



Research Workshop Series

Session 2: Reporting Research and Data Visualization

Dominique Bradley | Sarvo Madhavan

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Meet the presenters



Dominique Bradley

dbradley@air.org

Researcher



Sarvo Madhavan

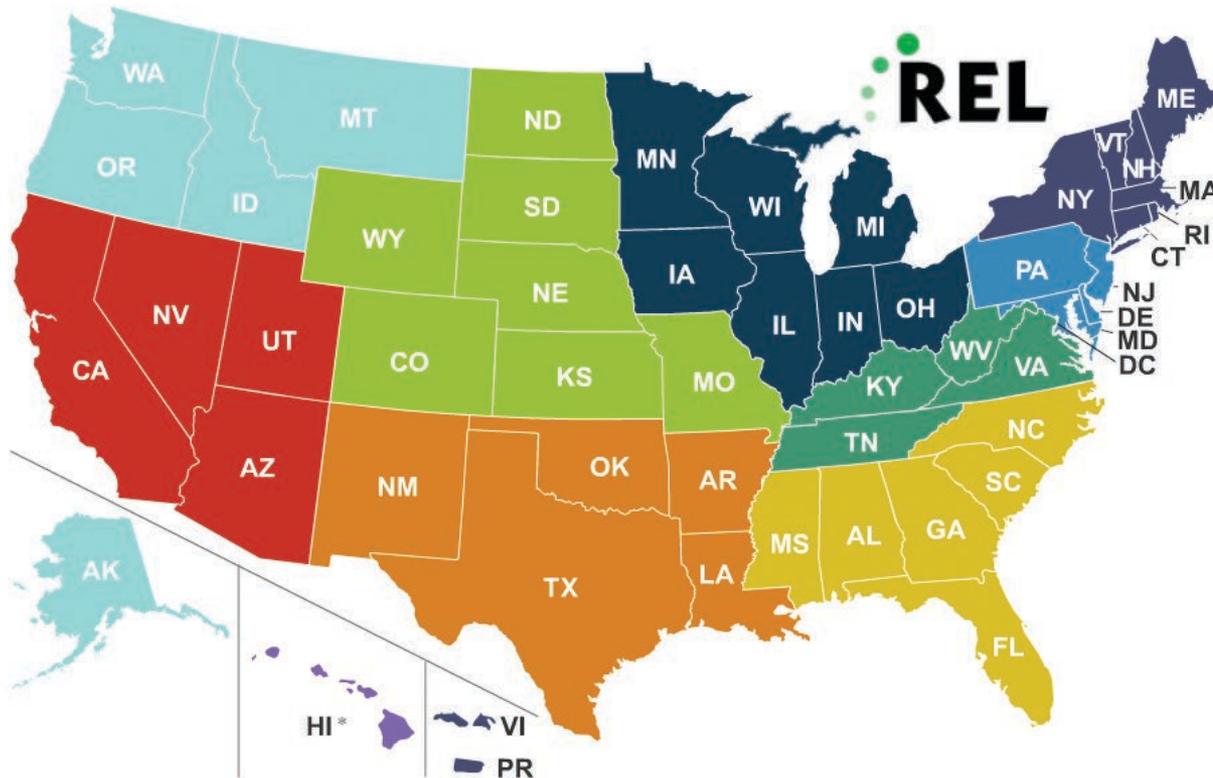
smadhavan@air.org

Data Scientist

Agenda

1. Introduction to REL Midwest
2. Report writing considerations
3. Introducing data visualization concepts
4. Learning Tableau

Regional educational laboratories



- | | |
|--|--|
| ■ Appalachia | ■ NW |
| ■ Central | ■ Pacific* |
| ■ Mid-Atlantic | ■ SE |
| ■ Midwest | ■ SW |
| ■ NE & Islands | ■ West |

* The Pacific Region contains Hawaii, pictured on the map, and American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia (Chuuk, Kosrae, Pohnpei, & Yap), Guam, the Republic of the Marshall Islands, & the Republic of Palau, not pictured on the map.

