

BUS 2258

Data-Driven Storytelling

Creating Engaging
and Informative
Presentations

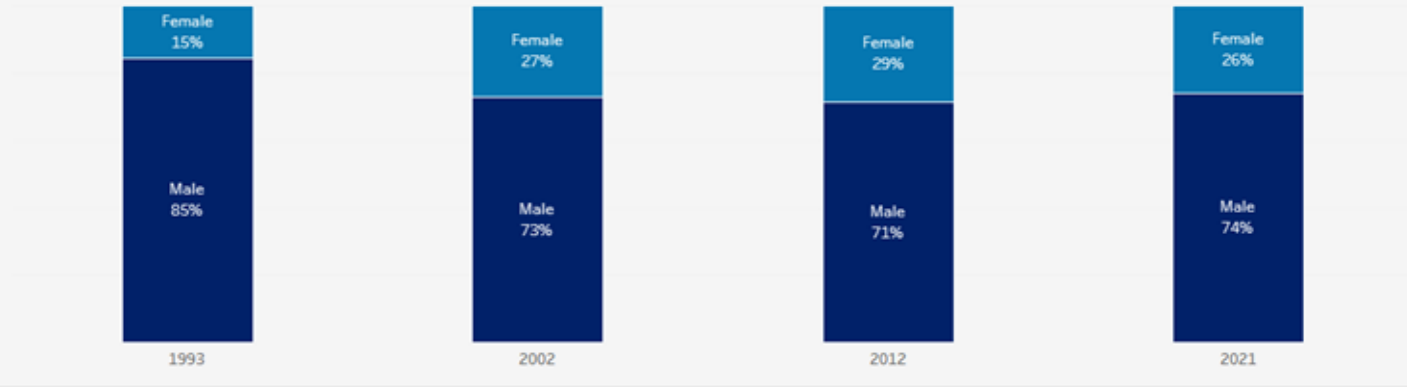
Part 1: Monday, July 27th 1:45 – 3:30 PM
Part 2: Tuesday, July 28th 1:45 – 3:30 PM

ANNA KOUROUNIS · CBMI · JULY 2026



My Attempt to Tell a Story with Data

Distribution of Graduates by Gender - *Doctor of Philosophy*



Graduates by Major and Degree

The number in parenthesis, after the %, reflects total number of graduates

		1993		2002		2012		2021	
		Female	Male	Female	Male	Female	Male	Female	Male
Doctor of Philosophy	Chemistry	13% (2)	88% (14)	33% (4)	67% (8)	58% (11)	42% (8)	41% (7)	59% (10)
	Computer Science		100% (3)	33% (2)	67% (4)	11% (1)	89% (8)		100% (8)
	Economics	25% (2)	75% (6)	17% (1)	83% (5)	27% (3)	73% (8)	29% (5)	71% (12)
	Engineering	16% (6)	84% (32)	14% (3)	86% (18)	23% (9)	77% (30)	26% (23)	74% (64)
	Mathematics		100% (4)	33% (1)	67% (2)	25% (2)	75% (6)	17% (2)	83% (10)
	Physics		100% (9)	33% (1)	67% (2)	9% (1)	91% (10)	14% (2)	86% (12)
	Political Science	50% (3)	50% (3)	42% (5)	58% (7)	33% (6)	67% (12)	33% (5)	67% (10)
Grand Total		15% (13)	85% (71)	27% (17)	73% (46)	29% (33)	71% (82)	26% (44)	74% (126)

Part 1

Setting the Stage for the DISCOVER Framework



MODULE 01

Introductions

What we are doing, why it matters, and how the time is structured.

01



5 MIN

About Anna



<https://www.asycdnsource.org/cdnsource/>



*Participants will discover how to effectively use data and visualizations to **create an impactful message through storytelling**. Part 1 builds the three layers participants will need before they can apply the **DISCOVER framework** in Part 2.*

About ~~Today~~

WHAT WE ARE NOT DOING TODAY

- Review the technicals elements of a specific visualization tool like Tableau or Power BI
- Create a dashboard
- Use artificial intelligence (AI) in any part of the process

02

AI is a Tool (full stop).

THIS COURSE IS NOT ABOUT THE TOOL BUT ABOUT
THE THINKING THAT NEEDS TO COME BEFORE THE
TOOL.

About Today

WHAT WE ARE DOING TODAY

- + Develop a narrative
- + Look at techniques to engage our audience

Essential Questions

LEARNING OBJECTIVES FRAMED AS ESSENTIAL QUESTIONS

- How do I move from showing data to telling a story with it?
- How do I keep the audience at the center of every choice I make?
- How do I avoid the most common ways data communication misleads or fails to land?

What We're Covering (1/2)

PART 1: Setting the Stage for the DISCOVER Framework

01	Introductions	5 min
02	Setting the Stage	15 min
03	Communicating with Data	30 min
04	Designing With Your Audience in Mind	25 min
05	Incorporating the Basic Parts of the Narrative Arc	30 min

TOTAL • 1 HR 45 MIN

What We're Covering (2/2)

PART 2: The DISCOVER Mapping

01	Quick Review of Foundations	10 min
02	The DISCOVER Framework	10 min
03	Problem Walkthrough & Presentation	75 min
04	Wrapping Things Up	20 min

TOTAL • 1 HR 45 MIN

MODULE 02

Setting the Stage

Data storytelling is different from dashboards or reports.

