

Visual Storytelling

**Visual Storytelling Workshop: Seizing the Opportunity to
Tell Your Story**

November 6, 2025

Welcome



Forland and Wheeler Consulting



Cynthia Forland, Ph.D.

Management Consultant and former Assistant Commissioner and CIO at Washington State Employment Security Department



Scott Wheeler

Data Management Consultant and former Workforce Operations Information Manager at Washington State Employment Security Department

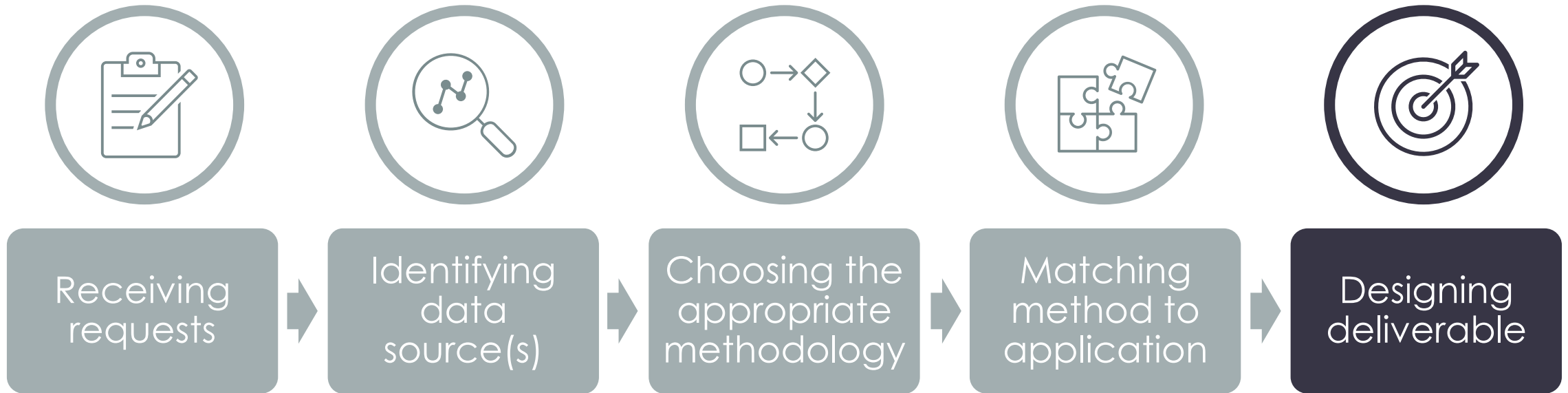
Today's Goal

Seizing the Opportunity to Tell Your Story

- Discussing the art and science of data analysis
- Reviewing different approaches to visualizing and when/why to use them
- Exploring how individual visuals combine to tell a story
- Identifying and avoiding bias in your visualizations

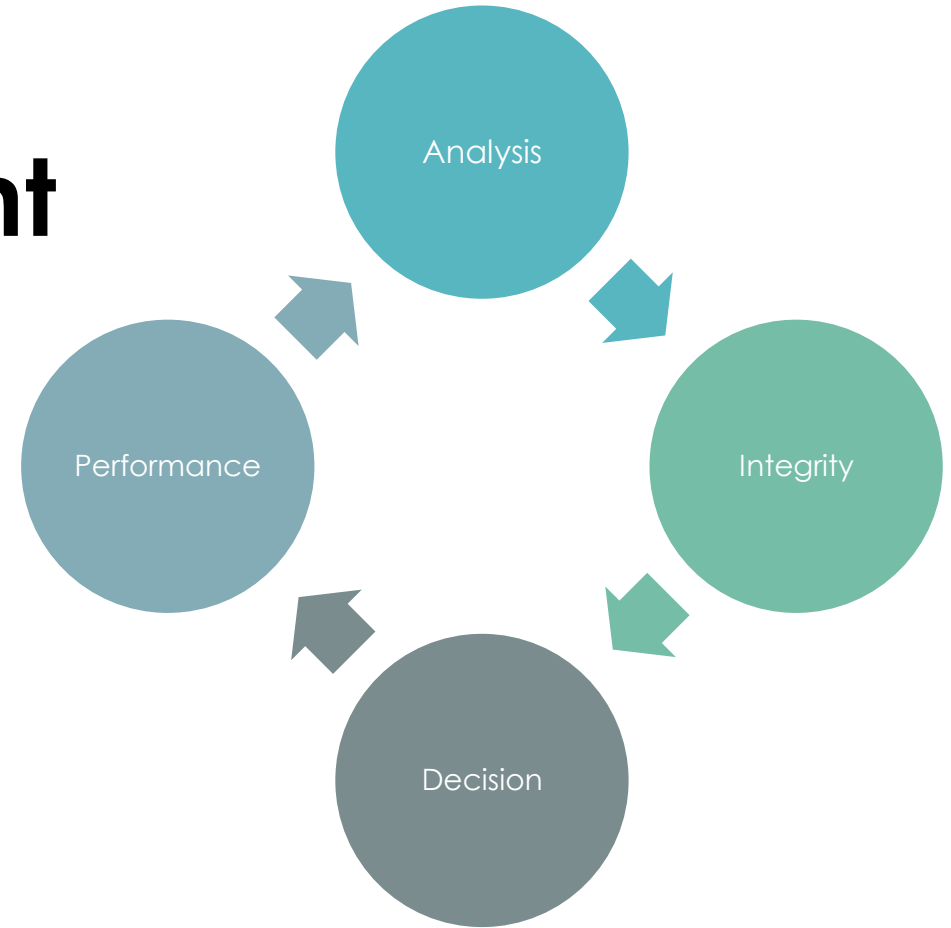
Visual Storytelling

The story is the culmination of all your preceding work.