REL Midwest states



Workshop series

2018

October 17 Data, Research, and Evidence

2019

May 8 Reporting Research and Data Visualization

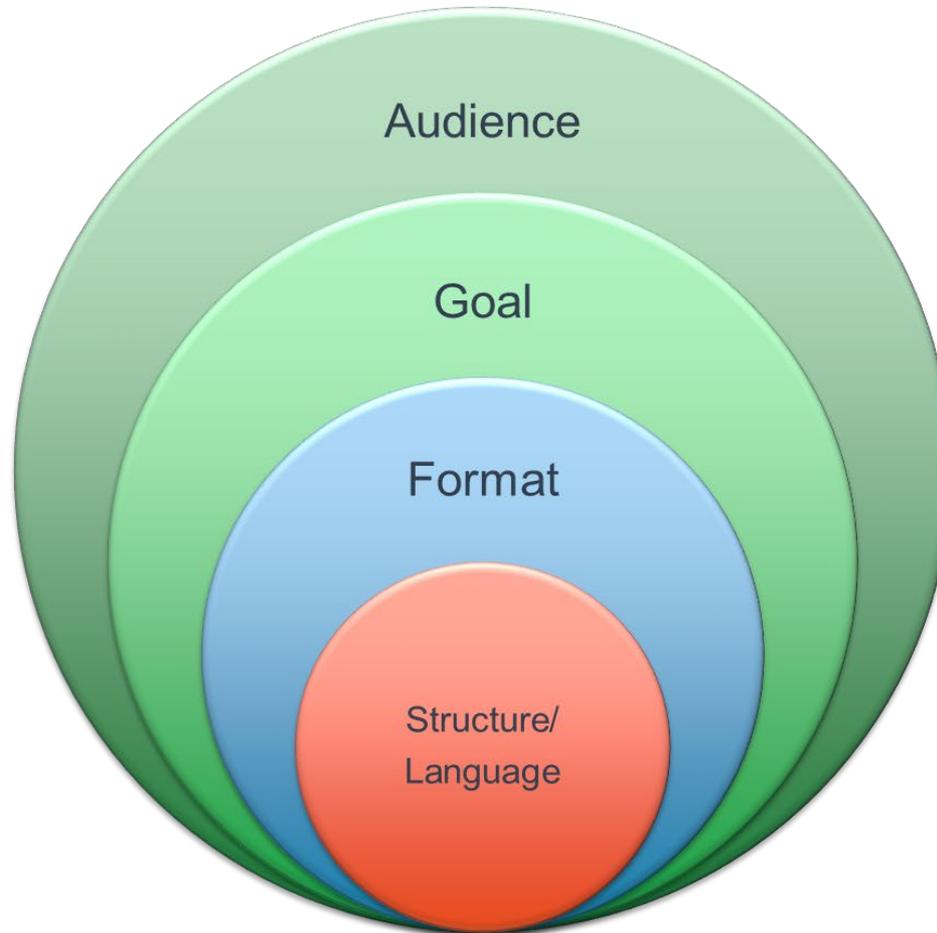


Today's goals

1. Overview of best practices in **reporting research**
2. Overview of **data visualization** practices and considerations
3. Hands-on **practice** for creating data visualizations in **Tableau**

Report writing considerations

Report writing considerations



Written reflections

Identify a recent project that could or will culminate in a report, and complete line 1 of your worksheet.

Who is your audience?

Policymakers?



Practitioners?



Students?



Colleagues?

What's the goal?



Influence
policy

Inform
the public

Generate
action

Created by RULI
from Noun Project

Research report standard format

Introduction

- The hook
- Driving questions
- Relevant background information
- Key findings

Methodology

- Sampling frame
- Tools developed and used

Body (longer reports)

- Describe your findings in detail

Closing

- Highlight key findings
- Implications or recommendations
- Limitations of your study

Format and style of writing can engage your audience or lose them



ToDo



Clarity in language



Approachable format



Engage the audience where they are



no research is good
unless
communicated

Chi Yan Lam

freshspectrum.com

Why data visualization?