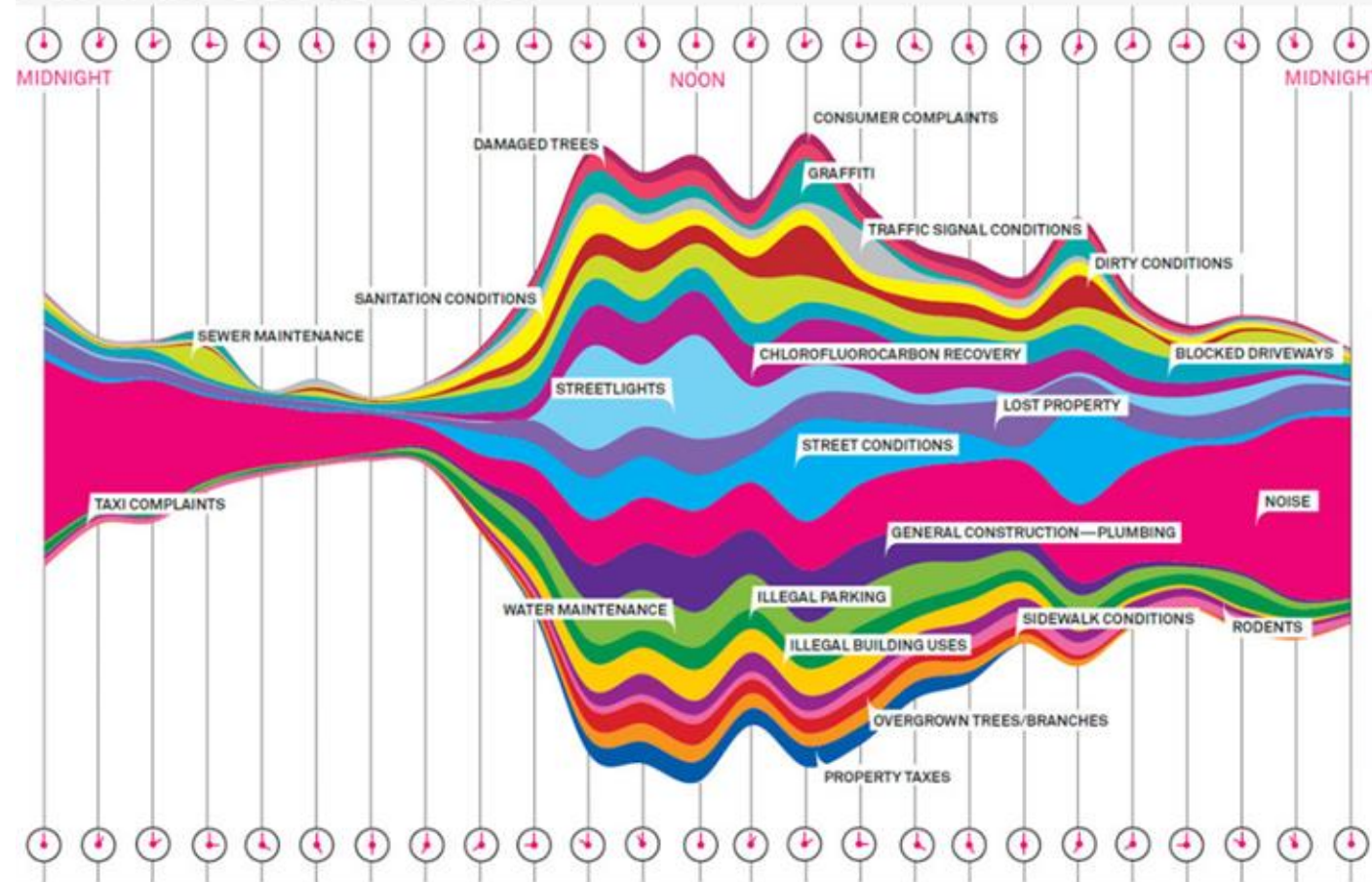
15 MIN

02

Stories are how humans encode and transmit meaning.
A spreadsheet documents and a story persuades.

https://www.wired.com/2010/11/ff_311_new_york/

What a Hundred Million Calls to 311 Reveal About New York

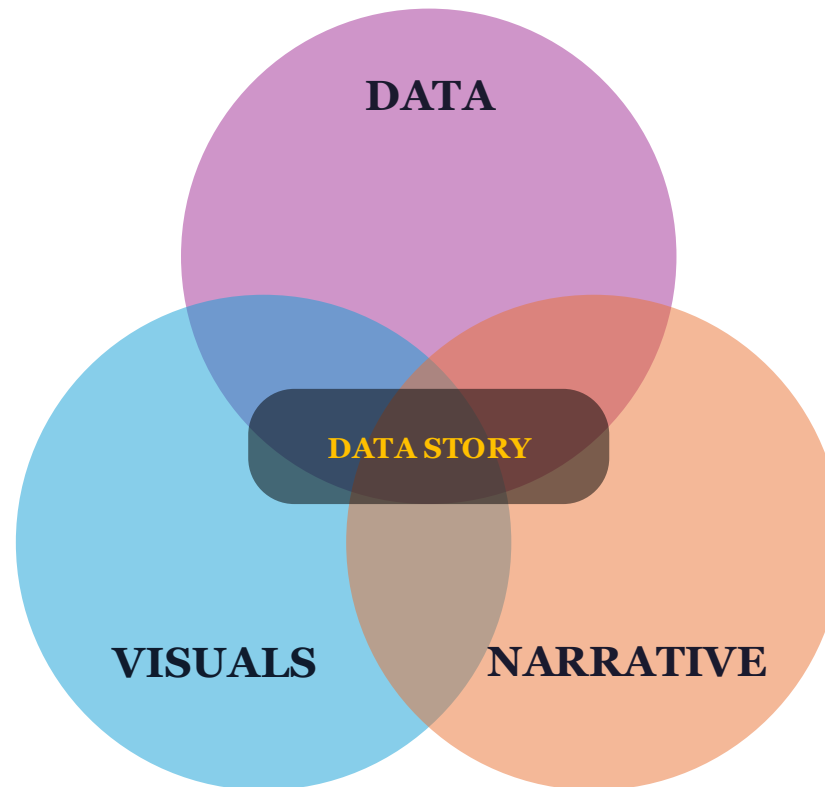


There were 34,522 complaints called in to 311 between September 8 and September 15, 2010. Here are the most common, plotted by time of day.
Illustration: Pitch Interactive

https://www.wired.com/2010/11/ff_311_new_york/

02

The Trinity of Data Storytelling

***The argument:***

A number alone rarely changes minds. A story without evidence rarely earns trust. A beautiful chart without a point is just decoration.

Only when all three work together does information become insight — and insight become action.

Based on Brent Dyke's Effective Data Storytelling <https://www.forbes.com/sites/brentdykes/2025/01/28/the-data-storytelling-triathlon-three-disciplines-one-goal/>

02

A Brief History of Data Visualization

Pre-1600s

Cartography & Maps

Early visual communication through maps and geographic diagrams — the foundation of representing data spatially.

1801

The Pie Chart

Playfair introduces the pie chart in *Statistical Breviary* — still one of the most recognized chart types today.

1869

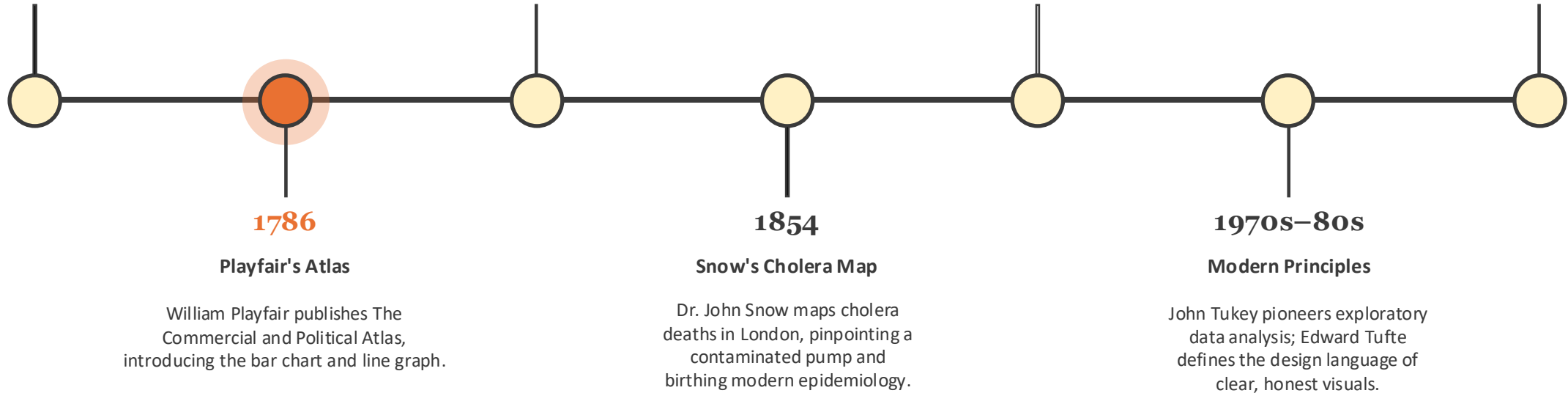
Minard's Napoleon

Charles Joseph Minard's flow map of Napoleon's Russian campaign — called the best statistical graphic ever drawn.

