ROS

Pacific Time	Eastern Time		Slides	Presenter
9:00-9:15	12:00-12:15	Agenda, Objectives, Introduction	1-14	Laurie Heacock
9:15-9:25	12:15-12:25	Narrative Overview	15-26	Shawnice Johnson
9:25-9:45	12:25-12:45	Activity/Break out rooms- Big Idea worksheet	27-28	Devora
9:45-9:50	12:45-12:50	Narrative Wrap Up	29-30	Shawnice Johnson
9:50-10:10	12:50-1:10	Data Visualization: Charts	31-49	Devora
10:10-10:35	1:10-1:35	Activity/Break out Rooms- Data Visualizations	50	Laurie
10:35-10:45	1:35-1:45	Data Visualization: Tables & Resources	51-58	Laurie Heacock
10:45-11:00	1:45-2:00	Questions		All

Equity-Minded Data Storytelling

September 14, 2022

@achievingthedream | #ATD_Network

Achieving
the Dream

Let's Chat

Please introduce yourself in the chat: Name, college, role...

If you have questions or need help, please add into the chat box.

Presenters

Shawnice Johnson

Laurie Heacock
Data Coach

Dr. Devora Shamah

About Achieving the Dream

Achieving the Dream believes its mission is **urgent** and that the stakes for success have never been higher.

The **future of our country** requires that we strengthen our **communities** by relentlessly addressing **systemic inequities** within higher education to increase **social and economic mobility** for all students and families.

We're leading America's largest **network** of community colleges working to become strong engines of student and community growth.

Agenda

- Introduction to Using Data for Action

- Data Narratives

- Activity

- Data Visualization

- Activity

- Resources

- Q&A

Learning Objectives

At the end of this session participants will be able to:

- Craft a narrative around data to tell a meaningful story

- Practice equity-minded data interpretation to inform practice and actions in the context of data narratives

- Apply criteria for selecting and evaluating data visualizations

- Access resources to learn more

Using Data for Action
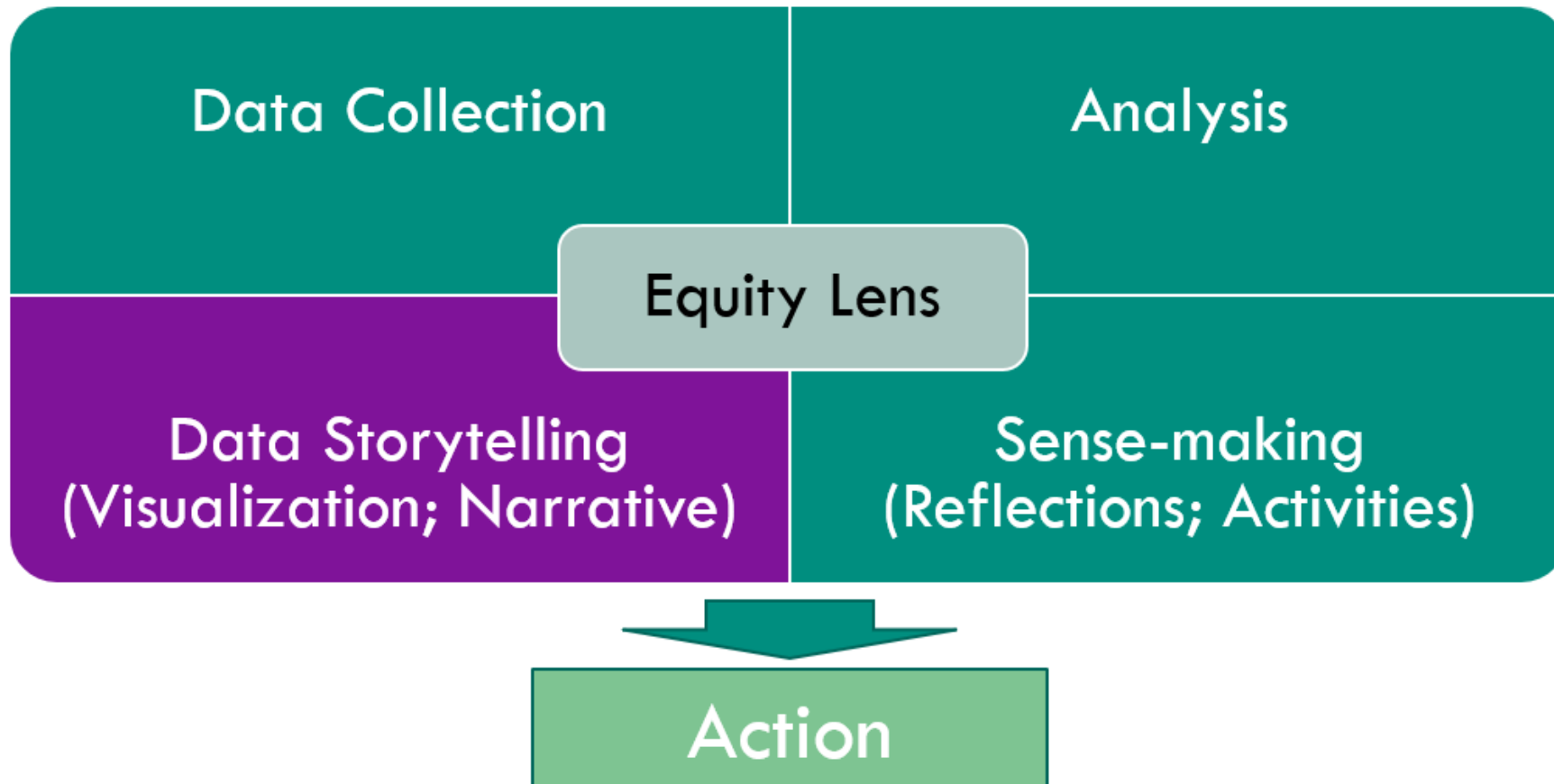
"No one ever made a decision because of a number. They need a story."

Daniel Kahneman, Quoted in Vanity Fair article
"How Two Trailblazing Psychologists Turned the World of Decision Science Upside Down,"
November 2016

The Building Blocks

DATA

SORTED

ARRANGED

ACTIONABLE (USEFUL)

PRESENTED VISUALLY

EXPLAINED WITH A STORY

Colleges Express Challenges in Data Storytelling

Q: Are student success data broadly shared and translated into meaningful information?

Data are rarely shared in a format that is easily understood by others outside of the Institutional Research office (i.e., usually shared in table format only).	Data are occasionally shared in a format that is easily understood, but this is not routine practice.	Data are often shared in formats easily understood by stakeholders using a variety of mediums to address different data processing styles.	Student success data are easy to understand, shared through direct presentation, broad-based conversations, and in automated fashion to strengthen access, interpretation, and use.	I Don't Know	Not Applicable

Source: *Achieving the Dream Institutional Capacity Assessment Tool (ICAT) Version 1.5*

Why is Data Storytelling Challenging?

Tensions fostered through external pressures for accountability, image, and expectations

Pressure to use quantitative data

Quantitative data positioned against equity agendas

Lack of training and tools to support effective, equity-minded data visualizations and narratives

ACHIEVING THE DREAM: PIERCE'S FIRST FOUR YEARS

PIERCE COLLEGE

Achieving the Dream — LEADER COLLEGE

"Engagement is the key"

ENGAGEMENT

Pierce College's Mission: Creating quality educational opportunities for a diverse community of learners to thrive in an evolving world.

- 200+ employees participate on ATD Priority Teams.

- The College Budget Team annually shifts resources to support Priority Team interventions ($4 million over 4 years).

- The Center for Engagement and Learning (funded by Title III) provides intensive professional development, primarily for full and part-time faculty.

- Faculty members now have the ability to use data to evaluate their own courses, and to compare across their departments and with peers. The Institutional Research staff uses Tableau to provide decentralized, disaggregated data in an accessible format.

START2FINISH
- Mandatory new student orientation
- Mandatory College Success course
- Mandatory and enhanced advising
- Tutoring
  - Intrusive support
  - Advocated support

BASIC SKILLS
- *Innovative instructional model:* Basic Education for Adults and English as a Second Language combined in the same course, with enhanced personal technologies (funded by an IDEA Grant)
- *Adult diploma program:* Last quarter of high school doubles as first quarter in college, and college tuition is waived

PRE-COLLEGE MATH
- *Skill-building interventions:* Computer-based math labs, automaticity and productive persistence
- *Pathway interventions:* A Non-STEM pathway, changes in placement policy, and outcomes realignment

PRE-COLLEGE ENGLISH
- *Accelerated pathways:* "Bucket" classes and Accelerated Learning Program (ALP)
- Re-focus on Gateway English course to achieve greater scale
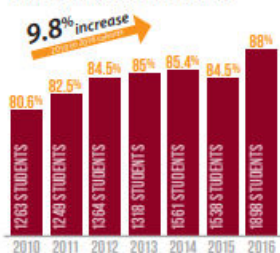
EQUITY
- Systemic professional development to increase cultural competency
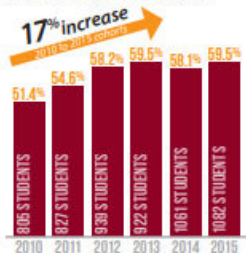- Hired Executive Officer of Equity Diversity and Inclusion

CLOSE THE GAP 2020

Our goal is to close achievement gaps by 2020, while raising overall student success rates.
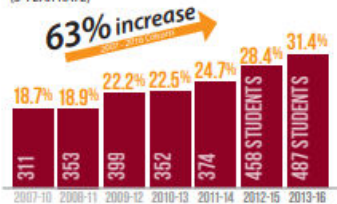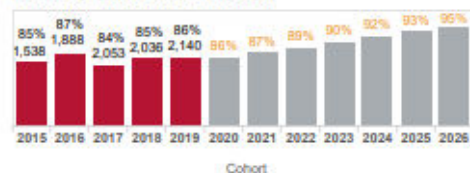
FALL TO WINTER RETENTION
9.8% increase (2010 to 2016 cohorts)

Year	Rate	Students
2010	80.6%	1263 STUDENTS
2011	82.5%	1249 STUDENTS
2012	84.5%	1364 STUDENTS
2013	85%	1318 STUDENTS
2014	85.4%	1561 STUDENTS
2015	84.5%	1530 STUDENTS
2016	88%	1898 STUDENTS

FALL TO FALL RETENTION
17% increase (2010 to 2015 cohorts)

Year	Rate	Students
2010	51.4%	805 STUDENTS
2011	54.6%	877 STUDENTS
2012	58.2%	939 STUDENTS
2013	59.5%	922 STUDENTS
2014	58.1%	1061 STUDENTS
2015	59.5%	1082 STUDENTS

DEGREE AND CERTIFICATE COMPLETIONS (3-YEAR RATE)
63% increase (2007 to 2016 cohort)

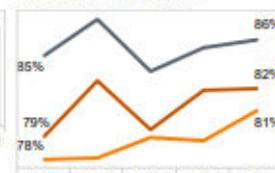| Year	Rate	Students
2007-10	18.7%	311
2008-11	18.9%	353
2009-12	22.2%	399
2010-13	22.5%	352
2011-14	24.7%	374
2012-15	28.4%	458 STUDENTS
2013-16	31.4%	487 STUDENTS

