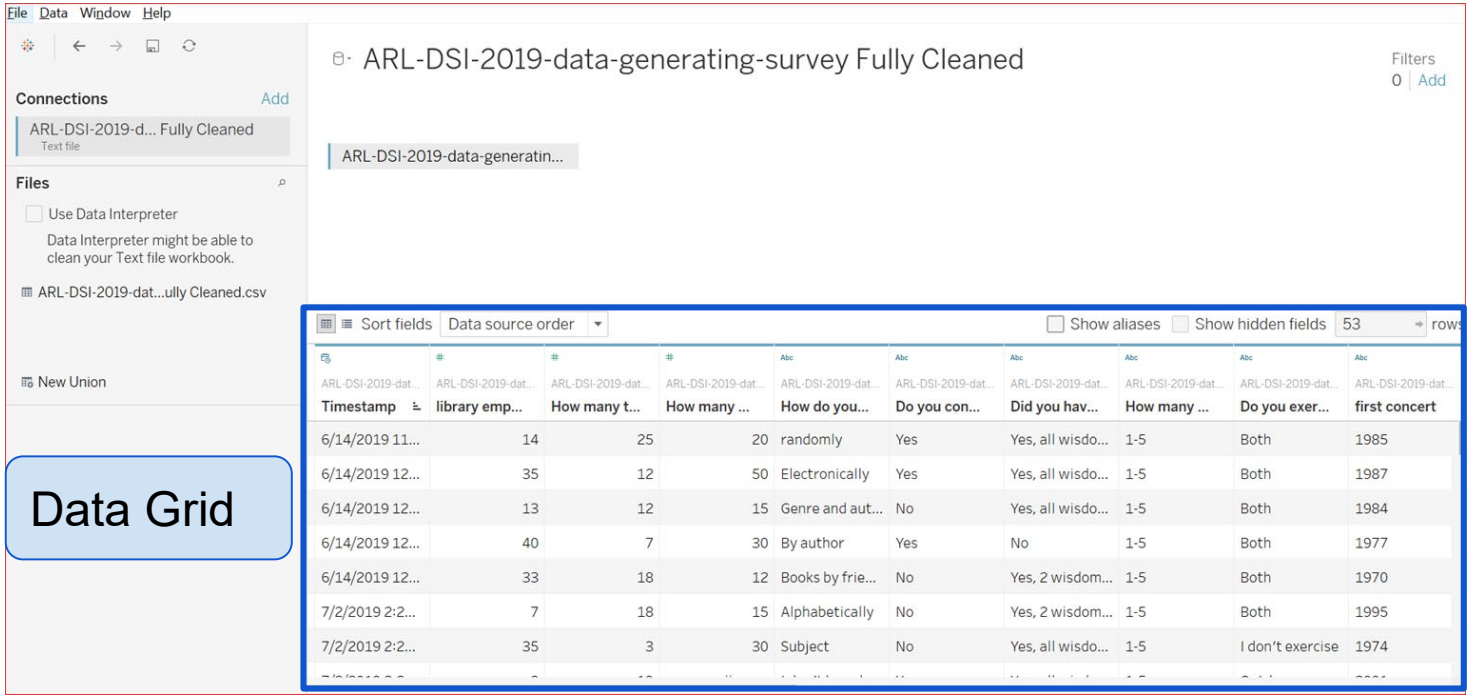
Handout: **go.illinois.edu/DSI-handout**