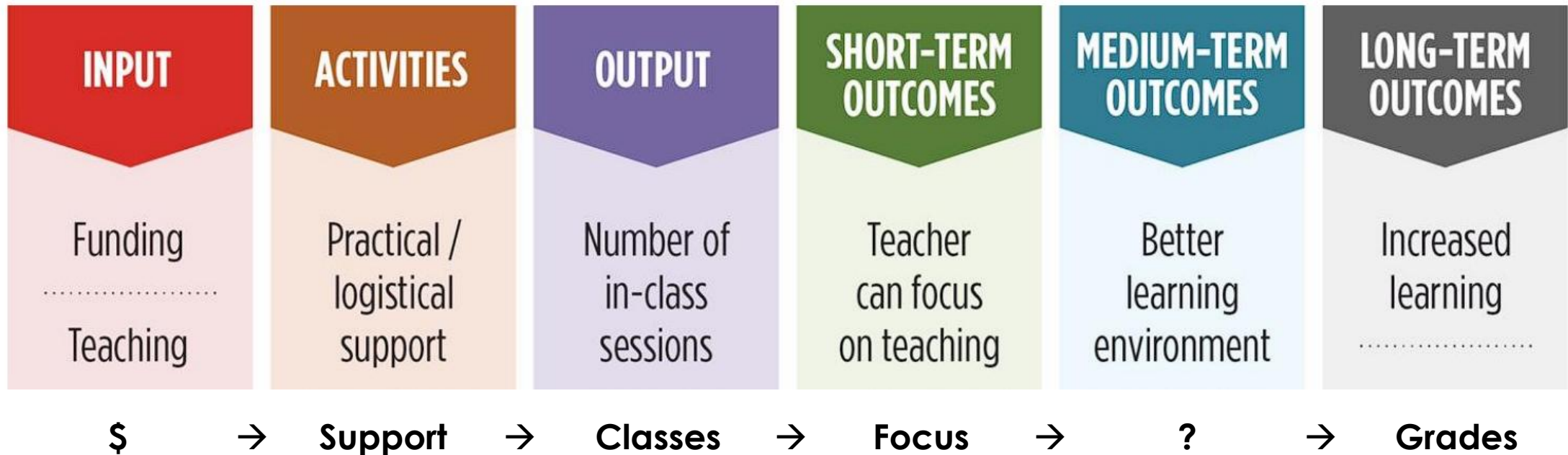


Storytelling Supports Continuous Improvement

- Increases understanding
- Discovers new insights
- Make points “sticky”
- Creates enthusiasm
- Improves decision making and outcomes



Populating Logic Models with Data



The Art and Science of Data Analysis

Potential approaches:



Start at the end
and then
“flashback.”



Present each
puzzle piece
and then
complete the
puzzle.



Dive into
outliers and
analyze their
meaning.



Follow the
patterns and
explore their
origins.

Common Applications

Application	Pros	Cons
Power BI	Cost, drag/drop, plays nice w/ Excel	Complex joins, inflexible, large files
Excel (Query/Pivot)	Fast, easy, accessible	Large files
R (Shiny)	Cost, flexibility	Steep learning curve
Tableau Desktop	Drag/drop, quick visuals, plays nice with Prep	Cost, inflexible design, large files

Others?

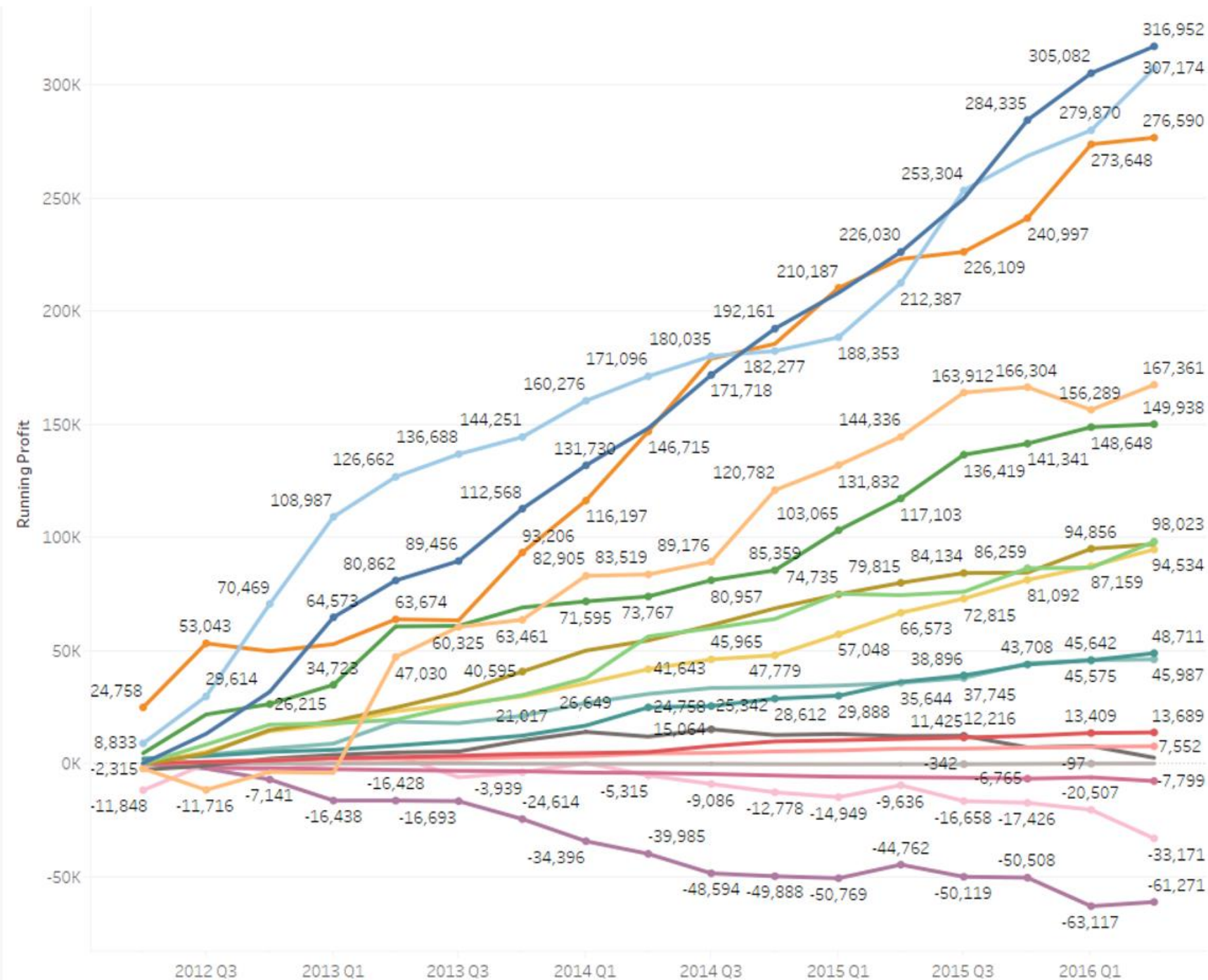
Application Tips

Application	Strategy
Power BI	Connect/link to dynamic data and best used only for interactive tools
Excel (Query/Pivot)*	Use to normalize the data prior to ingestion and best used for quick analysis
R (Shiny)	Use for real-time user-determined statistical calculations
Tableau Desktop	Use with pre-aggregated/static data for interactive purposes only