PIERCE COLLEGE DISTRICT
MISSION 2027

Legend:
- Black/African American
- HU Students of Color
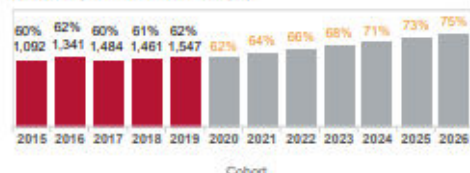- All Students
- Male
- Female

FALL TO WINTER RETENTION

Cohort	Rate	Value
2015	85%	1,538
2016	87%	1,888
2017	84%	2,053
2018	85%	2,036
2019	86%	2,140
2020	86%	
2021	87%	
2022	89%	
2023	90%	
2024	92%	
2025	93%	
2026	95%	

BY RACE/ETHNICITY
All Students: 85% (2015) → 86% (2019)
HU Students of Color: 79% → 81%
Black/African American: 78% (2015), 82% (2019)

BY GENDER
Female: 86% → 87%
Male: 82% → 83%

FALL TO FALL RETENTION

Cohort	Rate	Value
2015	60%	1,092
2016	62%	1,341
2017	60%	1,484
2018	61%	1,461
2019	62%	1,547
2020	62%	
2021	64%	
2022	66%	
2023	68%	
2024	71%	
2025	73%	
2026	75%	

BY RACE/ETHNICITY
All Students: 60% → 62%
HU Students of Color: 53% → 56%
Black/African American: 50% → 48%

BY GENDER
Female: 61% → 65%
Male: 59% → 58%

DEGREE AND CERTIFICATE COMPLETIONS (3-YEAR RATE)

Cohort	Rate	Value
2013	31%	487
2014	33%	603
2015	36%	658
2016	35%	759
2017	36%	894
2018	36%	
2019	39%	
2020	41%	
2021	43%	
2022	46%	
2023	48%	
2024	50%	

BY RACE/ETHNICITY
All Students: 31% → 36%
HU Students of Color: 21% → 30%
Black/African American: 17% → 24%

BY GENDER
Female: 35% → 39%
Male: 26% → 33%

College Level English (1-YEAR RATE)

Cohort	Rate	Value
2015	53%	407
2016	52%	499
2017	51%	546
2018	49%	539
2019	51%	562
2020	51%	
2021	52%	
2022	54%	
2023	56%	
2024	57%	
2025	58%	
2026	60%	

BY RACE/ETHNICITY
All Students: 53% → 51%
HU Students of Color: 45% → 42%
Black/African American: 30% → 35%
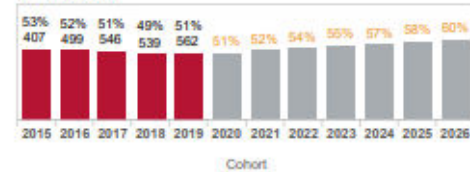
BY GENDER
Female: 55% → 53%
Male: 50% → 47%
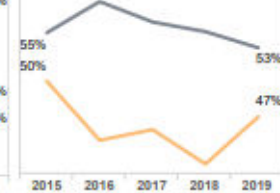
College Level Math (1-YEAR RATE)

Cohort	Rate	Value
2015	38%	294
2016	33%	314
2017	29%	310
2018	30%	330
2019	32%	358
2020	32%	
2021	35%	
2022	38%	
2023	41%	
2024	44%	
2025	47%	
2026	50%	

BY RACE/ETHNICITY
All Students: 38% → 32%
HU Students of Color: 28% → 26%
Black/African American: 22% → 22%

BY GENDER
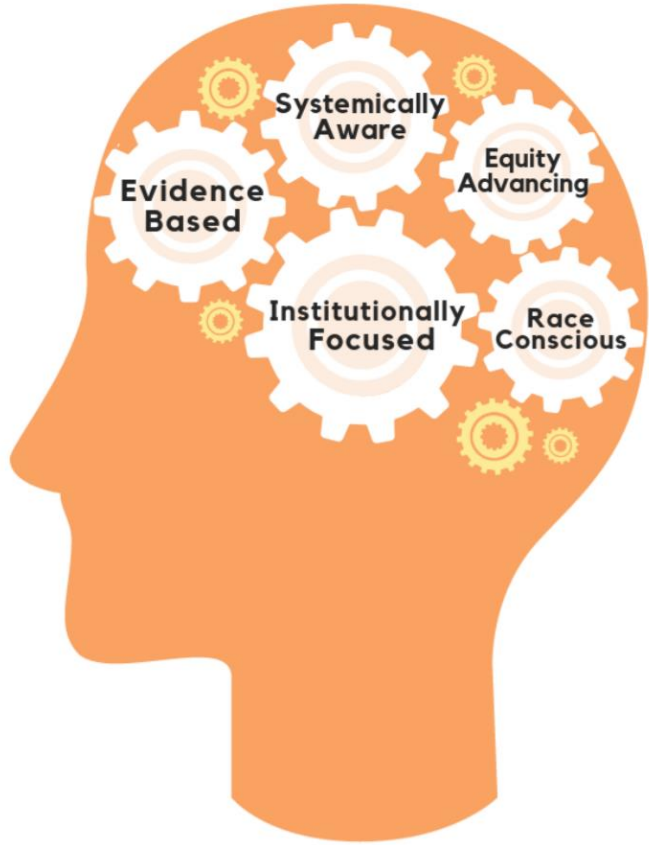Female: 41% → 34%
Male: 36% → 31%

Note: Historically Underserved (HU) Students of Color include Black/African American, Native American/Alaskan Native, Native HI/Pacific Islander, Hispanic/Latinx, Multi-Race.

*Indicates Population <25
Updated 9/15/2021

What We Mean by Equity-Minded

The term **"Equity-Mindedness"** refers to the perspective or mode of thinking exhibited by practitioners who **call attention to patterns of inequity in student outcomes**.

These practitioners are willing to take personal and institutional **responsibility** for the success of their students and critically **reassess their own practices**.

It also requires that practitioners are **race-conscious** and aware of the social and historical context of exclusionary practices in American Higher Education.

https://cue.usc.edu/equity/equity-mindedness/

Data Narratives

What a Good Narrative Can Do

You can't feel empathy for a point on a map, but you can feel empathy for a mom who's crying.

– KIM BUI

- Support cohesive identity, even amidst change

- Highlight areas of institutional strengths, progress, goals, and focal areas for improvement (e.g. targeted equity gaps)

- Weave quantitative and qualitative data together to contextualize, personalize and add depth to stories

- Communicate to both internal and external audiences and bridge communication gaps

- Create empathy

- Inspire action

Stories Start with a **Headline**

Make it Memorable...For the Right Reason

ON TEENAGERS, ADULT:

Statistics show that teen pregnancy drops off significantly after age 25.

Mary Anne Tebedo, Republican state senator from Colorado Springs (contributed by Harry F. Puncec)

We plan to cut all homeless people in half by 2025.

Conservatives

Colorado is tied for state with the least shark attacks! 🦈

Shark Attacks!

Number of attacks:
1 | 2-10 | 11-100 | 101-500 | >500

10:17 PM · Oct 11, 2021

Forecasters call for weather on Monday

They're hesitant to predict snowstorm here

By Caitlin Cleary
Pittsburgh Post-Gazette

shaping up," said Rich Redmond of the National Weather Service in Pittsburgh.

Sometime this weekend, we will know for sure whether

Also a factor is a second, much weaker storm system moving down across the north-
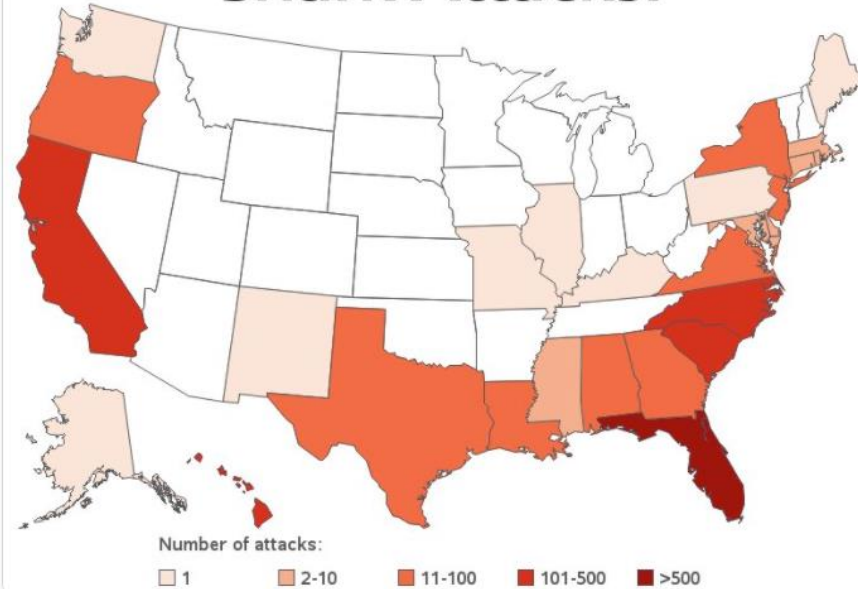
What's in a Headline

The "Take Away"

- What you want the audience to remember

- Ideally should create a visual in your head

- Use people-first language, e.g. students experiencing homelessness vs. homeless

Tip: Think about the **one thing** you want the audience to remember and write it in one sentence like you would a tweet

CCRC RESEARCH BRIEF
COMMUNITY COLLEGE RESEARCH CENTER | JULY 2019

Early Momentum Metrics
Leading Indicators for Community College Improvement

By Clive R. Belfield, Davis Jenkins, and John Fink

SCALING HIGH-IMPACT PRACTICES TO IMPROVE COMMUNITY COLLEGE STUDENT OUTCOMES:
Evidence from the Tennessee Board of Regents

Racism in Jail
People of color less likely to get mental health diagnosis

Critical Elements of a Story

Who

What

Where/Context

How

When

Questions to guide your storytelling

Who is the population of focus?

What do they have to say? (Don't assume, ask people)

Who has an influence on this group?

Why are they important?

How does the population identify socially in different contexts?

Who is Featured in Your Story?

