Data Visualization: Tips and Practice

An Emerging Leaders Workshop

November 4, 2020

NNIP
NATIONAL
NEIGHBORHOOD
INDICATORS
PARTNERSHIP

BETTER DATA. BETTER DECISIONS. BETTER COMMUNITIES.

Plan for Today

- Data Viz Best Practices
  - Data Viz and Recall
  - Racial Equity in Data Viz

- Example Discussion
  - Demoing the example and discussing the way we have it visualized.

- Practice Together!
  - With the materials just emailed you, create your own infographic for your partner city!

Visualization and Recall

- The most memorable visualizations also create the most memorable content.

- Pictograms can help create memorable visualizations and are most helpful when directly related to the content.

- Titles, text, and labels are among the first things readers scan, with the title being the most important.

- Redundancy helps with memory and understanding.

(Borkin et al. 2015)

Equity in Data Viz

- Use language with a racial equity awareness.

- Order data labels in a purposeful way.

- Consider the missing groups.

- Consider how color choices reinforce stereotypes.

- Use icons and shapes with a racial equity awareness.

- Demonstrate empathy.

- Question default visualization approaches.

(Schwabish and Feng 2020)

Consider how color choices reinforce stereotypes.

Example for Consideration from MIT's Diversity Dashboard

	Black or African American		Two or more races
	Hispanic or Latino		White
	American Indian or Alaskan Native		International
	Native Hawaiian or Other Pi		Unknown
	Asian		

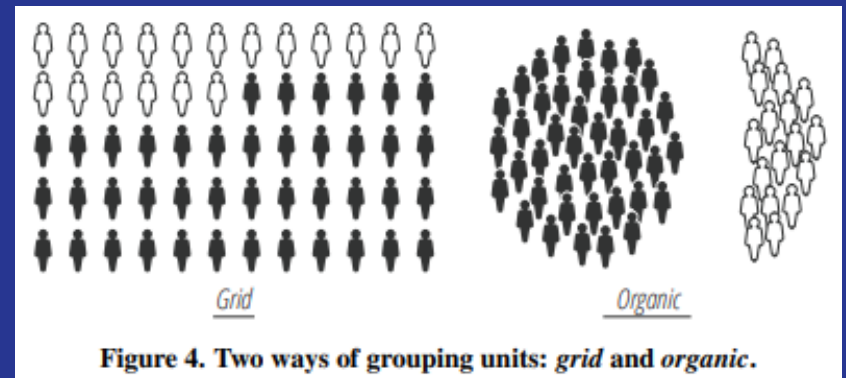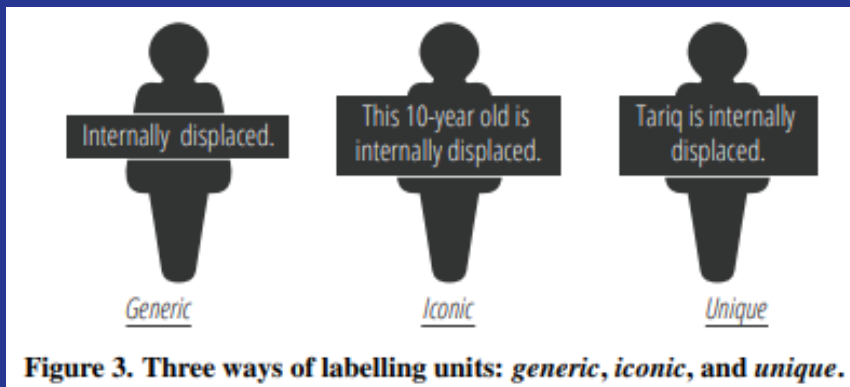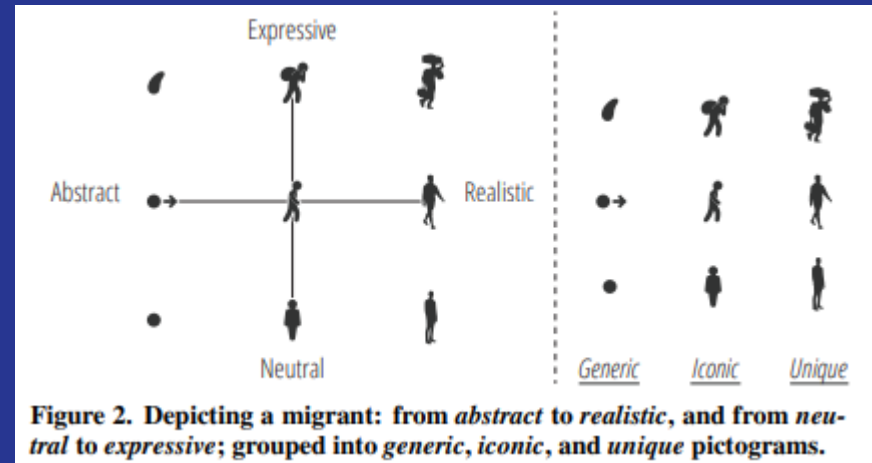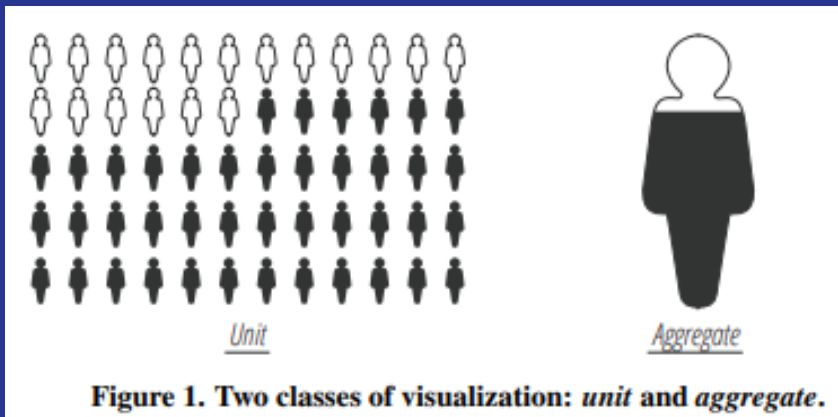Note: For purposes of image clarity, this legend was remade from the original.