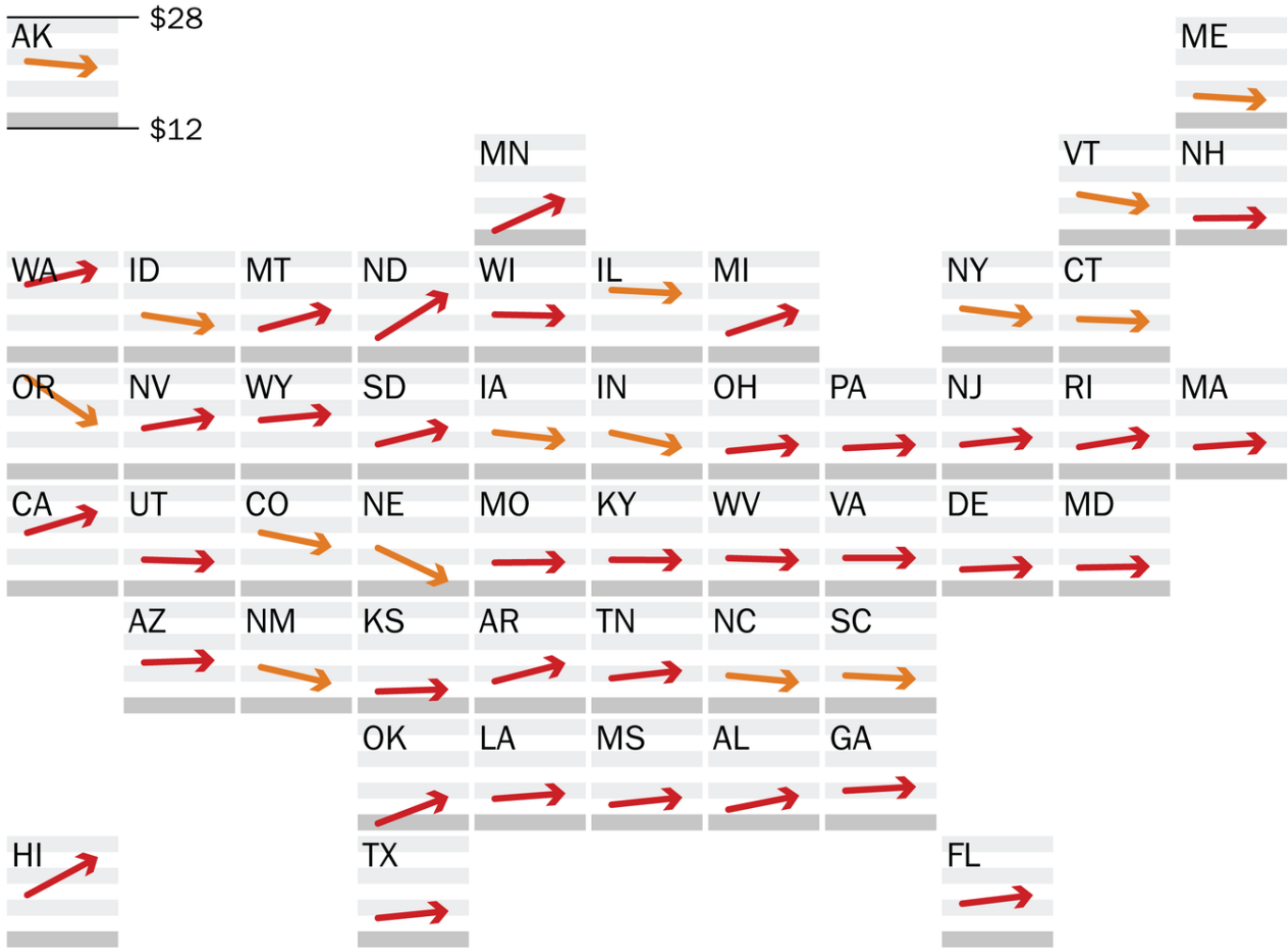
Getting Specific

Visualizing Complexity

<https://www.datarevelations.com/how-many-lines-are-too-many-lines/>



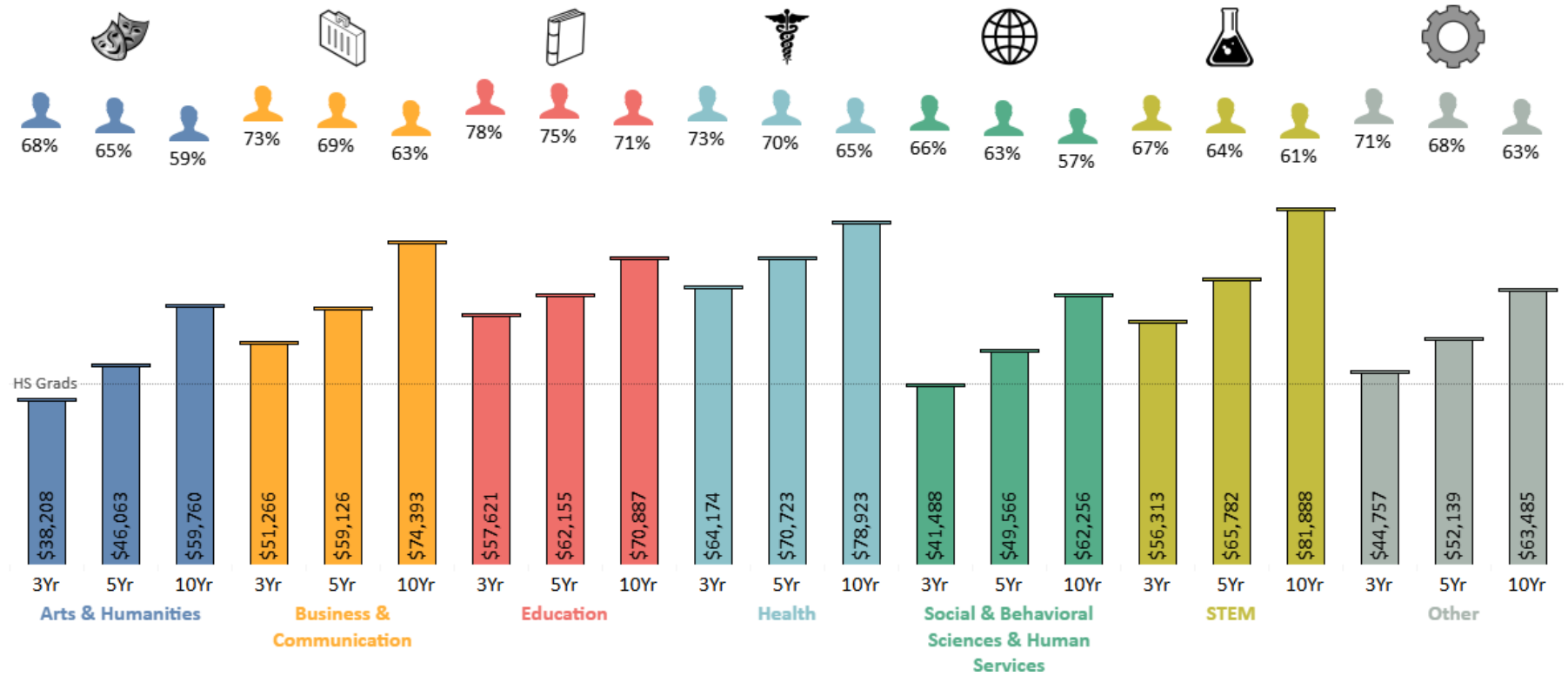
Ostensible change in pizza prices, 2022 to 2023



Mapping Data, Trends

Median Wages		
\$49,387	\$57,318	\$69,186
3 Years After Graduation	5 Years After Graduation	10 Years After Graduation

Percent Working in Pennsylvania		
71%	67%	62%
3 Years After Graduation	5 Years After Graduation	10 Years After Graduation



367K

8th Graders

301K

Completed High School

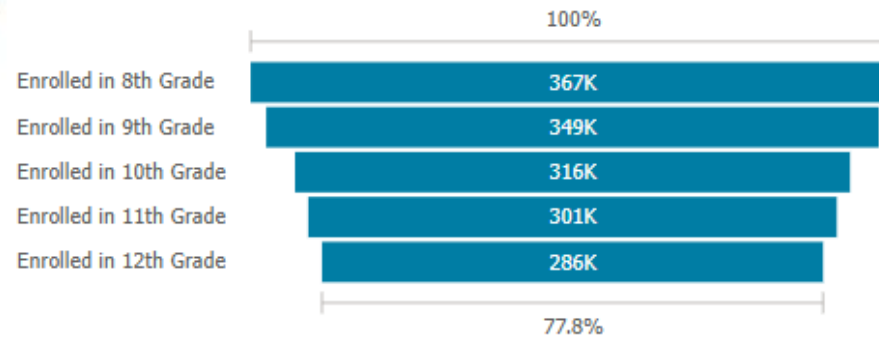
191K

Enrolled in Texas Higher Education