Recognize intersecting social identities as you craft your story
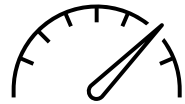
Dashboards such as those available through the Postsecondary Data Partnership allow you to apply multiple filters and disaggregate data through an intersectional lens

Example from Amarillo College

Maria moves forward

November 11, 2019 · The Ranger · Feature · 0

- Female
- Latina
- Typically wants to transfer to a university
- Works two part time jobs
- Raising a child
- Typically, a health science major
- Part time student
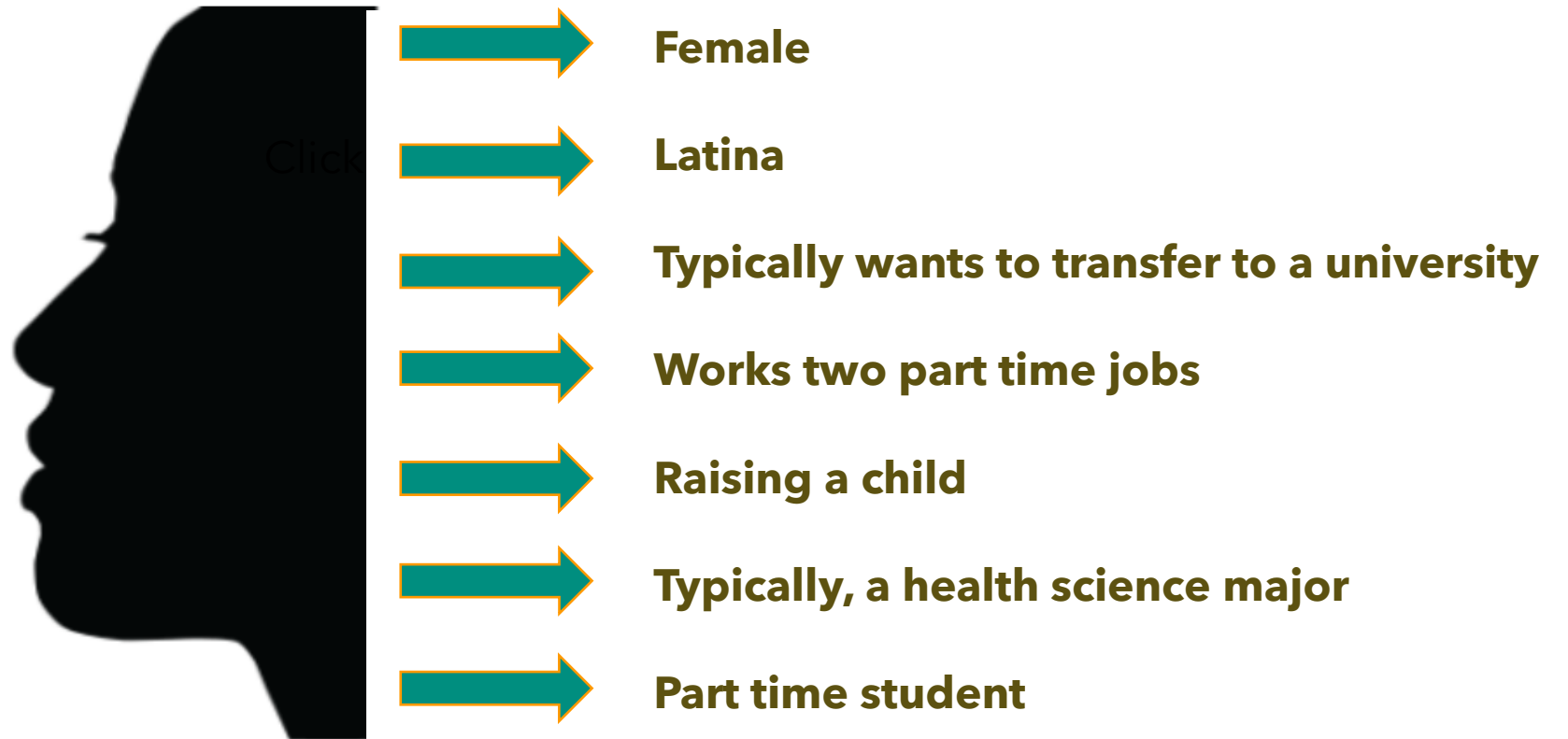
Questions to guide your storytelling

What is the context of the student experience that is the focus of this narrative?

Where does it occur?

What is the time period covered by the narrative?

Questions to guide your storytelling

What does the narrative help you understand about students, the institution?

How do your institution's policies, programs and practices influence the students you are focusing on?

What actions could improve the outcomes?

Recognizing the Needs of Your Audience

Public – want to know their tax dollars are put to good use

Accreditors – want to assure the quality of the institution or program

Parents – want their children to be successful

Students – want to get a well-paying job

Funders – want to know that their dollars are used efficiently and effectively and share how they are making a difference

Governing Board – want to be proud of the work that "their" college does and represent the community well

College leadership – want to demonstrate that the programs and services are appropriate and effective

Faculty/Staff – want to be proud of their work and the students they serve. They want to make a difference

Legislature – want to know how your work improves outcomes. What is the ROI?

Let's Practice!

Your tasks:

Each group needs to work together to start two data narratives.

You have two requests to report on enrollment data. One for the Board of Trustees, and the second at Faculty Convocation. (Details in the activity packet)

Complete the **Big Idea worksheet** to flesh out a data narrative for both audiences

Complete the **Follow Up Questions/Analysis** worksheet

Requests for Reporting

You are asked to brief two audiences on fall 2022 enrollment in two separate meetings. You've analyzed fall 2022 headcount and FTE and have noted that while headcount and FTE are up for fall in comparison to fall 2021, numbers are down when compared to the pre-pandemic fall 2019 term. You've also noticed some shifts in:

- enrollment by student demographics
- demand for on-line courses and services
- program enrollments.

Audience 1: Board of Trustees
Audience 2: Faculty at Convocation

PROJECT _____

The **BIG IDEA** worksheet

Identify a project you are working on where you need to communicate in a data-informed way. Prelect upon and fill out the following.

WHO IS YOUR AUDIENCE

1. List the primary groups or individuals to whom you'll be communicating.	2. What does your audience care about?
3. If you had to narrow that to a single person, who would that be?	4. What action does your audience need to take?

WHAT IS AT STAKE?

1. What are the benefits if your audience acts in the way that you want them to?	2. What are the risks if they do not?

FORM YOUR BIG IDEA

It should:
1. Articulate your point of view
2. Convey what's at stake, and
3. Be a complete (and single!) sentence.

Follow up Questions/Additional Analysis Worksheet

As you worked through the BIG IDEA worksheet for each audience, are there additional questions that you can anticipate? Is there some additional data to examine (think about data disaggregations, qualitative data you may have, community data) that could help flesh out the data narrative for each audience? Put your ideas below.

Are there follow up questions that are likely to come from the presentations that you can anticipate?	Is there additional analysis or more data to examine to flesh out the data narrative for each audience?

---

storytelling data

When Writing Narratives, Language Matters

Equity-minded language:
- Racial equity / ethnic equity
- Hispanic Serving Institutions (HSI), AANAPISI, BSI, PWI
- Ethnicity
- Race / racial
- Latinx / Latino / Latina / Hispanic
- White / Whiteness
- African American / Black
- Asian / Asian-American / Pacific Islander
- Native American
- Culturally relevant / responsive pedagogy
- Social justice
- Anti-racist
- Racism
- Low-income / income
- Minoritized
- Other:

Diversity language:
- Equity
- Diversity / diverse
- Underrepresented / underserved
- Multicultural
- Students of color
- Minority Serving Institution
- Demographics
- First-generation
- Other:

Deficit-minded language:
- At-risk
- Underprepared / disadvantaged
- Untraditional / non-traditional
- Underprivileged
- Poor / economically disadvantaged
- Achievement gap / attainment gap
- Other:

https://www.cue-tools.usc.edu/phase-one-laying-the-groundwork

Review Your Narratives

1. "You can teach students all you want, but if they're going to choose not to learn, not to show up for class, or not to follow the rules, they aren't going to succeed no matter what the teacher does." **DEFICIT**	2. "There are fewer Black students who graduate after five years because they aren't educationally prepared in the same way others are. There is very little that we can do." **DEFICIT**
3. "Students of color oftentimes find themselves needing to quickly adapt not only to the culture of our institution but also to the expectations required of our courses, so it's important that we take them seriously." **DEFICIT**	4. "We have to be more aware of how we talk to our students and make them feel inept, inferior, or stigmatized. Individuals have the capacity to learn at any time, but we tend to see students of color as underprepared." **DEFICIT**
5. "I can lead a horse to water, but I can't make it drink." **DEFICIT**	6. "They're just not prepared. There's nothing I can do about that." **DEFICIT**
7. "What if we experimented with some new ways to do things based on what seems to be working—and then see if the gaps close?" **EQUITY**	8. "Shouldn't we really be talking about our teaching pedagogy rather than what students don't know?" **EQUITY**
9. "If we look at the data together, we'll be able to see specifically where students are struggling, and where we can take specific steps to help them succeed." **EQUITY**	10. "We're all doing peer observations this term so we can better understand our classes—do you want to join us?" **EQUITY**
11. "Because we want to be well-informed about what's happening with our students, it's important to investigate any questions with data. We need to find out what's happening with this student group, no matter the size." **EQUITY**	12. "Why don't we look at our department data so we can better understand our students based on race and ethnicity?" **EQUITY**

https://www.cue-tools.usc.edu/phase-one-laying-the-groundwork

Data Visualization:
Illustrating your Narratives

Behind the Story is Quantitative Data

Presenting data does not always equate with a good story.

Why?

Presentations are often structured **before** the story. Tell the **story first** and then design the data presentation.