2000s+

Digital Era

Tableau, D3.js, and interactive dashboards bring data storytelling to every desk, browser, and boardroom.



Why Playfair matters: Bar charts, line graphs, and pie charts — invented over 200 years ago and still the workhorses of modern data communication.

02

Modern Voices in Data Storytelling

JT**1977****John Tukey***Exploratory Data Analysis*

Reframed visuals as tools for discovery, not just presentation. Argued that looking at data is itself an act of analysis.

ET**1980s****Edward Tufte***The Visual Display of Quantitative Information*

Established the ethics of chart design — minimize ink, maximize integrity, never let style distort substance.

SF**2000s****Stephen Few***Information Dashboard Design*

Translated visualization theory into practical, repeatable principles for business reporting and dashboards.

CK**2015****Cole Nussbaumer
Knaflic***Storytelling with Data*

Turned the discipline into a teachable practice — a step-by-step craft anyone in business can learn and apply.

BD**2019****Brent Dykes***Effective Data Storytelling*

Connected storytelling craft to business outcomes — what data narratives actually change inside organizations.

02

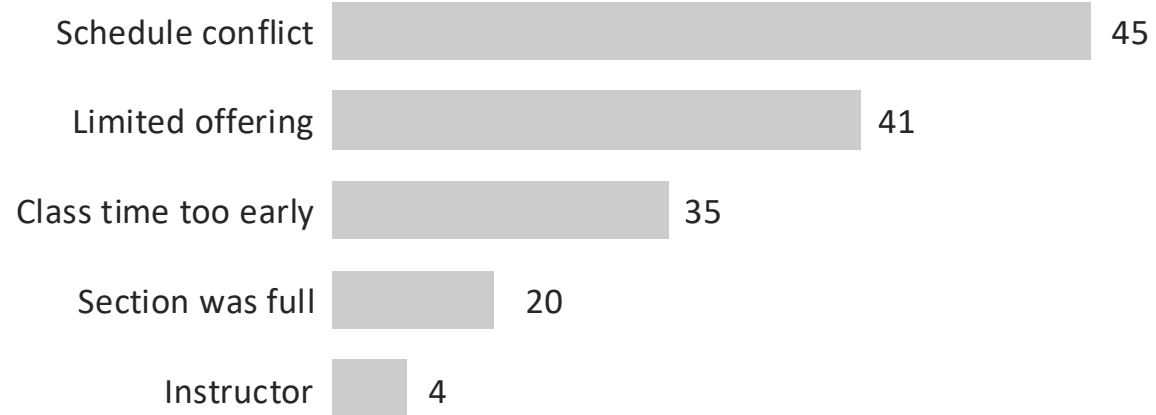
Elements of Good Data Stories (1/6)



02

*State the conclusion as
the title*

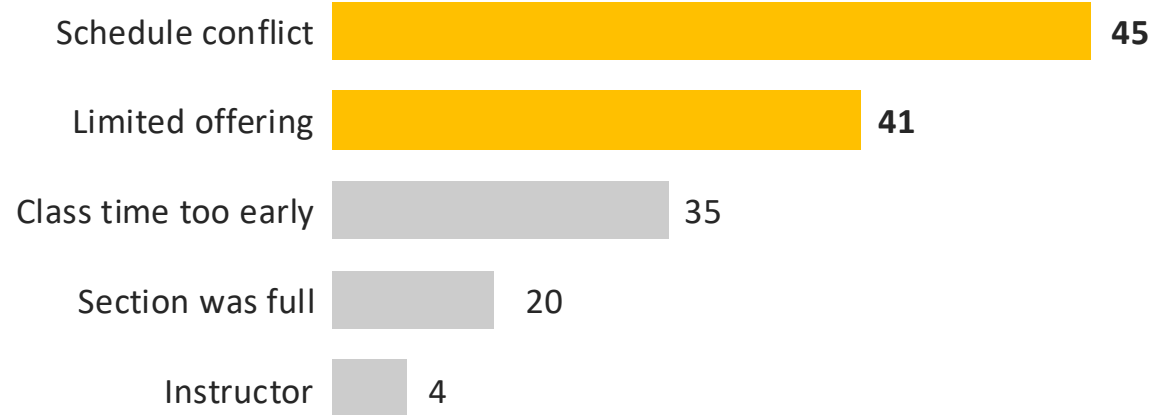
WE NEED TO FIX CLASS SCHEDULING FIRST.



02

Use color to highlight

WE NEED TO FIX CLASS SCHEDULING FIRST.

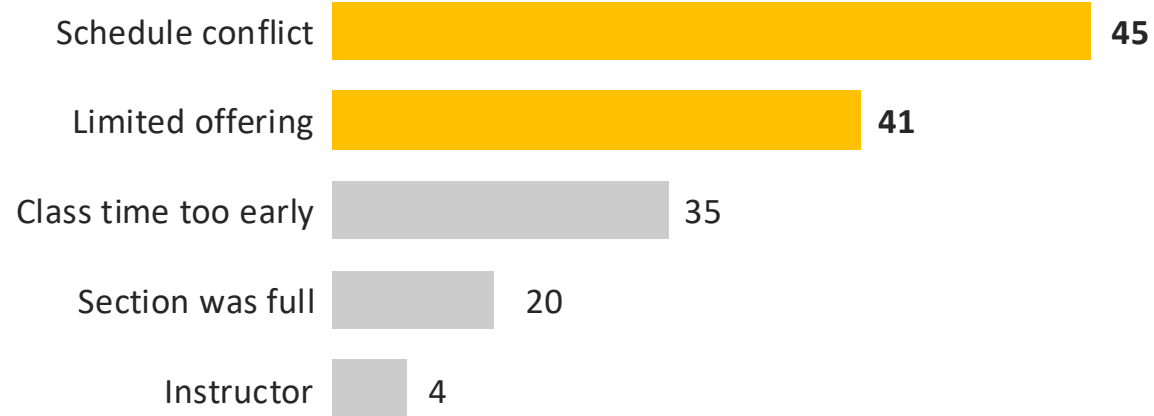


Use color consistently

02

WE NEED TO FIX CLASS SCHEDULING FIRST.

Among 98 students who added HIST 218 to their registration cart they did not enroll mainly due to schedule conflict (45) and once-a-year/Fall-only offering (41).