Use images and stereotypes with a racial equity awareness.

Demonstrate Empathy.

Design ideas for anthropomorphizing data.

Figure 1. Two classes of visualization: *unit* and *aggregate*.

Figure 2. Depicting a migrant: from *abstract* to *realistic*, and from *neutral* to *expressive*; grouped into *generic*, *iconic*, and *unique* pictograms.

Figure 3. Three ways of labelling units: *generic*, *iconic*, and *unique*.

Figure 4. Two ways of grouping units: *grid* and *organic*.

(Boy et al. 2017)

CI:NOW Inspiration

YOU SAVED **1,271 LIVES** LAST WEEK JUST BY STAYING HOME.

March 25 – the day the "stay at home" order went into effect in San Antonio and Bexar County – was just a week ago, but already the cost feels unbearably high. Sometimes it's hard to trust that it's worth the price we're paying.

We used epidemiologists' COVID-19 models to put numbers to the hospitalizations and deaths in Bexar County that can be prevented between now and October by our staying home. Although the pattern will hold true, we don't expect these numbers to be exact, because no model can truly predict the course of a viral outbreak. Why?

Because what happens depends so much on what we do, what we don't do, and when. And that's just the point.

	today **7** DAYS HOME	**8,832** PEOPLE NOT IN HOSPITAL	**1,271** LIVES SAVED
	Easter **18** DAYS	**26,180** PEOPLE NOT	**2,542** LIVES

Internet Connectivity Example

Internet Connectivity Activity

- Take a look at DC data all together.

- What points do we want people to walk away with?

- How could we visualize this data?

- What could our title be?

- What other text would we want to include?

- Do we want additional analysis? What would that be?

Internet Connectivity Activity

- Practice with your city's data!

- What are some of the changes you would make for your city?

- What questions do you have?

- What else would you like to learn?

- Next steps

Citations

- Schwabish, Jonathan, and Alice Feng. 2020. "Applying Racial Equity Awareness in Data Visualization." OSF Preprints. August 27. doi:10.31219/osf.io/x8tbw.

- Michelle A. Borkin, Zoya Bylinskii, Nam Wook Kim, Constance May Bainbridge, Chelsea S. Yeh, Daniel Borkin, Hanspeter Pfister, and Aude Oliva. (2015). *Beyond Memorability: Visualization Recognition and Recall*.

- *Boy, Jeremy*, Anshul Vikram Pandey, John Emerson, Margaret Satterthwaite, Oded Nov, and Enrico Bertini. (2017). *Showing People Behind Data: Does Anthropomorphizing Visualizations Elicit More Empathy for Human Rights Data?* [Conference paper] DOI: http://dx.doi.org/10.1145/3025453.3025512

Resources

- [PolicyViz](#) by Jon Schwabish

- [60 Second Data Tips](#) by DataViz for Nonprofits

- [The Noun Project](#)

- [Powering Health Equity Action with Online Data Tools: 10 Design Principles](#)

Follow us on Twitter @NNIPHQ or on NNIPNews Google Group

NATIONAL NEIGHBORHOOD INDICATORS PARTNERSHIP

For more information about NNIP, visit www.neighborhoodindicators.org or email NNIP at nnip@urban.org