Data Visualization Defin

Visual thinking augmented by technology

Effective Data Visualization

- See the big picture

- Easily and rapidly compare values

- See patterns and relationships

- Compare patterns
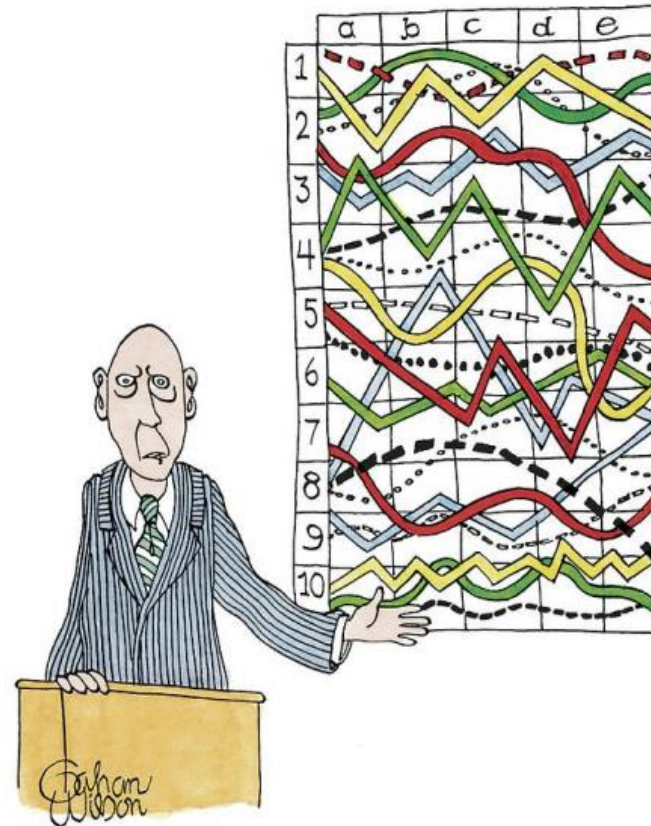
AVOID THIS

"I'll pause for a moment so you can let this information sink in."
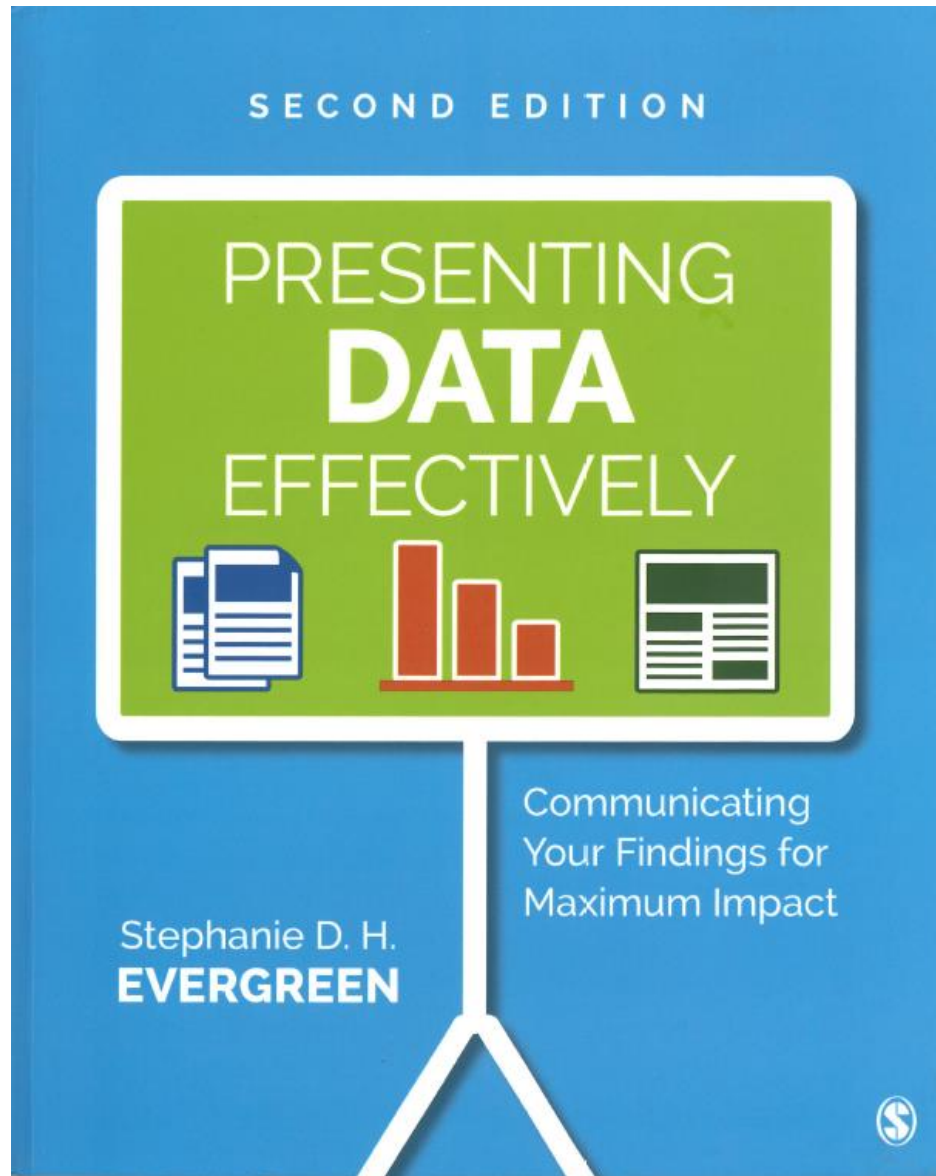
https://condenaststore.com/featured/a-businessman-stands-behind-a-podium-gahan-wilson.html

https://stephanieevergreen.com/data-visualization-checklist/

Evergreen's Key Points

- Simplification & Emphasis

- Use graphics to draw attention and help viewers remember your story

- Use design principles built around graphics, typeface, color and arrangement

Components of Data Visualization

Text

Graphs don't contain much text, so existing text must encapsulate your message and pack a punch.

Arrangement

Improper arrangement of graph elements can confuse readers at best and mislead viewer at worst. Thoughtful arrangement makes a data visualization easier for a viewer to interpret.

Color

Keep culture-laden color connotations in mind. For example, pink is highly associated with feminine qualities in the USA.
Use sites like Color Brewer to find color schemes suitable for reprinting in black-and-white and for colorblindness.

Lines

Excessive lines—gridlines, borders, tick marks, and axes—can add clutter or noise to a graph, so eliminate them whenever they aren't useful for interpreting the data.

Overall

Graphs will catch a viewer's attention so only visualize the data that needs attention. Too many graphics of unimportant information dilute the power of visualization.

Copies of the Evergreen Checklist may be downloaded in the chat

Key points in practice

- Use labels

- Avoid 3-D charts

- Use legible font sizes

- Write horizontally vs. vertically

Key points in practice

- Add patterns vs. only using color for differentiation

- The fewer the decimal places, the better

- Make your presentation consistent

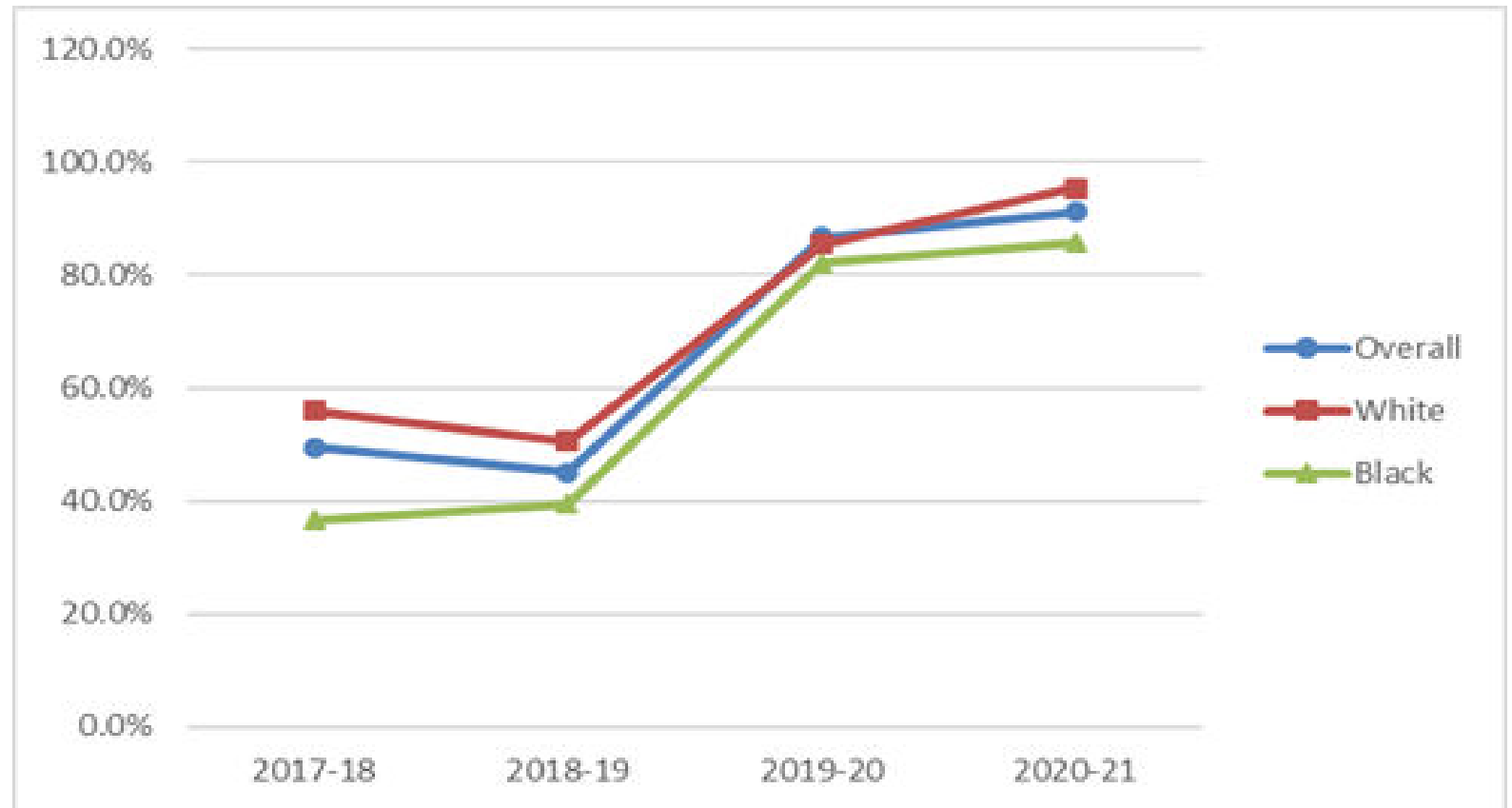- Choose the right chart type
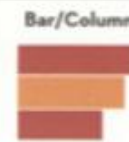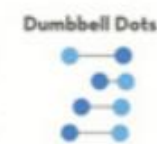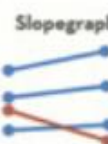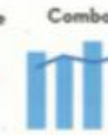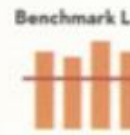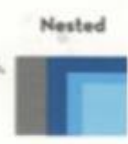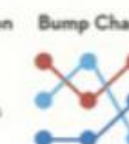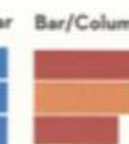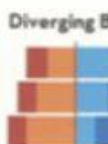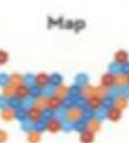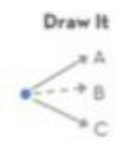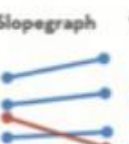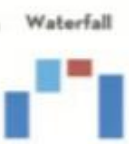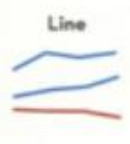
Line Graph EXAMPLE

Success Rates in Gateway Math Courses

What do we need to do to this graph?

Line Graphs

Line graphs shine when they are used for longitudinal trends over time.

- **x-axis** should represent time, in even increments (e.g. months, years) – never categories!

- **y-axis** can present the data you want to chart in either percentages or counts.

- Each line presents the result for a different group/category.