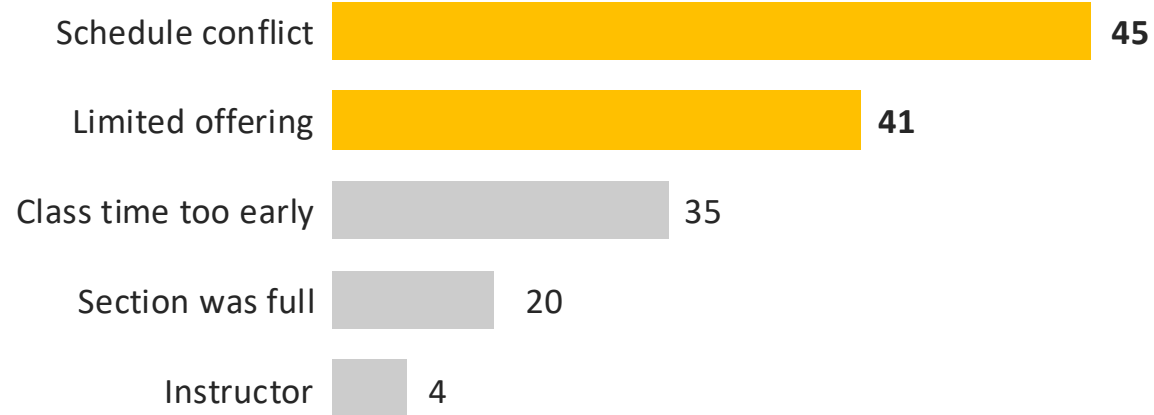


*Add some context to
clarify*

02

WE NEED TO FIX CLASS SCHEDULING FIRST.

Among 98 students who added HIST 218 to their registration cart they did not enroll mainly due to schedule conflict (45) and once-a-year/Fall-only offering (41).



Be transparent

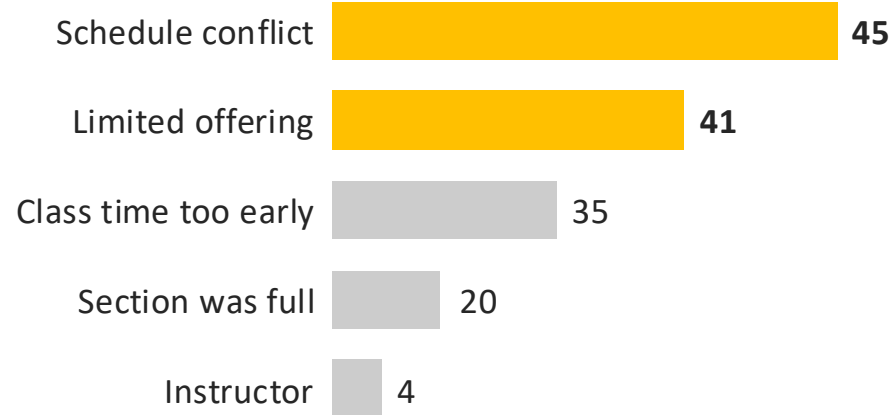
The survey reached only students who added the course to their cart and chose to respond. Students who never considered it at all, and abandoners who ignored the email, are not represented in the data.

Address audience concern

02

RESCHEDULE HISTORY 218: ENROLLMENT IS FALLING ON **ACCESS**, NOT INTEREST

Among 98 students who added HISTORY 218 to their registration cart they did not enroll mainly due to schedule conflict (45) and Fall-only offering (41).



The students who carted the course are on average very interested in taking it.

4 / 5

Average interest in taking the course

The survey reached only students who added the course to their cart and chose to respond. Students who never considered it at all, and abandoners who ignored the email, are not represented in the data.

Same Data. Two Stories.

01

TRUST

Which one would
you forward to your
boss?

02

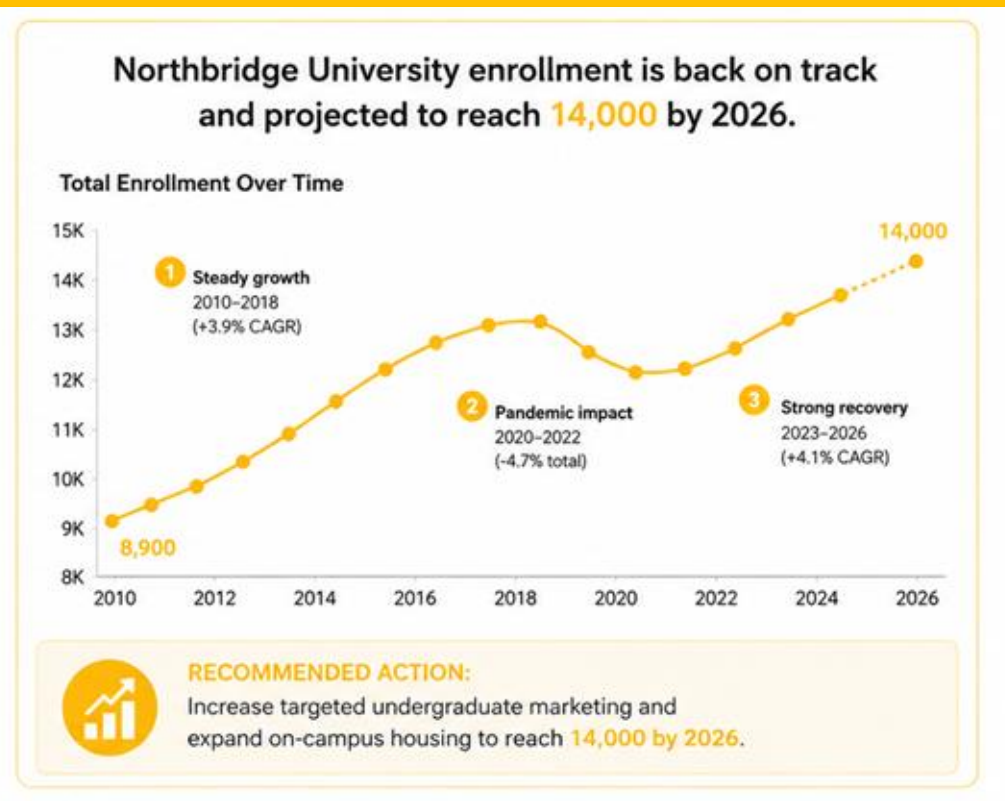
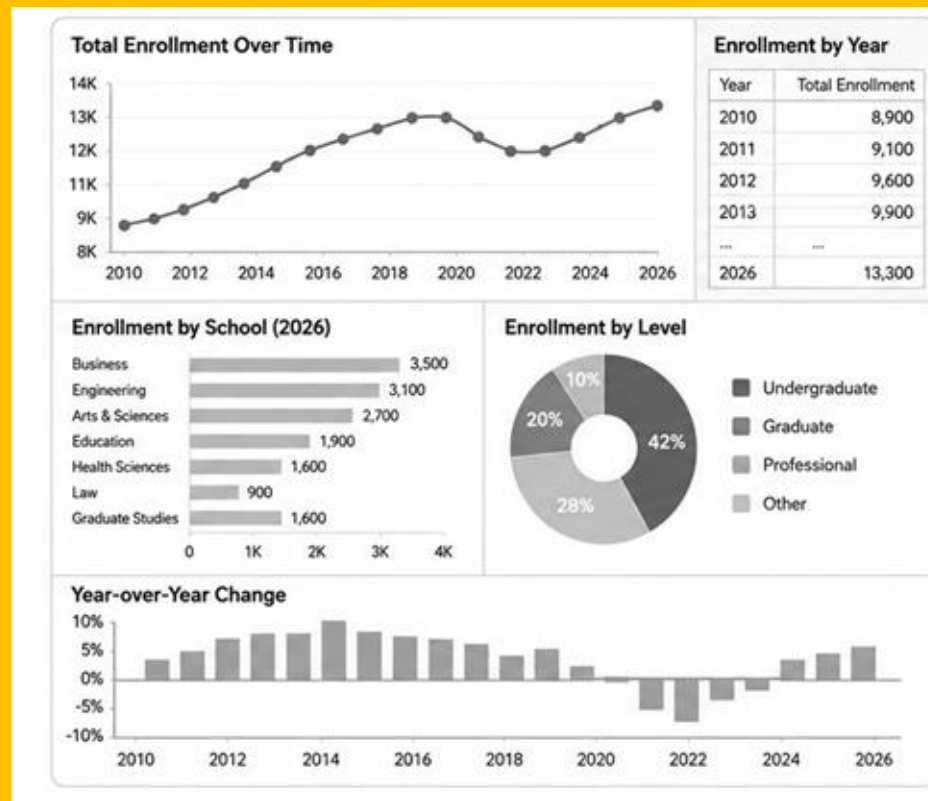
MEMORY