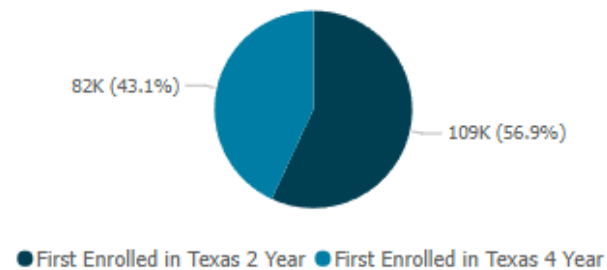
91K

Completed Credential in Texas

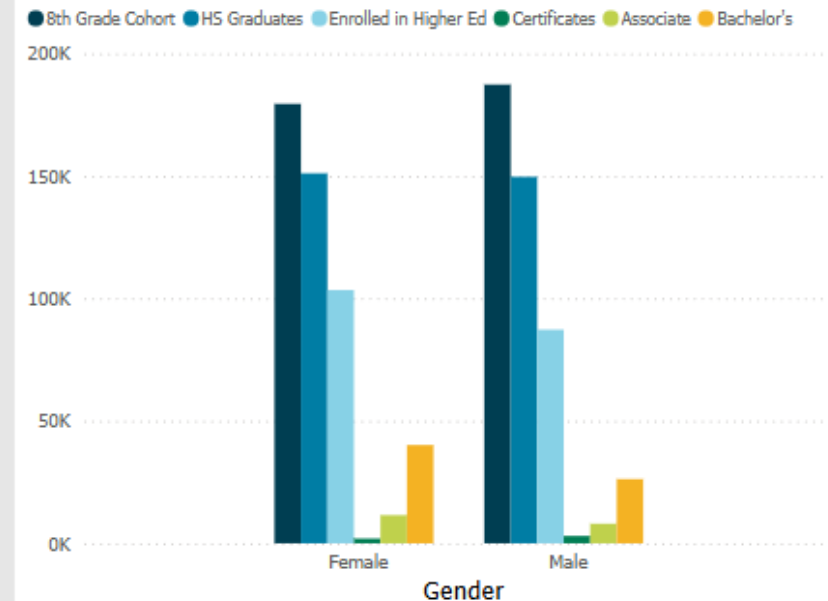
High School Enrollment



Enrollment in Texas Higher Education



Educational Attainment by Gender



Which colleges have the highest and lowest tuition and net prices?

Use the options below to generate a report on the highest (top 5%) and lowest (bottom 10%) academic year charges for each sector. Tuition reports include tuition and required fees. Net price is cost of attendance minus grant and scholarship aid. Data are reported by institutions and are for full-time beginning students.