Line Graph Example
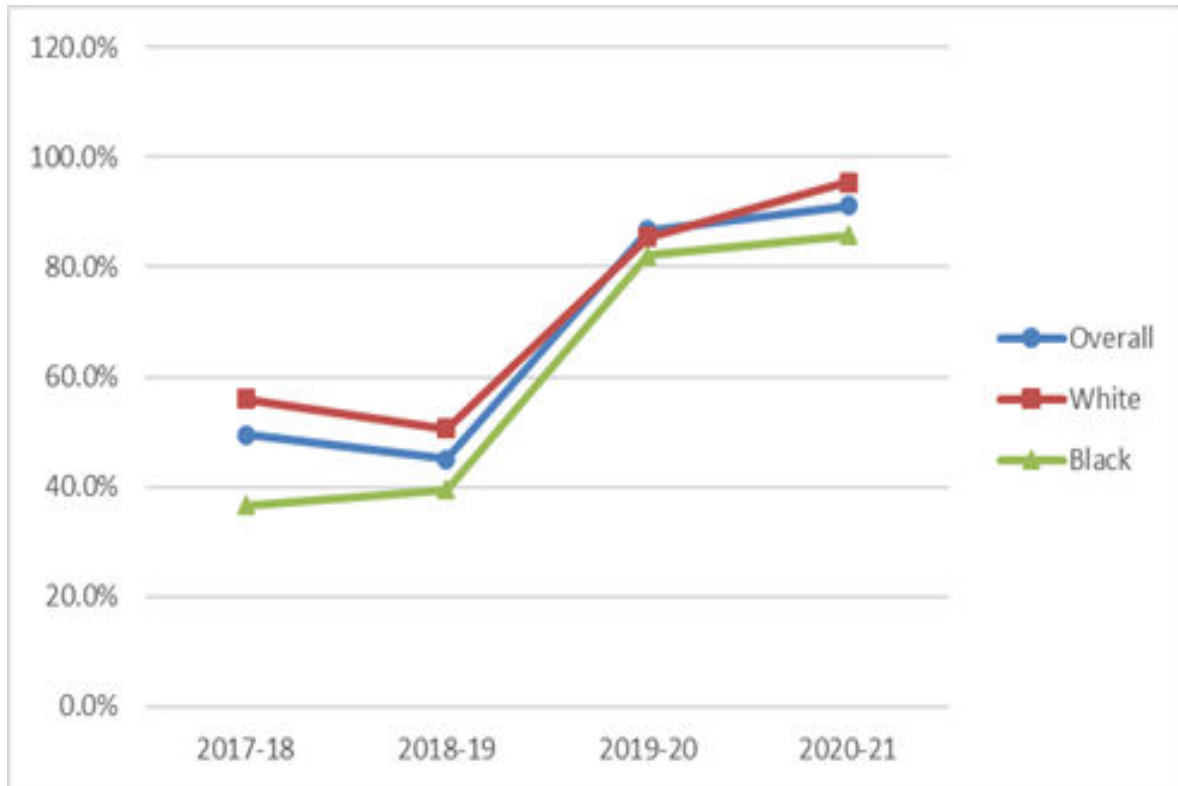
Questions you should ask yourself:

- What is my minimum n-size for displaying a group?

- What should my scale look like (e.g., 0-100%, or something tighter?)

- Is my graph accessible? (e.g. To those with visual impairment)

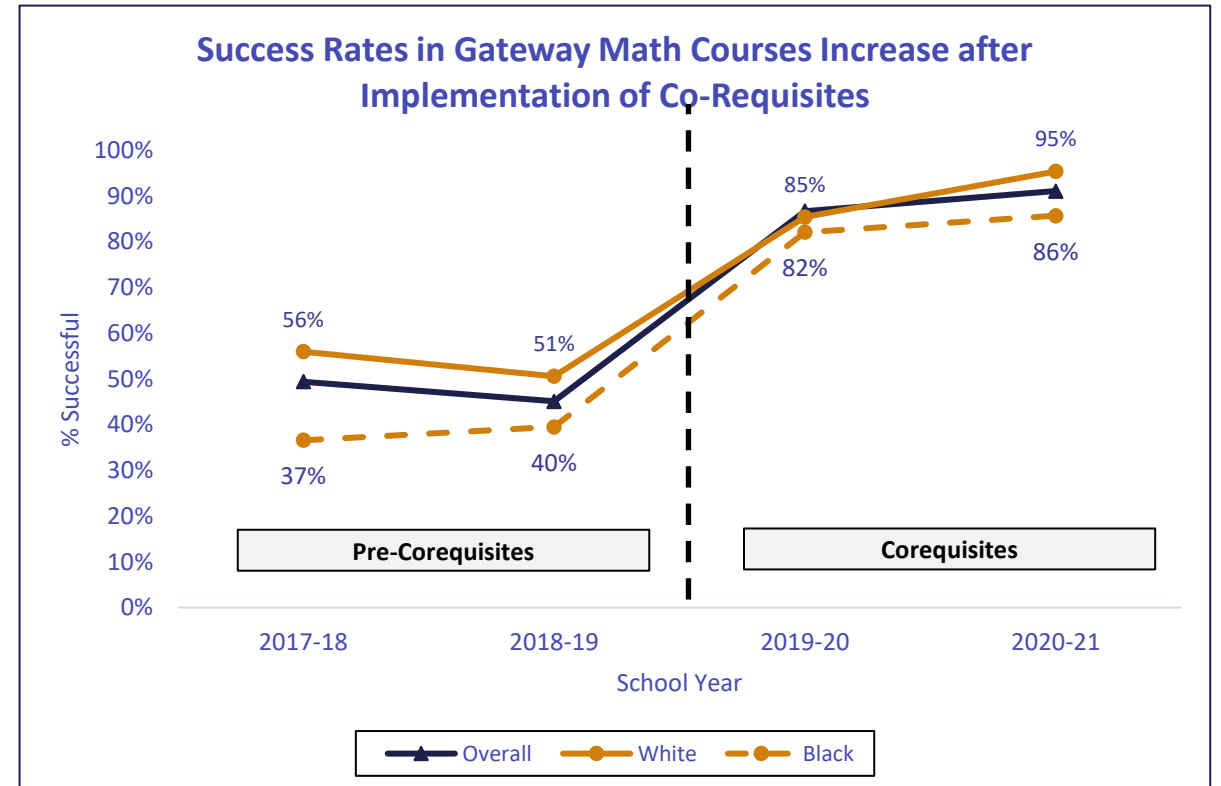- How can I demonstrate the impact of the co-requisite model?

Line Graph Example
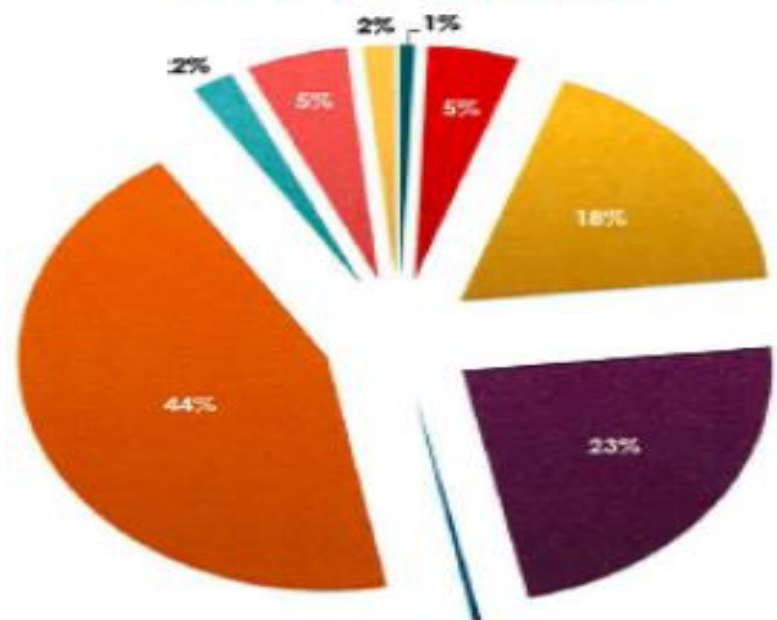
Success Rates in Gateway Math Courses
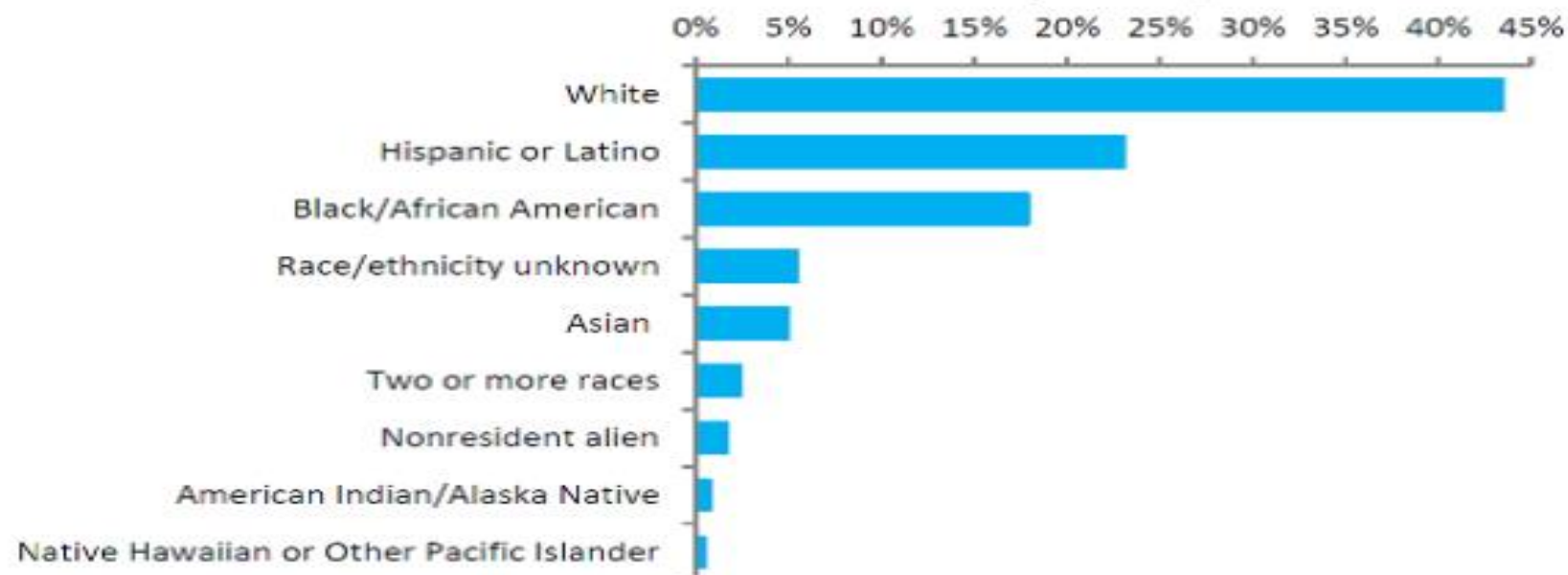
Before
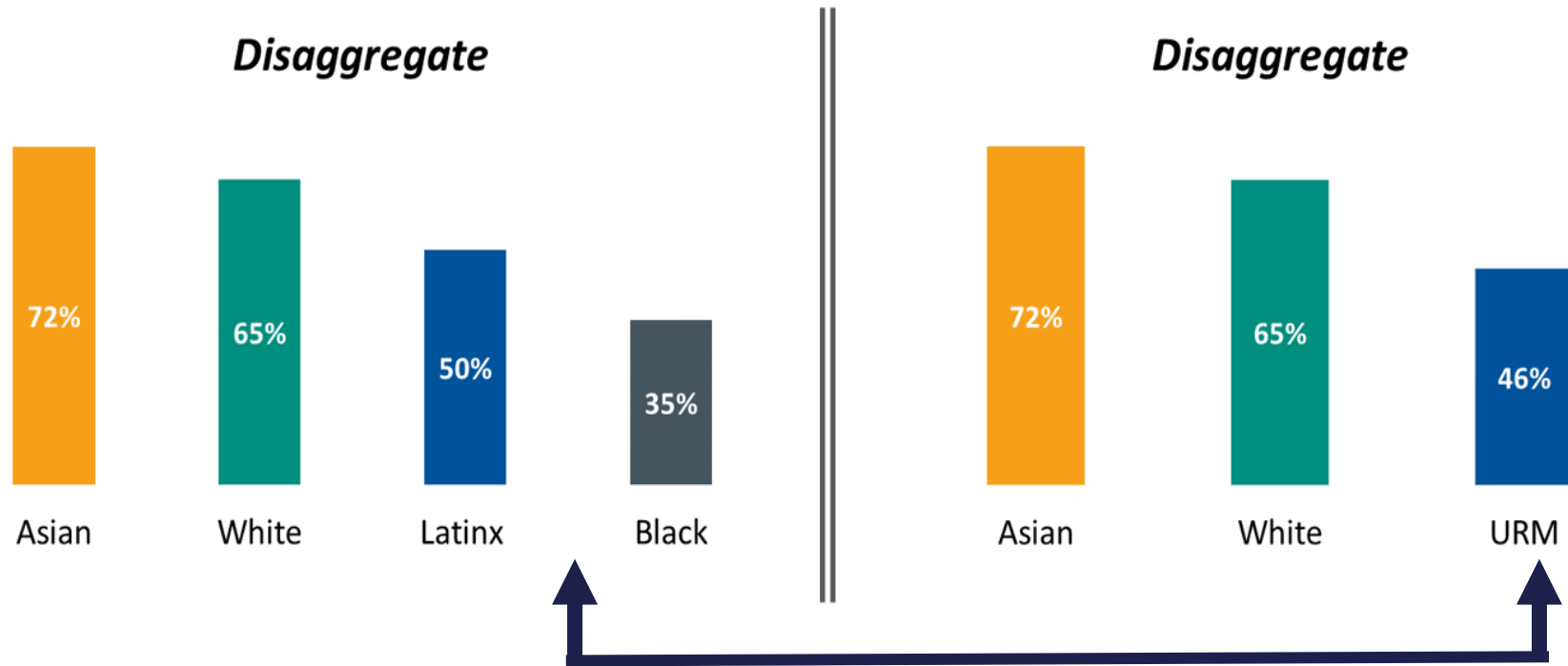