Which one would
you still remember
tomorrow?

03

IMPACT

Which one would
actually change a
decision?



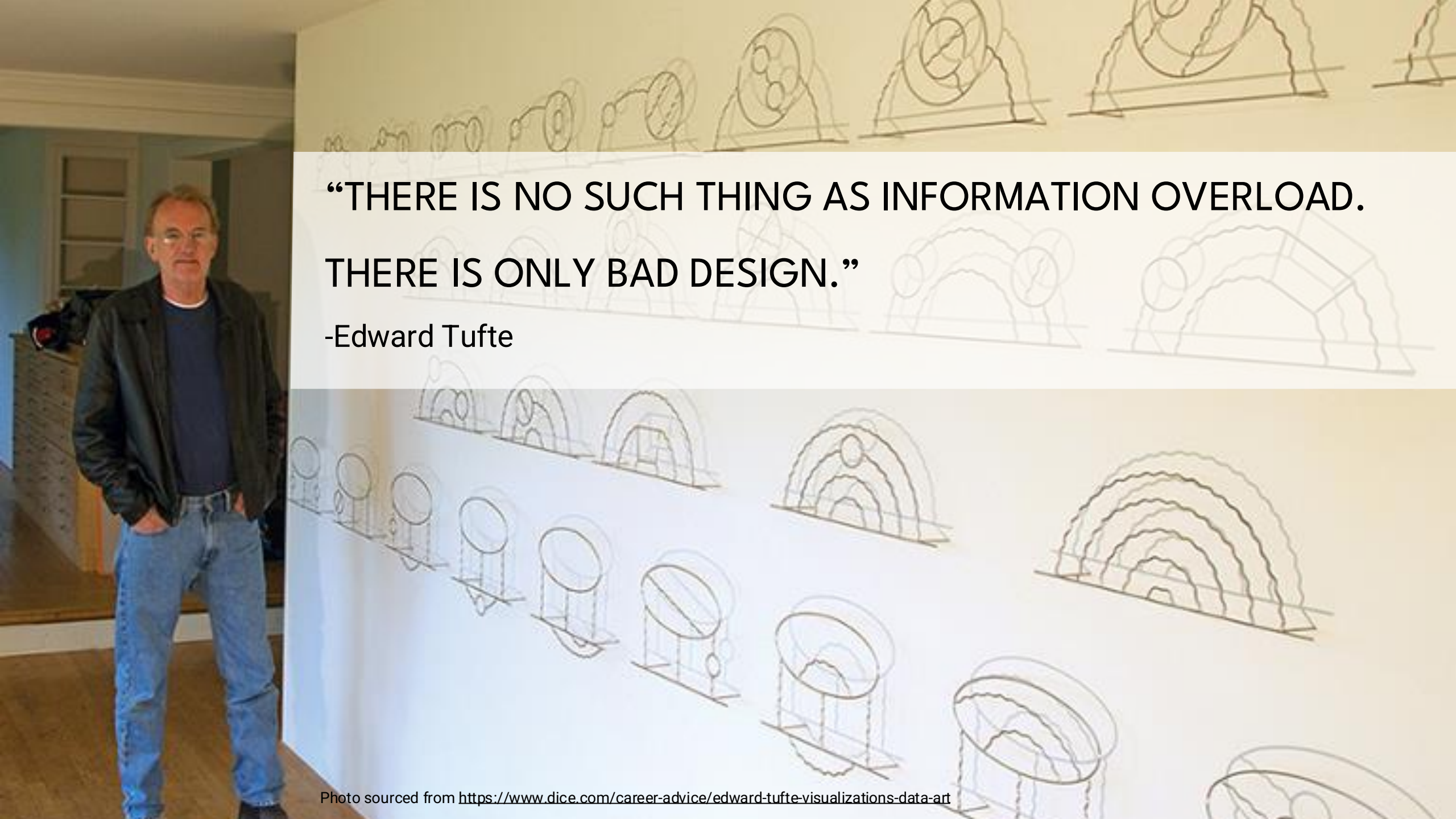
MODULE 03

Communicating with Data

How to choose a chart, how to remove what doesn't serve the message, and how visuals can mislead.