Choose Sector

Choose Report Type

National Average: **\$8,784**

 [Print](#)  [Download](#)

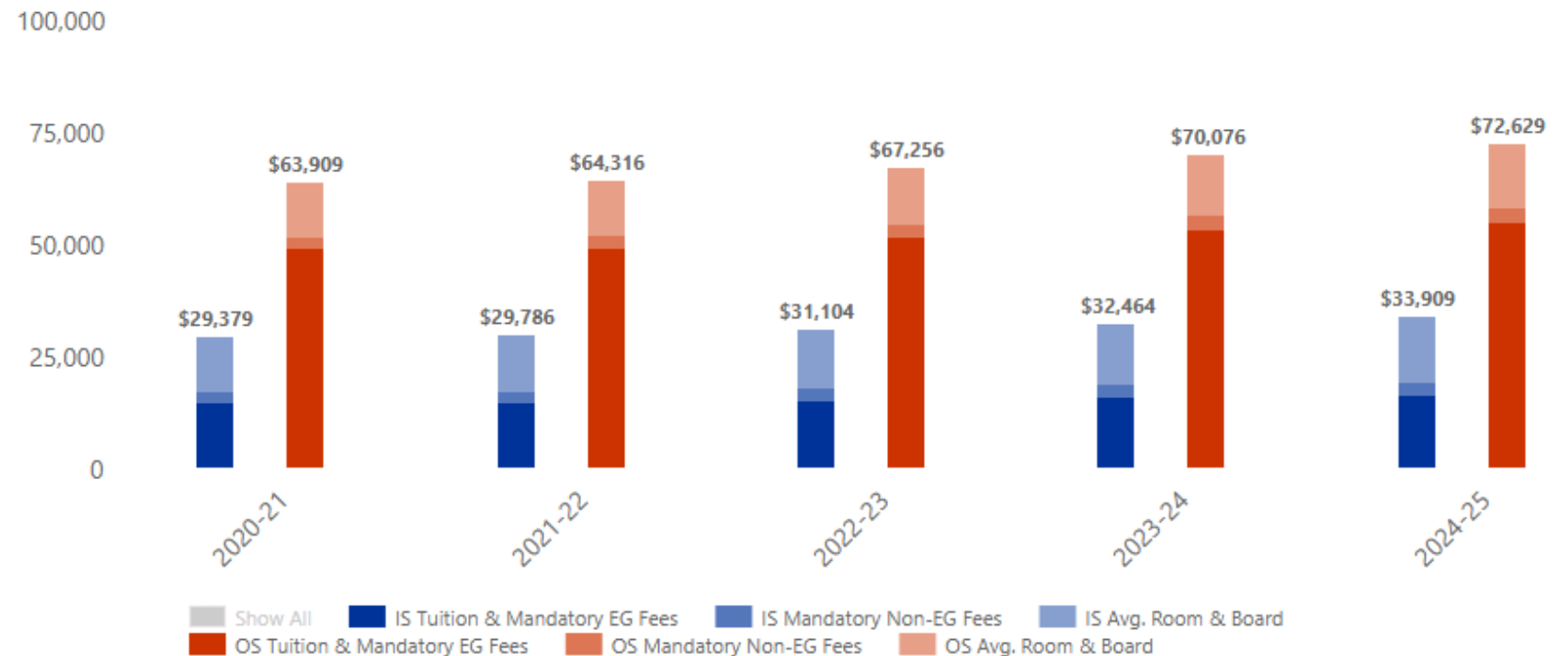
Institution	City	State	Tuition ⁽¹⁾⁽²⁾
Haskell Indian Nations University	Lawrence	KS	\$600
United States Merchant Marine Academy	Kings Point	NY	\$945
Antelope Valley Community College District	Lancaster	CA	\$1,124
Cypress College	Cypress	CA	\$1,150
San Diego Mesa College	San Diego	CA	\$1,150
MiraCosta College	Oceanside	CA	\$1,152
Santa Monica College	Santa Monica	CA	\$1,156
Solano Community College	Fairfield	CA	\$1,172
Santa Ana College	Santa Ana	CA	\$1,180
Shasta College	Redding	CA	\$1,197
West Los Angeles College	Culver City	CA	\$1,238
Modesto Junior College	Modesto	CA	\$1,270

Mythbusting

Year	In-State				Out-of-State			
	Tuition & Mandatory E&G Fees	Mandatory Non-E&G	Average Room & Board (1)	Total	Tuition & Mandatory E&G Fees	Mandatory Non-E&G	Average Room & Board (1)	Total
University of Virginia								
2020-21	\$14,658	\$2,638	\$12,083	\$29,379	\$49,188	\$2,638	\$12,083	\$63,909
2021-22	\$14,649	\$2,761	\$12,376	\$29,786				
2022-23	\$15,339	\$2,889	\$12,876	\$31,104				
2023-24	\$15,785	\$3,023	\$13,656	\$32,464				
2024-25	\$16,259	\$3,155	\$14,495	\$33,909				

Full-Time General Undergraduate Student Charges

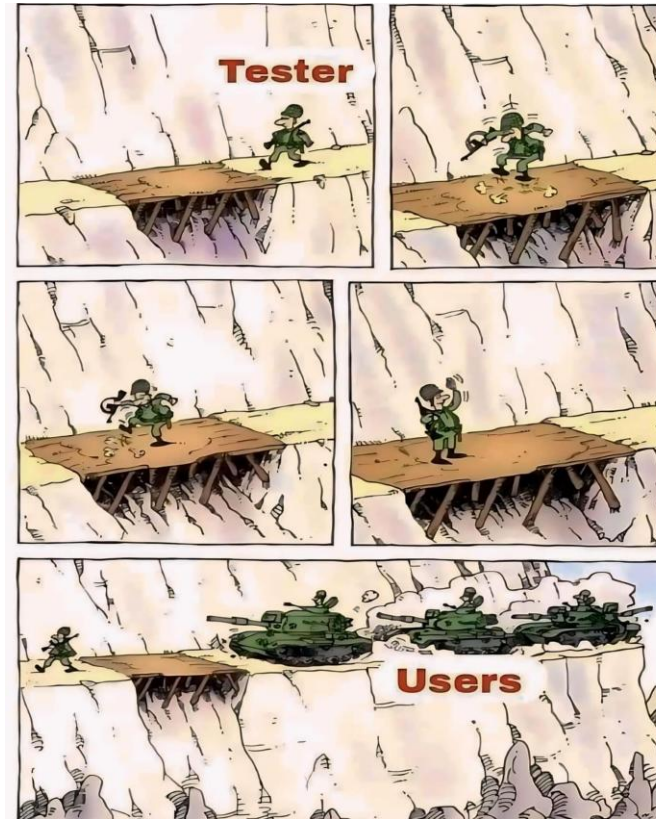
University of Virginia



Forland and Wheeler Consulting

<https://viz.passhe.edu/t/Public/views/PASSHEWorkforceOutcomes/WorkforceOutcomes?%3AisGuestRedirectFromVizportal=y&%3Aembed=y>