After

DON'T DO THIS!

- American Indian/Alaska Native
- Asian
- Black or African American
- Hispanic
- Native Hawaiian/Pacific Islander
- White
- Two or more races
- Race/ethnicity unknown
- Nonresident Alien

DO THIS!

Student Race/Ethnicty Distribution

Disaggregating Data to Make the Invisible, Visible

Show racial categories vs. grouping as under-represented minorities (URM) or BIPOC which hides inequities
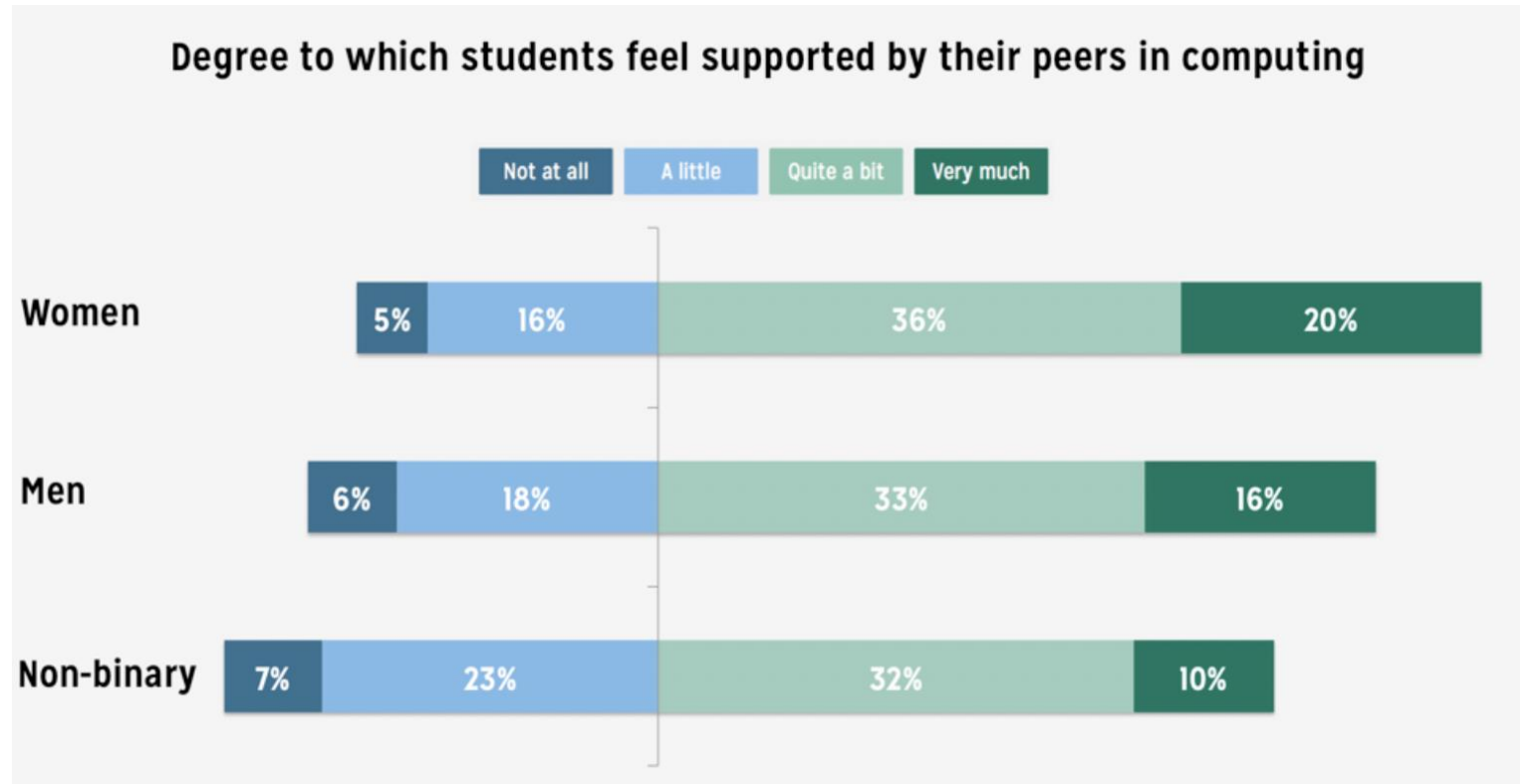
Disaggregating Data to Make the Invisible, Visible

Find ways to differentiate populations and to show small populations by using sub-visualizations and/or a supplemental report for a more detailed analysis

Disaggregating Data to Make the Invisible, Visible

Degree to which students feel supported by their peers in computing
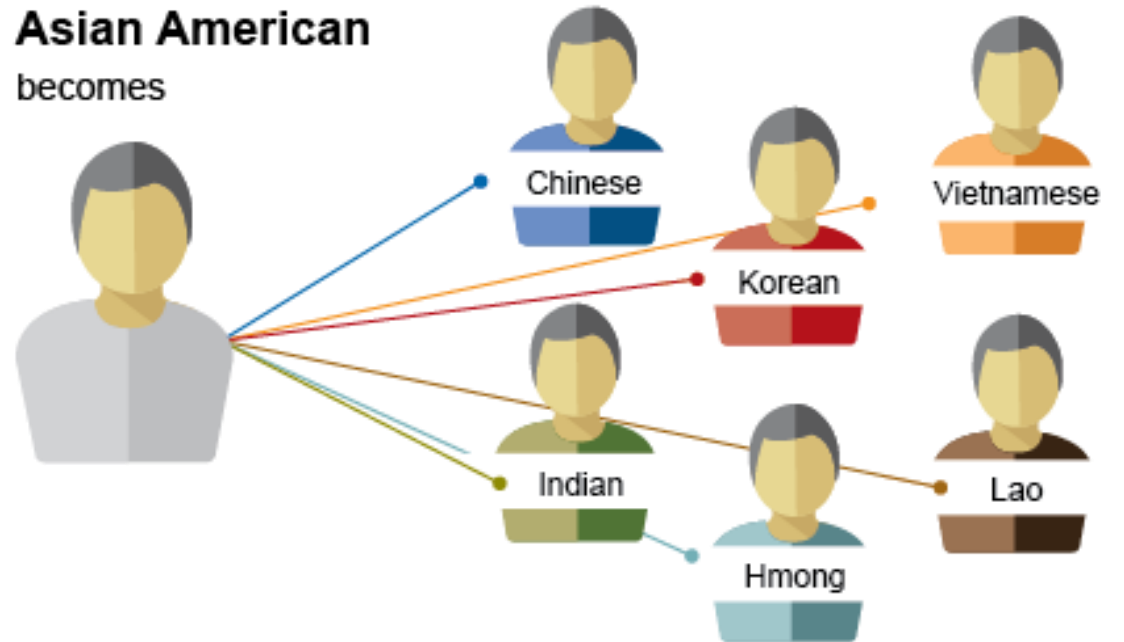
Set Excellence Standards as the Benchmark

Goal:

Raise all student outcomes to the 80% blue line vs. comparing to the default majority population which is often White

	AY 17-18	AY 18-19	AY 19-20
Goal	80%	80%	80%
White	68%	75%	75%
Latinx	62%	70%	73%
African-American	65%	65%	71%
Native American	40%	45%	52%
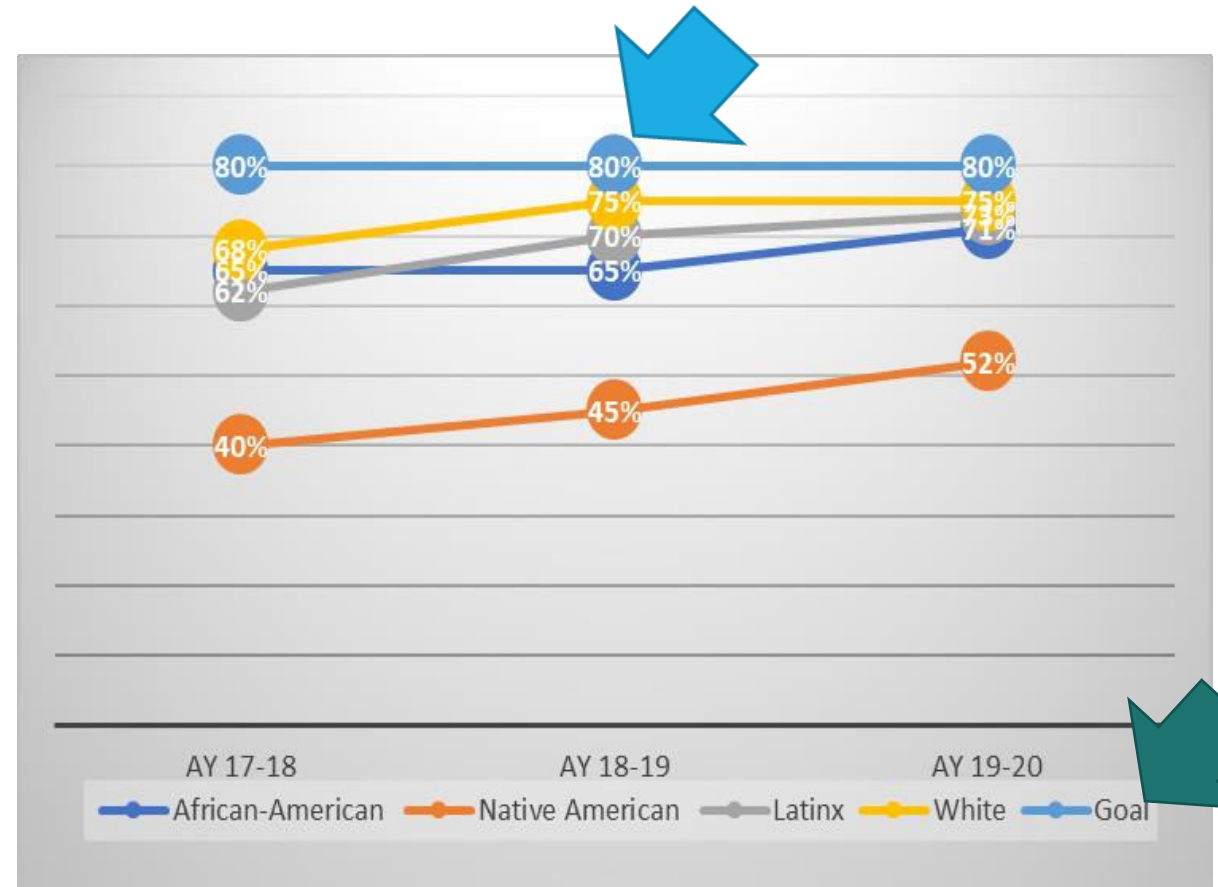
Let's Practice!