30 MIN



**“THERE IS NO SUCH THING AS INFORMATION OVERLOAD.
THERE IS ONLY BAD DESIGN.”**

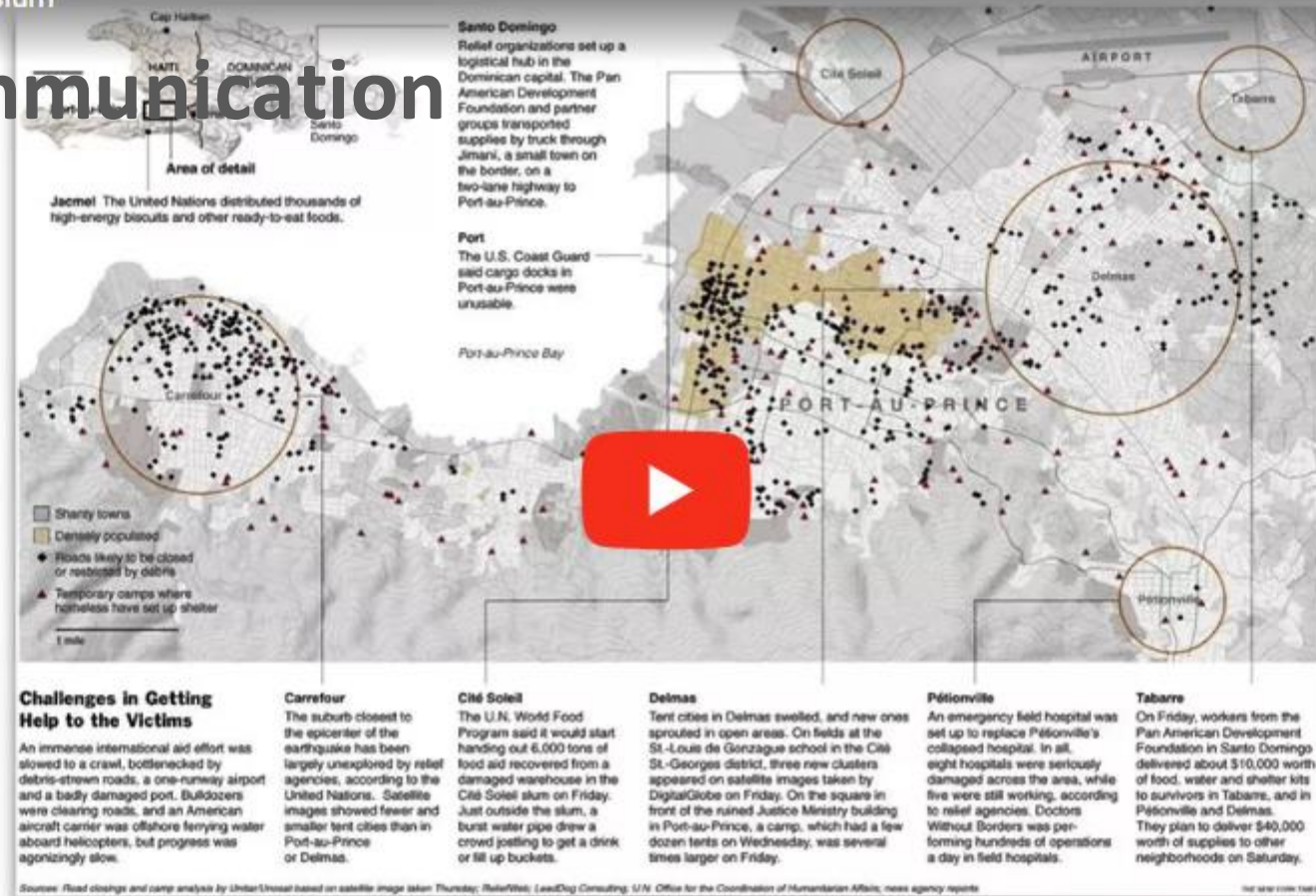
-Edward Tufte



Information Design & Visualization Fundamentals Lesson 01 (1 of 4)

Aquent Gymnasium

Visual Communication



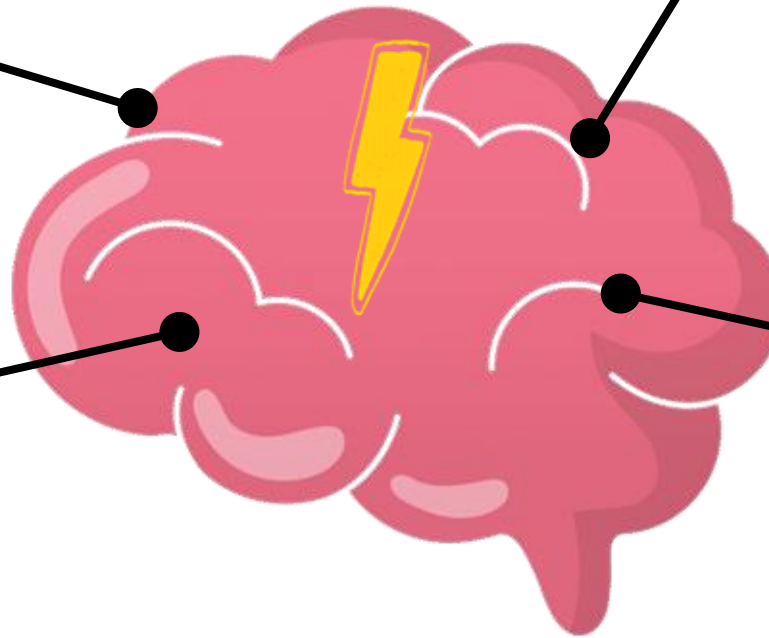
03

Dopamine creates a pleasurable response and eases memory and recall

Cortisole increases attention and memory

Oxytocin increases empathy and connection, trust, compassion

Neural coupling synchronizes the listener's brain with the storyteller's brain



03

Explaining vs. Exploring

Information design and data visualization are closely related — but they do different jobs.

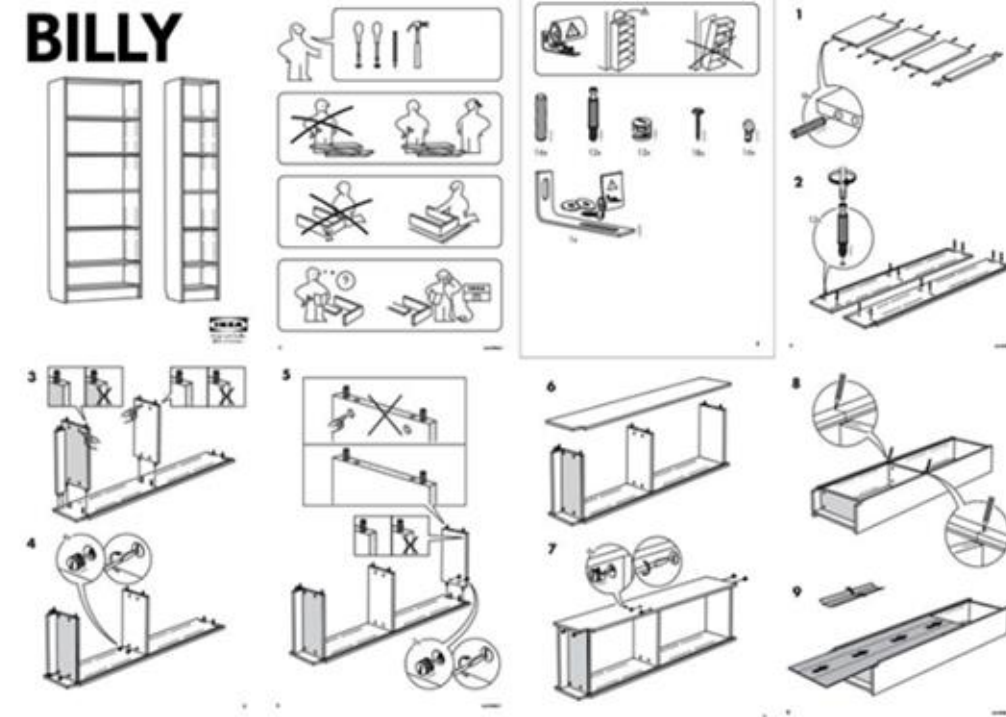
INFORMATION DESIGN → EXPLAINING

DATA VISUALIZATION → EXPLORING



Broader scope than
data visualization

Information design includes
curated information – think
IKEA manual



Source: <https://imgenta.as/how-ikeas-assembly-instructions-champion-universal-design-fe2710ab5c36>

REVENUE



More objective
than information
design

Data Visualization seeks to
answer a question with the
data.