Test & Refine



Avoiding Bias and Logical Fallacies



false cause

Presuming that a real or perceived relationship between things means that one is the cause of the other.



anecdotal

Using personal experience or an isolated example instead of a valid argument, especially to dismiss statistics.



special pleading

Moving the goal posts to create exceptions when a claim is shown to be false



slippery slope

Asserting that if we allow A to happen then Z will consequently happen too, therefore A should not happen.

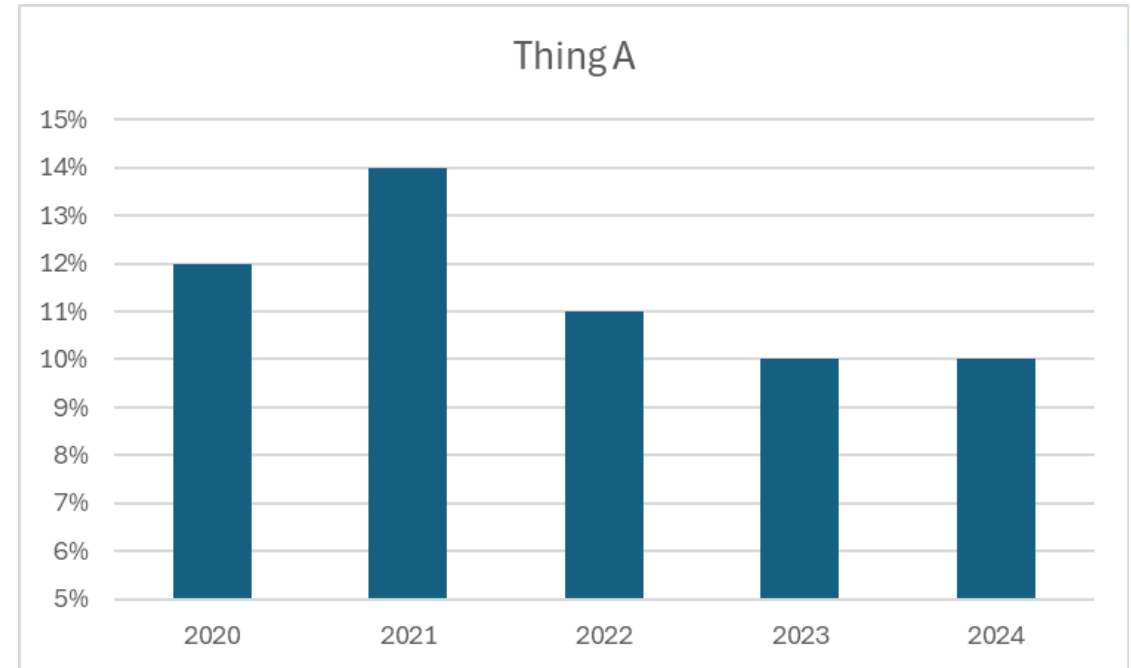
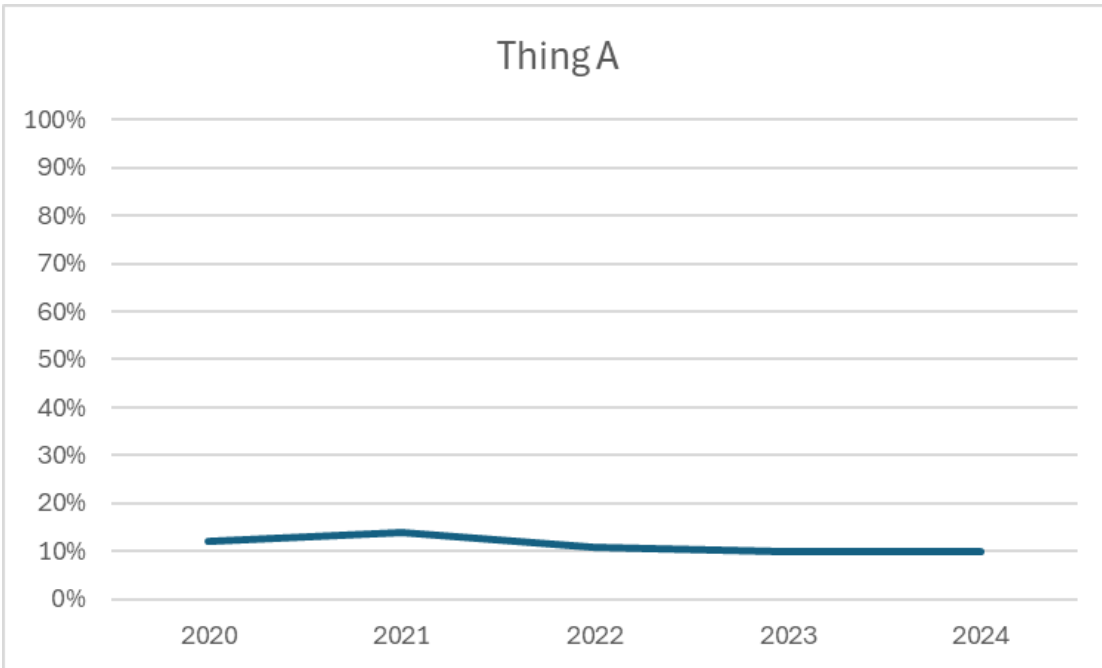