Using the PPT we are dropping in the chat, you will work with the data visualizations provided and:

Assess the data visualization using the **Evergreen Data Visualization Checklist**

Identify how you would improve the data visualization

Tables

Pictures are great, but tables are equally important.

When done well, tables offer the following benefits:

- Individual value lookup

- Precision

- Ability to show different units (e.g. n-sizes and some other metric)

- Display of both details and summaries

When done poorly, yield the Where's Waldo effect

A Basic Table Redesign

Better Data Visualizations by J. Schwabish (2021)

Table 1:

FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS: PERSONS PARTICIPATING					
(Data as of March 9, 2018)					
State	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
					Preliminary
Alaska	204	347	479	650	724
Arizona	10,835	11,556	11,880	11,887	11,235
California	5,593	5,495	5,159	4,795	4,463
Colorado	419	454	402	442	353
Idaho	1,440	1,566	1,688	1,706	1,530
Kansas	416	551	569	592	613
Michigan	1,299	1,846	1,971	2,061	1,960
Minnesota	2,297	2,756	2,645	2,600	2,487
Mississippi	701	863	958	1,056	1,169
Montana	2,375	3,144	3,149	3,313	3,271
Nebraska	1,010	1,229	1,339	1,396	1,267
Nevada	1,373	1,611	1,508	1,468	1,328
New Mexico	2,533	2,853	2,966	2,890	2,809
New York	380	384	369	452	350
North Carolina	584	736	743	700	671
North Dakota	3,840	4,800	4,976	5,661	5,569
Oklahoma	25,678	29,012	31,042	33,588	32,795
Oregon	678	871	800	785	687
South Dakota	7,457	8,123	8,208	8,505	8,525
Texas	117	131	142	124	114
Utah	117	167	217	421	384
Washington	3,164	3,185	3,284	3,410	3,221
Wisconsin	2,441	2,978	3,240	3,442	3,367
Wyoming	657	742	881	1,096	1,190
TOTAL	75,608	85,397	88,615	93,038	90,083

FDPIR is an alternative to the Supplemental Nutrition Assistance Program for Indian tribal organizations which prefer food distribution. Participation numbers are 12-month averages. Data are subject to revision.

Table 2: Number of People Participating in Food Distribution Programs on Indian Reservations

(Data as of March 9, 2018)

State	FY 2013	FY 2014	FY 2015	FY 2016	Preliminary, FY 2017
Alaska	204	347	479	650	724
Arizona	10,835	11,556	11,880	11,887	11,235
California	5,593	5,495	5,159	4,795	4,463
Colorado	419	454	402	442	353
Idaho	1,440	1,566	1,688	1,706	1,530
Kansas	416	551	569	592	613
Michigan	1,299	1,846	1,971	2,061	1,960
Minnesota	2,297	2,756	2,645	2,600	2,487
Mississippi	701	863	958	1,056	1,169
Montana	2,375	3,144	3,149	3,313	3,271
Nebraska	1,010	1,229	1,339	1,396	1,267
Nevada	1,373	1,611	1,508	1,468	1,328
New Mexico	2,533	2,853	2,966	2,890	2,809
New York	380	384	369	452	350
North Carolina	584	736	743	700	671
North Dakota	3,840	4,800	4,976	5,661	5,569
Oklahoma	25,678	29,012	31,042	33,588	32,795
Oregon	678	871	800	785	687
South Dakota	7,457	8,123	8,208	8,505	8,525
Texas	117	131	142	124	114
Utah	117	167	217	421	384
Washington	3,164	3,185	3,284	3,410	3,221
Wisconsin	2,441	2,978	3,240	3,442	3,367
Wyoming	657	742	881	1,096	1,190
Total	75,608	85,397	88,615	93,038	90,083

Note: FDPIR is an alternative to the Supplemental Nutrition Asssistance Progam for Indian tribal organizations which prefer food distribution. Participation numberds are 12-month avreages. Data are subject to revision.

Table 3: Number of People Participating in Food Distribution Programs on Indian Reservations

(Data as of March 9, 2018)

State	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Average FY 2013-FY 2017
Alaska	204	347	479	650	724	481
Arizona	10,835	11,556	11,880	11,887	11,235	11,479
California	5,593	5,495	5,159	4,795	4,463	5,101
Colorado	419	454	402	442	353	414
Idaho	1,440	1,566	1,688	1,706	1,530	1,586
Kansas	416	551	569	592	613	548
Michigan	1,299	1,846	1,971	2,061	1,960	1,827
Minnesota	2,297	2,756	2,645	2,600	2,487	2,557
Mississippi	701	863	958	1,056	1,169	949
Montana	2,375	3,144	3,149	3,313	3,271	3,050
Nebraska	1,010	1,229	1,339	1,396	1,267	1,248
Nevada	1,373	1,611	1,508	1,468	1,328	1,458
New Mexico	2,533	2,853	2,966	2,890	2,809	2,810
New York	380	384	369	452	350	387
North Carolina	584	736	743	700	671	687
North Dakota	3,840	4,800	4,976	5,661	5,569	4,969
Oklahoma	25,678	29,012	31,042	33,588	32,795	30,423
Oregon	678	871	800	785	687	764
South Dakota	7,457	8,123	8,208	8,505	8,525	8,164
Texas	117	131	142	124	114	126
Utah	117	167	217	421	384	261
Washington	3,164	3,185	3,284	3,410	3,221	3,253
Wisconsin	2,441	2,978	3,240	3,442	3,367	3,094
Wyoming	657	742	881	1,096	1,190	913
Total	75,608	85,397	88,615	93,038	90,083	86,548

Note: FDPIR is an alternative to the Supplemental Nutrition Assistance Progam for Indian tribal organizations which prefer food distribution. Participation numberds are 12-month avreages. Data are subject to revision.

Design Guidelines:

- Offset the headers from body
- Use subtle dividers instead of heavy gridlines
- Right-align numbers and headers
- Left align text and header
- Select the appropriate level of precision
- Guide your reader with space between rows and columns
- Remove unit repetition
- Highlight outliers
- Group similar data and increase white space
- Add visualizations when appropriate

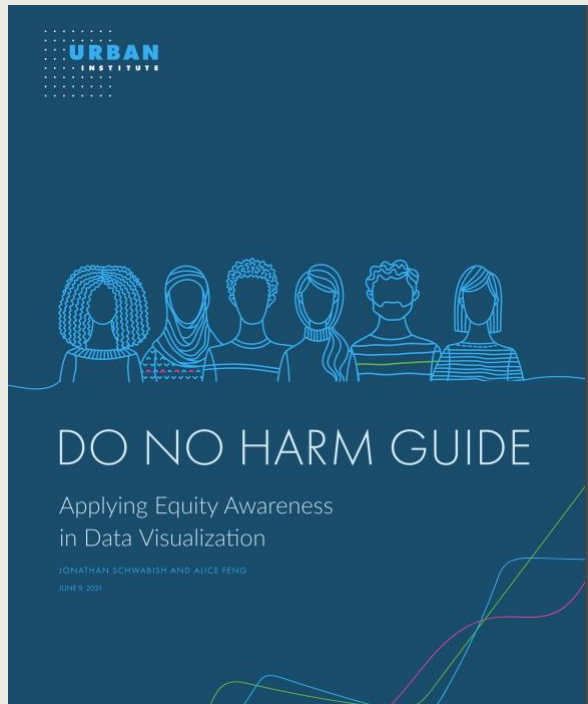"Stories that make us care aren't created by chance; they are created by design."
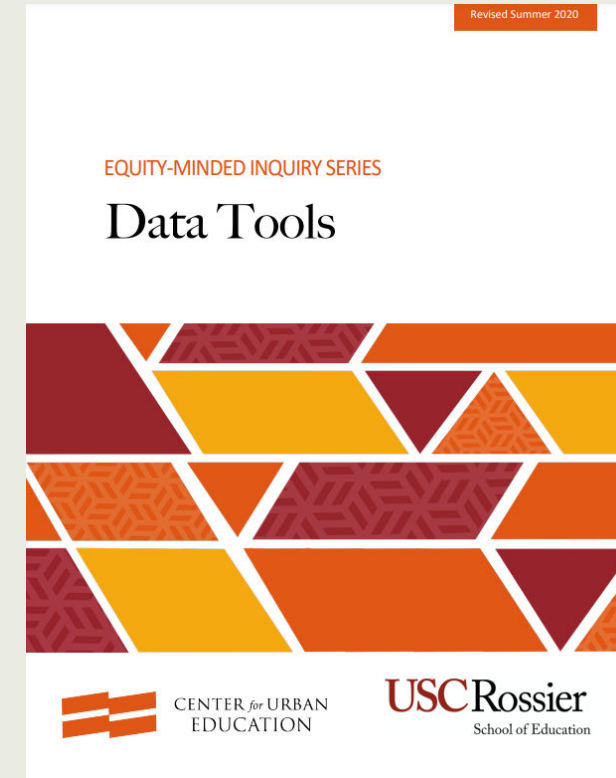
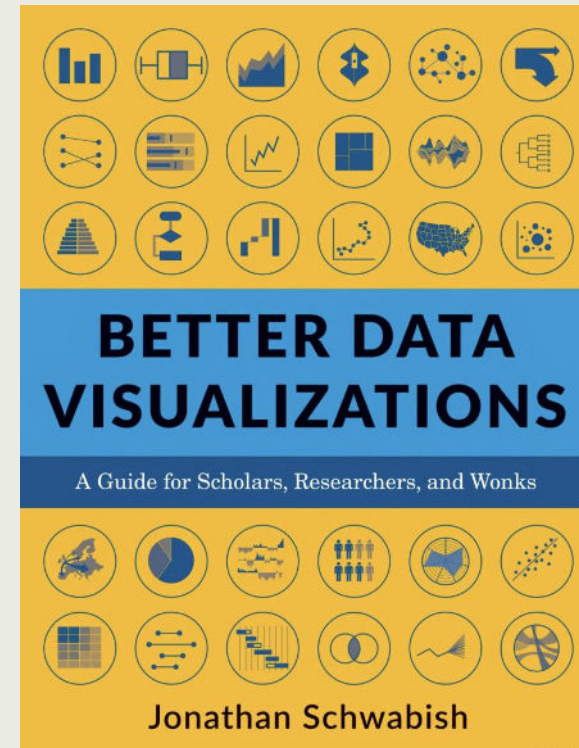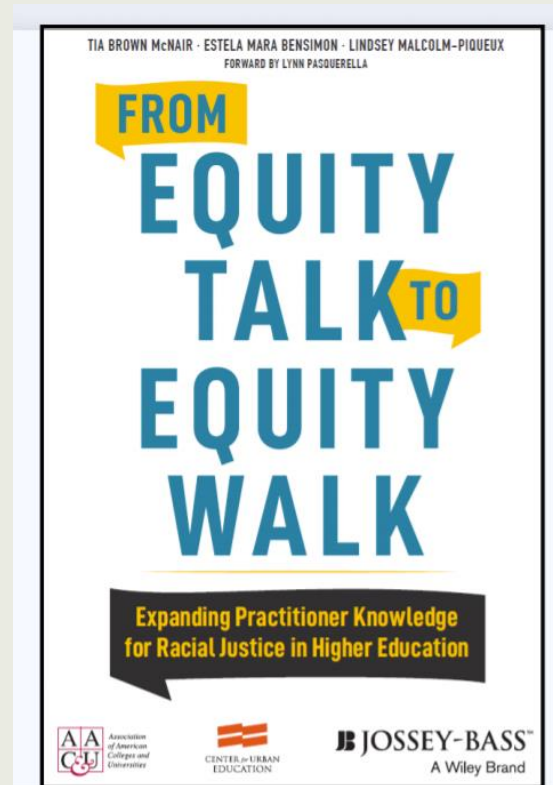Andrew Stanton