03

Explaining vs. Exploring (again)

Information design and data visualization are closely related — but they do different jobs.

INFORMATION DESIGN → EXPLAINING

Presents insights so they are easy to grasp.

- Adds logical structure, hierarchy, and intuition to content.
- Curated content — think an IKEA assembly manual.
- Draws from graphic design, UX, and cognitive psychology.
- **Subjective** in nature.

DATA VISUALIZATION → EXPLORING

Uncovers the insights the data holds.

- Highlights trends, patterns, and relationships in the numbers.
- Charts, graphs, maps — visual tools for the data itself.
- Presents data points in an understandable format.
- **Objective** in nature.

TAKEAWAY Both make complex information accessible — but at different layers of the process.

03

Goals of Communicating with Data

Before we choose a chart, we have to be clear on why we are presenting the data at all.

01

Inform

Share metrics, trends, and findings so stakeholders can make informed decisions.

02

Persuade

Pitch a client, advocate for a policy, or change a mind — data builds the case.

03

Entertain

Make data accessible and engaging through infographics and story-driven visuals.

04

Build Relationships

Sharing insight strengthens collaboration and trust with colleagues and stakeholders.

05

Gain Feedback

Surface reactions and improvement areas so strategy can adapt to what the data reveals.

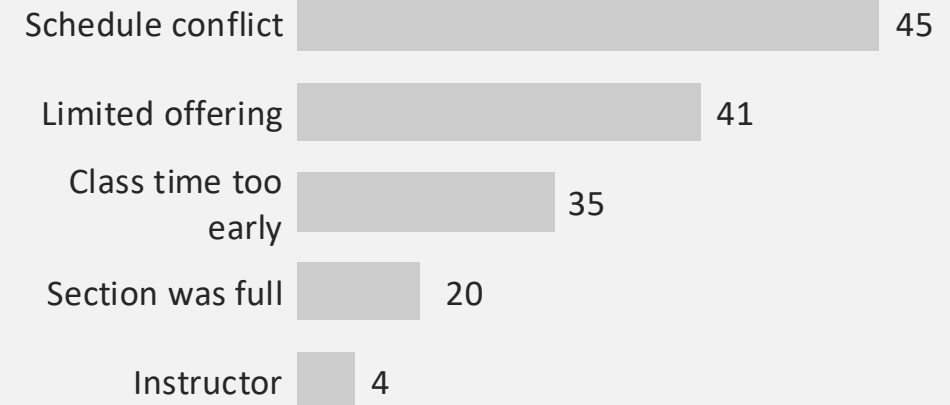
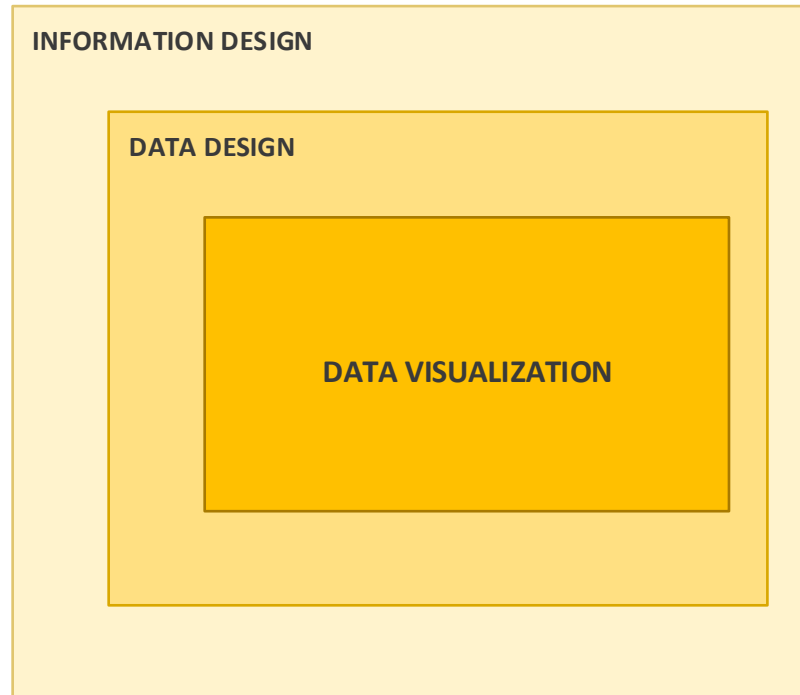
06

Express Oneself

Use data-driven arguments to convey ideas and reinforce your own perspective.

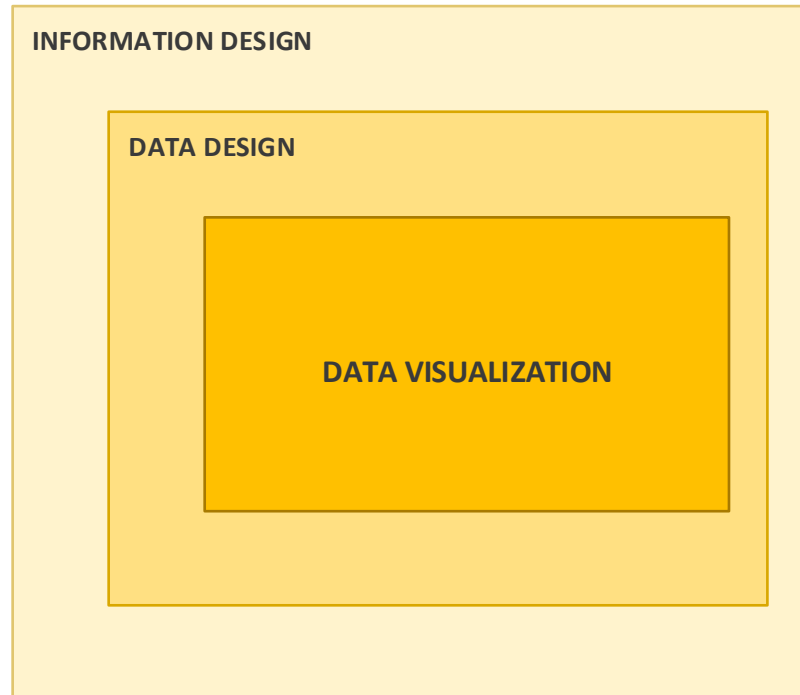
03

Layers of Communication & Design



03

Layers of Communication & Design

**INFORMATION DESIGN**

The broadest layer. Structures and organizes content so the audience can navigate and understand it.

DATA DESIGN

The design decisions applied to data — layout, hierarchy, typography, and color that frame what the viewer sees.

DATA VISUALIZATION

The innermost layer — the specific chart or graph that turns the data itself into a visual.