the texas sharpshooter

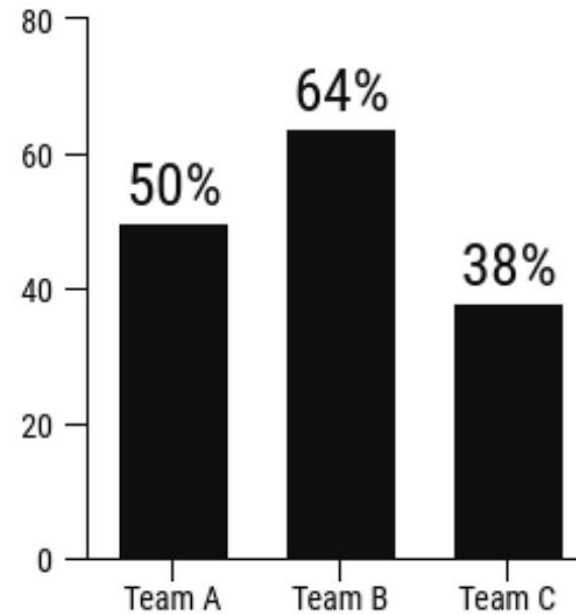
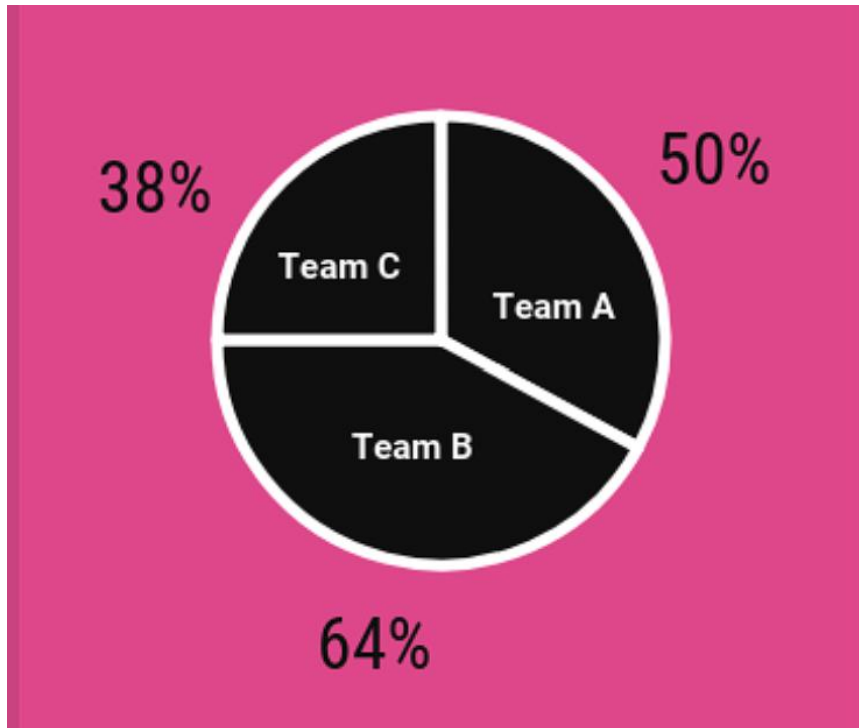
Cherry-picking data clusters to suit an argument, or finding a pattern to fit a presumption.

<https://yourlogicalfallacyis.com>

Framing Your Data

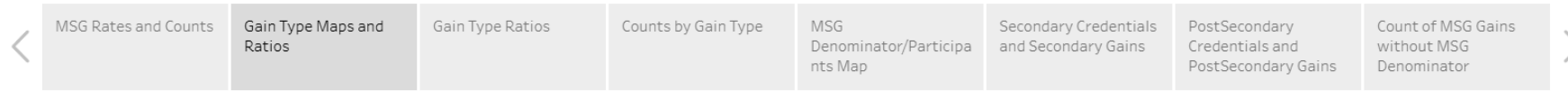


Pie/Doughnut Charts vs. Bar/Column



Group Work Example

PY 2018 Measurable Skill Gains

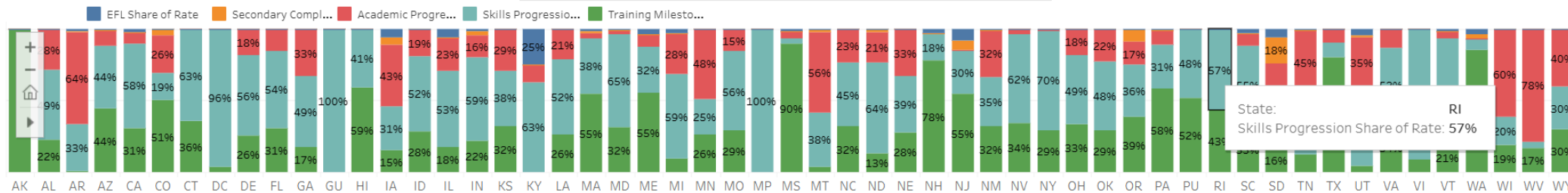
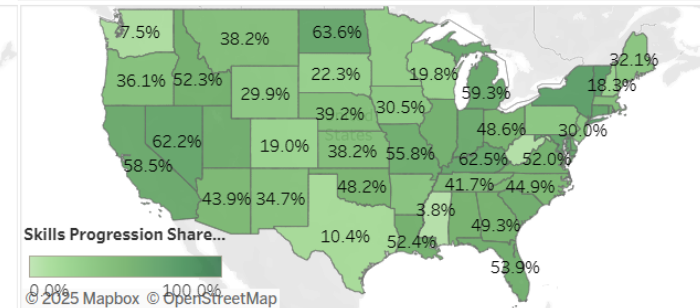
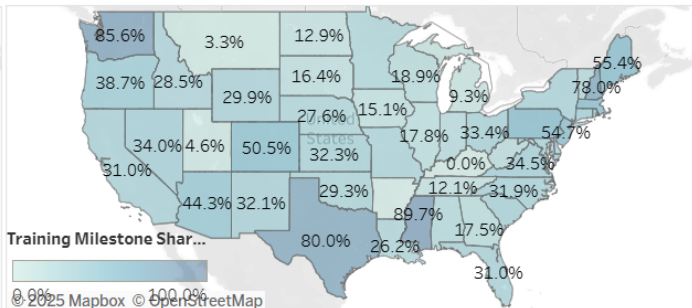
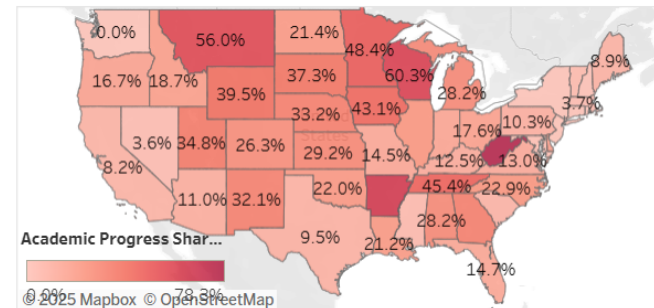
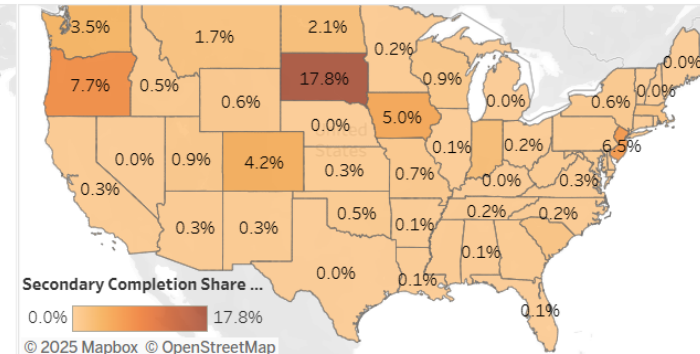
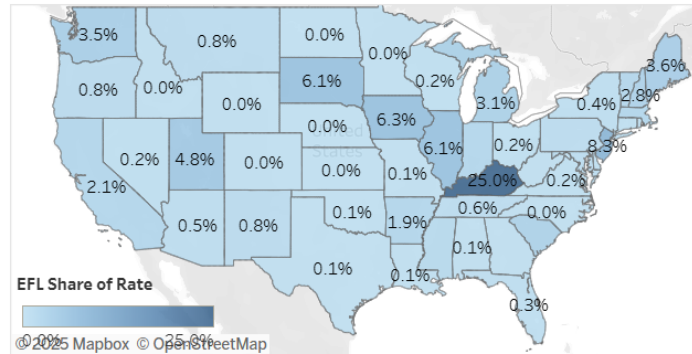