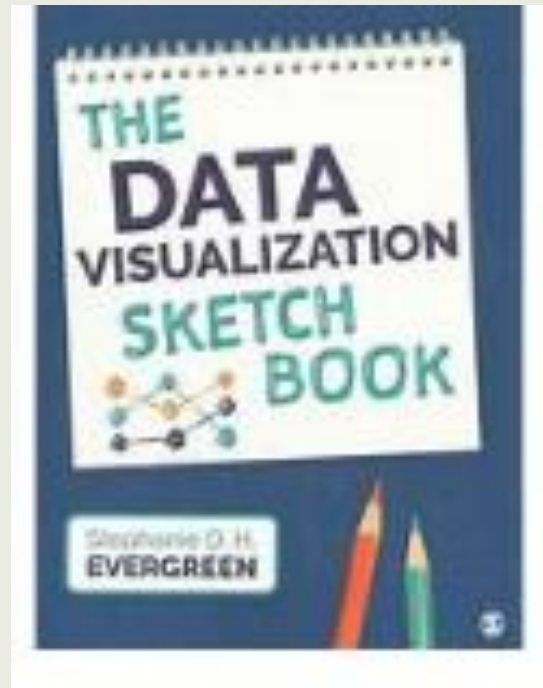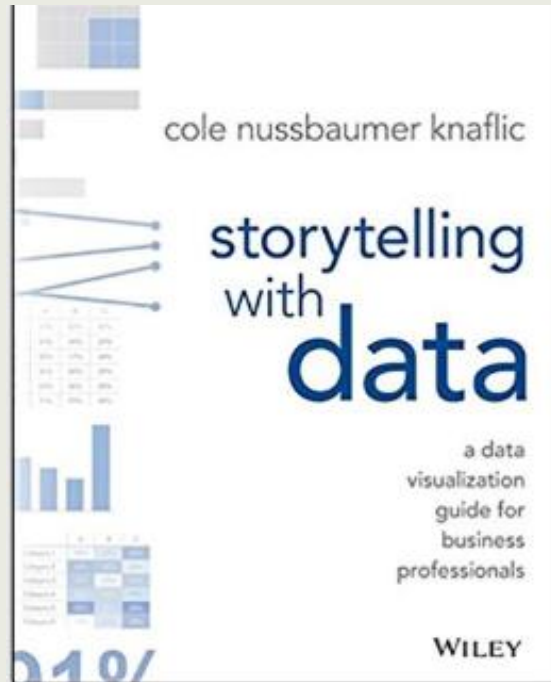Director, Screenwriter, and Producer at *Pixar*

Resources

Equity-Minded Data Storytelling

DO NO HARM GUIDE
Applying Equity Awareness in Data Visualization

TIA BROWN McNAIR · ESTELA MARA BENSIMON · LINDSEY MALCOLM-PIQUEUX
FORWARD BY LYNN PASQUERELLA
FROM EQUITY TALK TO EQUITY WALK
Expanding Practitioner Knowledge for Racial Justice in Higher Education

BETTER DATA VISUALIZATIONS
A Guide for Scholars, Researchers, and Wonks
Jonathan Schwabish

EQUITY-MINDED INQUIRY SERIES
Data Tools

Access Here

Access Here

Data Storytelling tools

http://chartchoosercards.com/

Information is Beautiful: https://informationisbeautiful.net/

Flourish: https://flourish.studio/
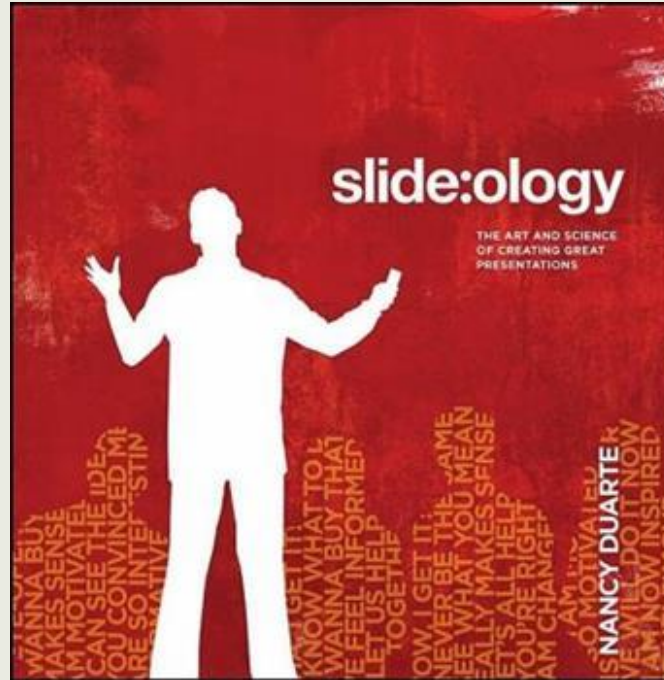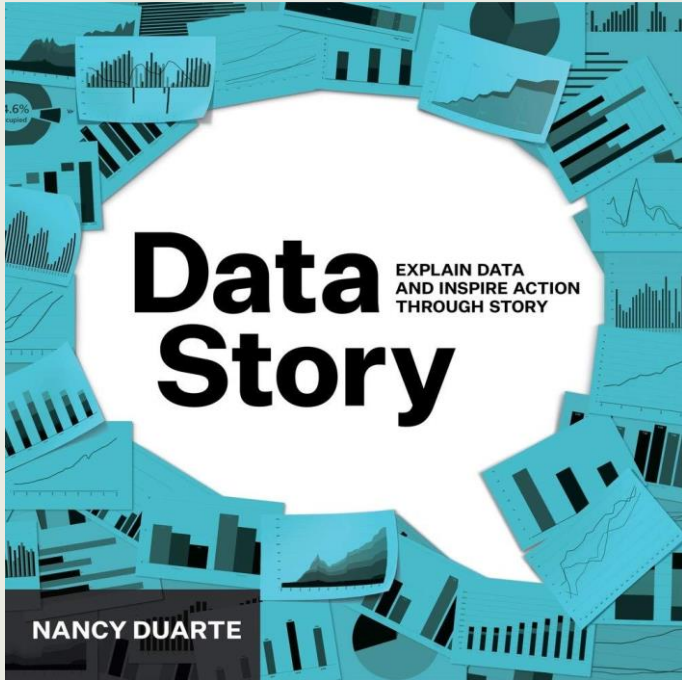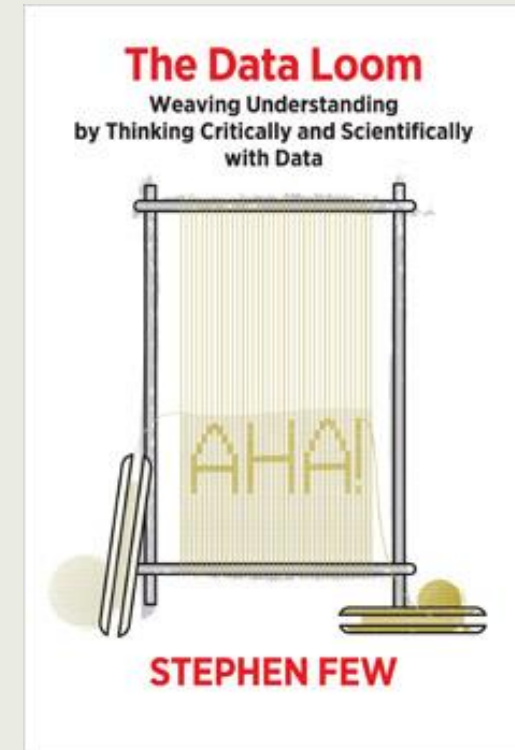
Nancy Duarte
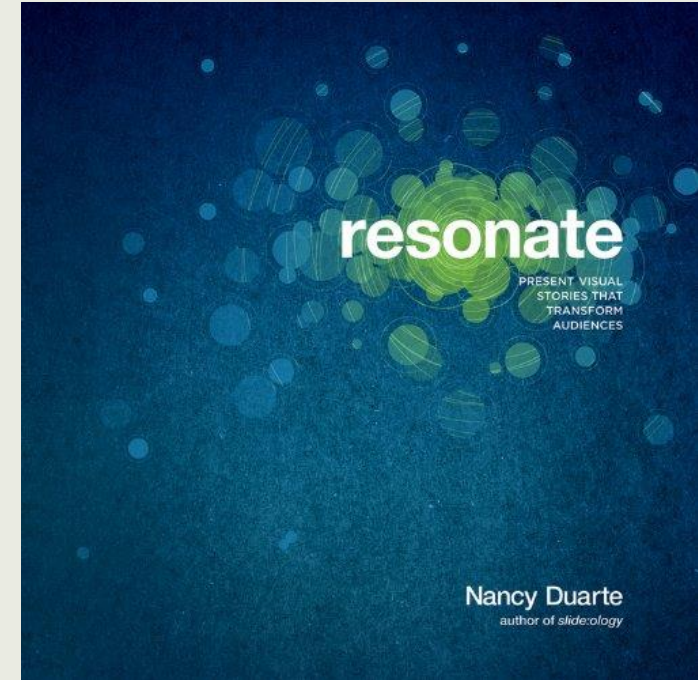
Stephen Few

Questions?

If you have questions, please enter them into the Q & A box.