Data: **go.illinois.edu/DSI-data-clean**

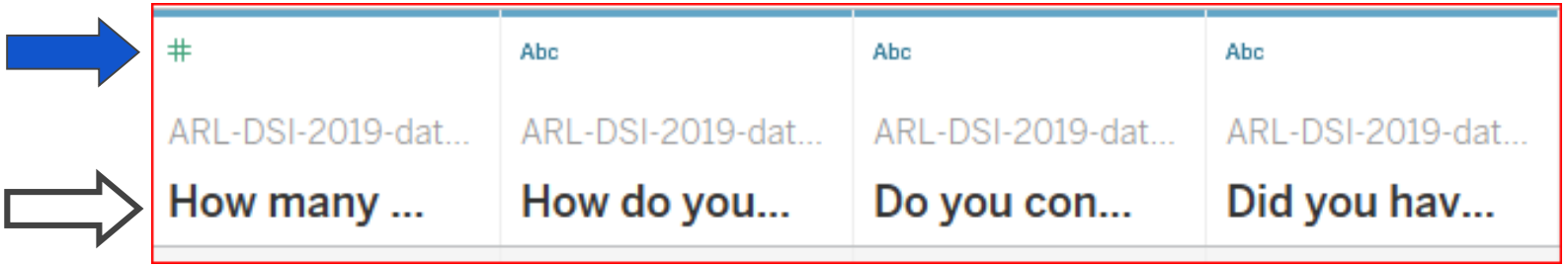
Open Tableau Public

Connect to text: **ARL-DSI-2019-data-generating-survey Cleaned.csv**

Tableau Data Source Layout



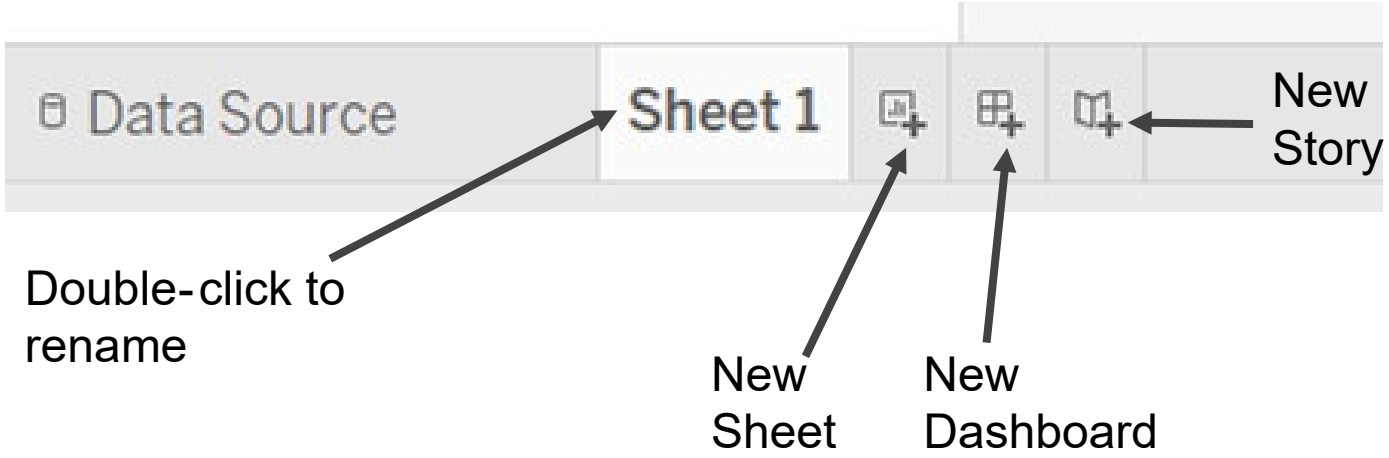
Data Grid names



Data Type

Field Name

Sheet and Dashboard Tabs



Worksheets - Layout

Take a few moments to familiarize yourself with the layout.

Good habits start now: When you open a worksheet or dashboard or story, name it.

Exploratory Visualizations

Dimensions and Measures

- Dimensions - descriptions, qualitative fields that can't be aggregated, usually row and column headings
- Measures - measurements, quantitative fields that can be aggregated, used for values or plotting

Mnemonic: Dimensions are descriptions, Measures are math

Visualizing data

- Guided hands-on
- If you’re familiar with Tableau, assist your neighbor.
- Our goal: exploring, not racing. There’s no prize for finishing first!

Hands-on Guided Exploration

Ask questions

Take your time

Consult the handout

Independent exploration

Create a new worksheet, and add it to your dashboard. Try a different visualization!

Discussion

How do you imagine using these new digital scholarship skills?

Who at your institution could help with this type of digital scholarship work?

Other questions or comments?