Created by RULI
from Noun Project

**Who should
visualize data?**

Don't

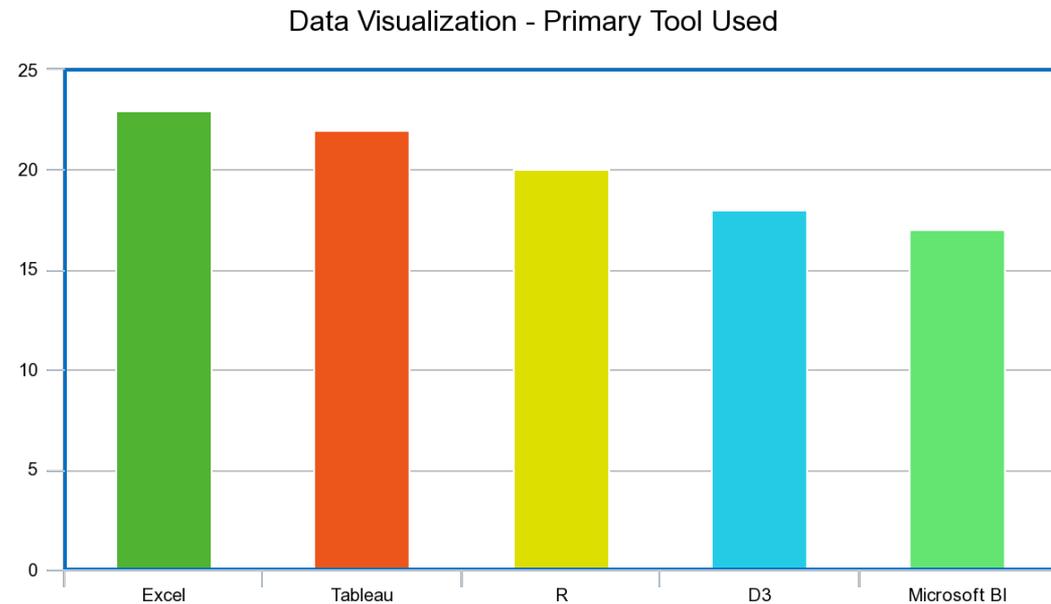
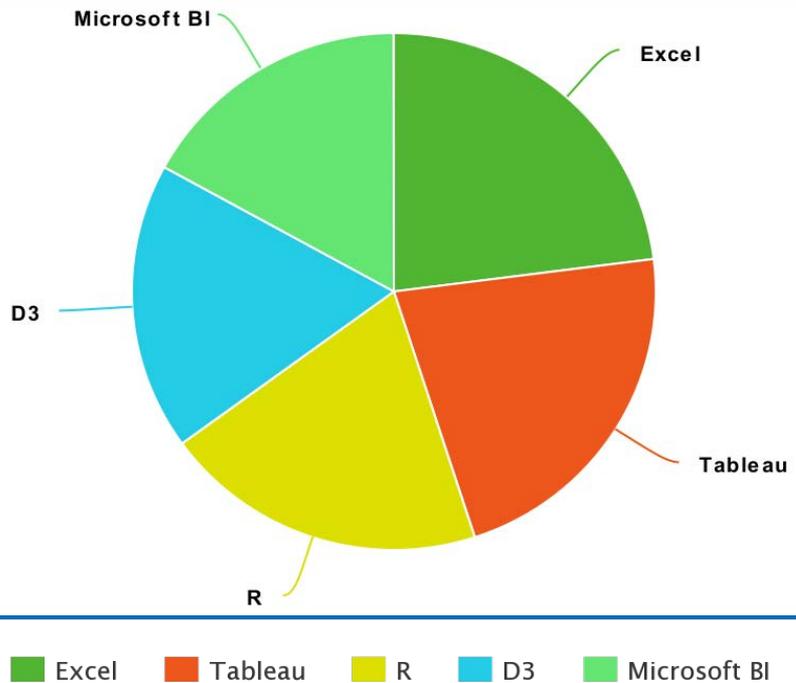
- Put all of your information in one chart.
- Use visualizations that exaggerate or obscure your meaning.
- Cover your graph in extra lines or text.

Do

- Answer a question.
- Clearly/accurately represent your data.
- Provide only needed information.
- Think about accessibility.

Which type of visualization to use?

- Hypothetical survey—data visualization tool
- D3 or Excel—Which is most used?