The Five Gain Types

1. EFL
 2. Secondary Completion
 3. Academic Progress
 4. Training Milestone
 5. Skills Progression
- DRAFT: For Discussion Purposes Only

Program Selection

ADULT

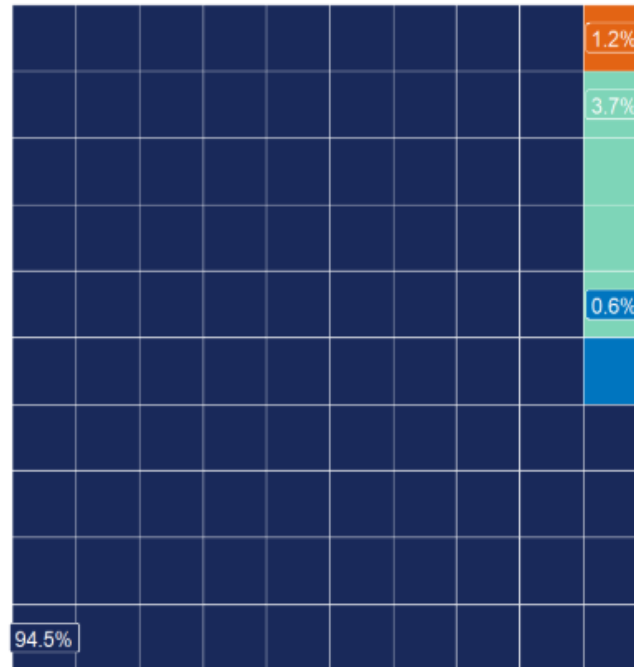


End Result

Race and Ethnicity

Completeness of Race and Ethnicity Data in the Wagner-Peyser Program

Michigan



National

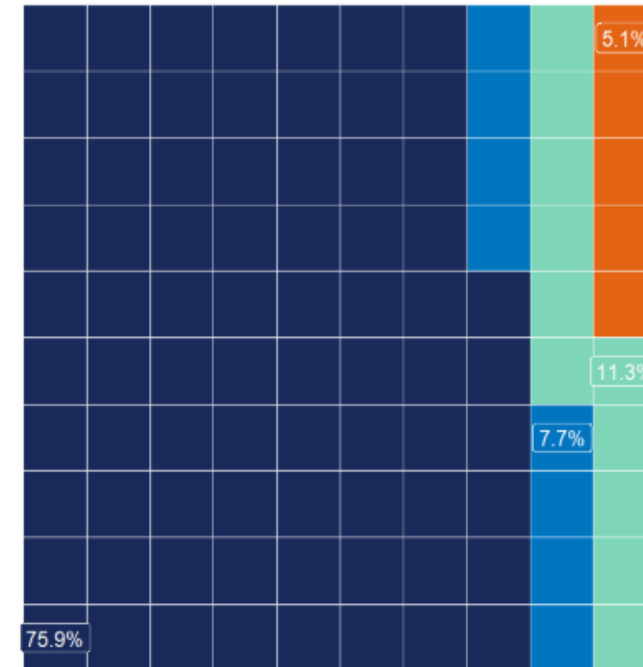


Chart Confusion/Group Breakout

- What common questions do you receive about this visualization?
- How have you addressed them?
 - Were your resolutions effective?
- What sticking point do you want your peers help with?
- Ignoring users, what would your ideal visual look like?

Resources

- <https://flowingdata.com/>
- <https://www.gapminder.org/tools>
- <https://www.washingtonpost.com/newsletters/how-to-read-this-chart/>
- <https://www.reddit.com/r/dataisbeautiful>
- <https://www.reddit.com/r/DataArt/>
- <https://evalhub.workforcegps.org/resources/2024/05/03/19/11/How-We-Model-Matters-Visualizing-Program-Theories>

Questions? Comments?

*Please use the chat or raise
your hand to ask a question
or share a comment.*



Connect with us

Cynthia Forland

forland_c13@msn.com

Scott Wheeler

wheelermgtconsulting@gmail.com



**Thank you
for joining
us today!**