Rules of thumb

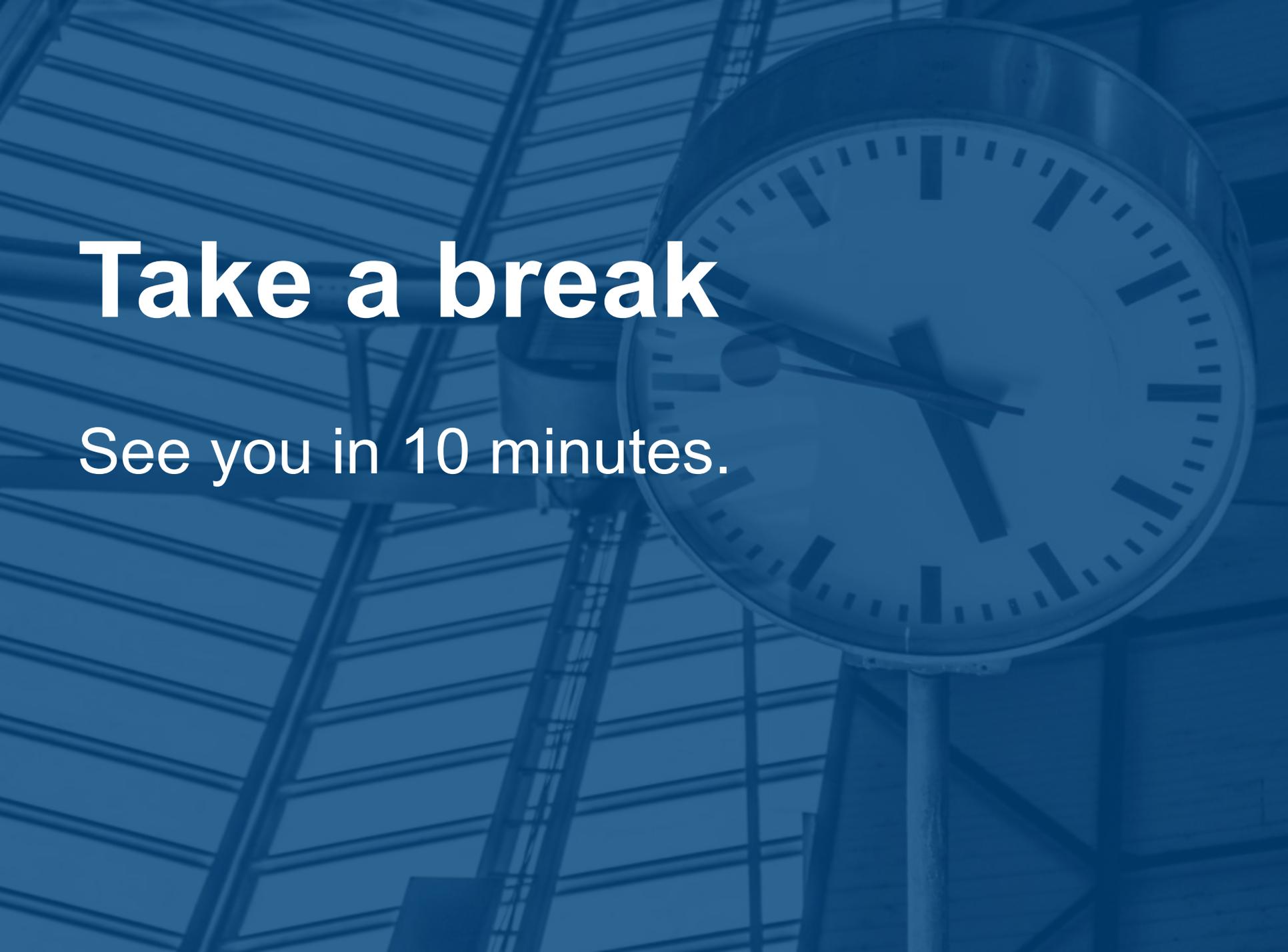
- Bar charts versus line charts
- Pie charts
- Be skeptical of area
- Think outside the bar
 - Area plots, scatter plots, highlight tables, stacked bar charts
- Make it simple!

Examples of good visualization

- Are you over the hill?
- Apple stock over time
- Which flight will get you there fastest?

Your turn!

- Imagine that you wanted to visualize patterns in math performance between the five schools in your district. How would you approach this?
- What if you wanted to look at how that performance had changed over time?



Take a break

See you in 10 minutes.

Which visualization software to use?



Tableau

Activity!

Open your free trial of Tableau, open the provided dataset, and start making some graphs!

- Dataset: [College Major and Earnings](#)

Some ideas to explore

- Compare earnings across industry.
 - Compare median/25th percentile/75th percentile
- Compare number of graduates with number of openings.
- Explore percentage of graduates who are women and earnings.
- Explore college/noncollege jobs across industries.

Remember—start with a single question that you want to answer and build from there.

Questions?



Dominique Bradley

dbradley@air.org



Sarvo Madhavan

smadhavan@air.org