“Data visualization, data design, and information design address different layers of visual communication and design.”

KAREN MIDDLETON · QUALITATIVE DATA DESIGN SPECIALIST

03

Evaluating Data Visualization

Three lenses for stress-testing a chart before it leaves your hands — or for spotting when one is misleading you.

01 · FUNCTIONALITY & DESIGN

Does the visual work for the reader?

- Consistent layout, typeface, and theme
- Logical flow of content
- Easy to navigate visually
- Accessible color contrast and captions

03

Main Takeaway

WHAT IS THE RIGHT GRAPH? ASK A FRIEND OR COLLEAGUE AND ASSESS

- Where do they focus?
- What do they see?
- What questions do they have?

Storytelling with Data (Knaflic, 2015)



EXECUTIVE SUMMARY

Q4 & FULL YEAR 1999
vs. 1998



REVENUE BY REGION (1999)



KEY GROWTH DRIVERS

- ★ Market Expansion
- ★ New Product Launches
- ★ Strategic Acquisitions
- ★ Customer Retention
- ★ Operational Excellence
- ★ Technology Leadership



FINANCIAL HIGHLIGHTS (1999)

Gross Margin:	28.7%	↑
Operating Margin:	23.1%	↑
Net Margin:	15.4%	↑
EPS:	\$2.48	↑
ROI:	28.6%	↑
ROE:	31.2%	↑
Cash Flow:	\$1.28B	↑

RECORD YEAR!
ALL KEY METRICS UP!



GLOBAL PERFORMANCE OVERVIEW

MAXIMIZING VALUE • DRIVING GROWTH • DELIVERING RESULTS

TOP PERFORMER!

STRATEGIC OBJECTIVES

- ✓ Increase Revenue
- ✓ Improve Profitability
- ✓ Expand Market Share
- ✓ Optimize Operations
- ✓ Maximize Shareholder Value

REVENUE (in Millions \$)

5-YEAR FINANCIAL PERFORMANCE (in Millions \$)



MARKET SHARE (1999)



MARKET SHARE GAIN!
+4.2 PTS vs. 1998

CUSTOMER SATISFACTION



PRODUCT LINE PERFORMANCE (1999)

Product Line	Revenue (Millions \$)	Growth vs. 1998	Margin
PowerMax™	2,154	+45%	58%
UltraForce™	1,876	+50%	57%
EcoLine™	1,234	+32%	53%
ValuePlus™	987	+28%	49%
Other Products	825	+22%	35%
TOTAL	7,076	+31%	51%

CASH FLOW (in Millions \$)



RETURN ON INVESTMENT



OUTLOOK 2000 & BEYOND

- ✓ Strong Revenue Growth Expected
- ✓ Margin Expansion Initiatives
- ✓ New Markets & Products
- ✓ Strategic Partnerships
- ✓ Shareholder Value Creation

THE FUTURE IS BRIGHT!



03

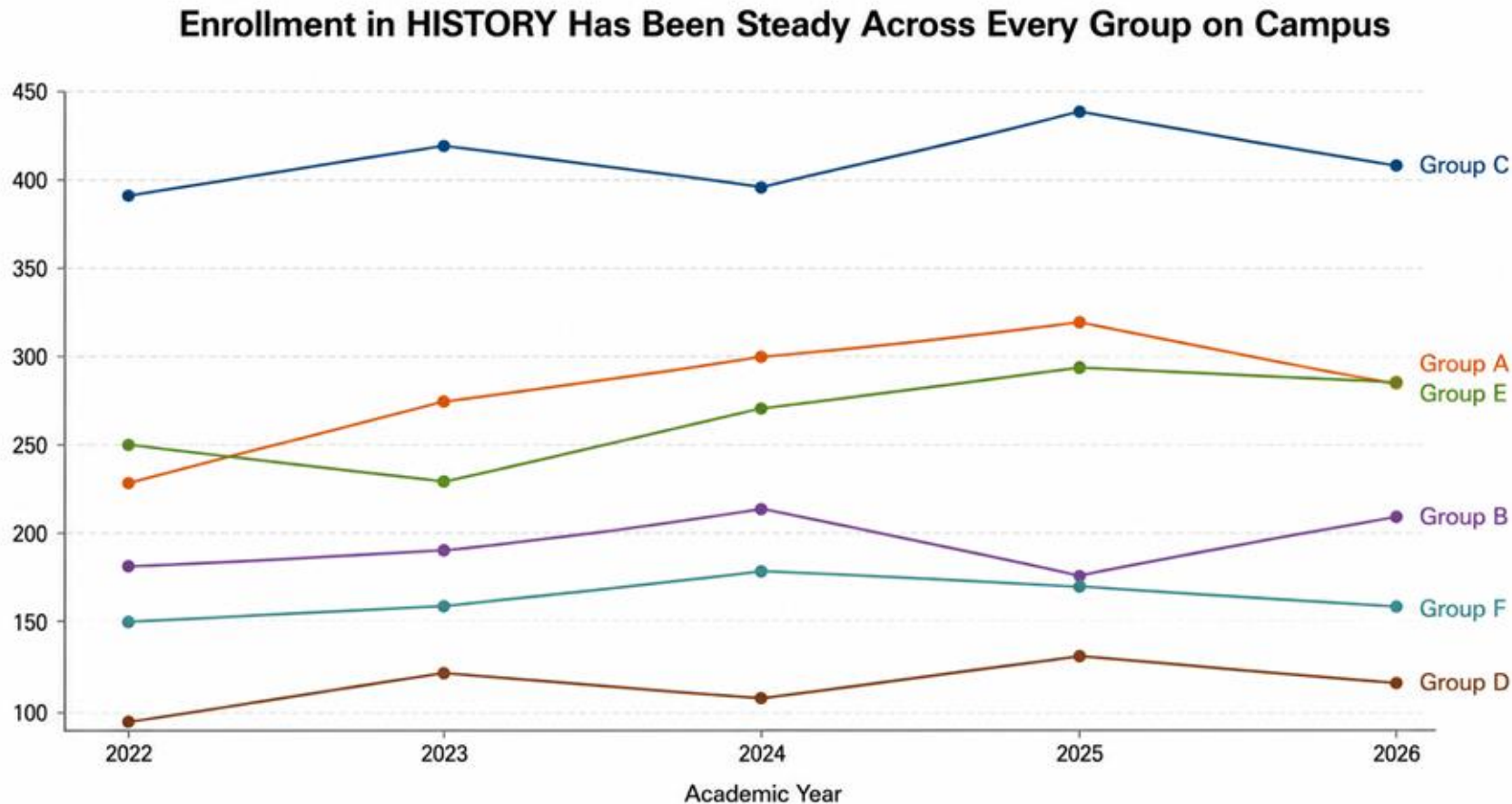
Every Chart Is a Dinner Party

The **decluttering** rule:

If a guest can't explain why they're at the dinner, they don't get a seat.

03

How can we make this chart better?



03

Main Takeaway

DECLUTTER SO YOUR AUDIENCE'S BRAIN DOESN'T HAVE TO WORK HARD

- Utilize white space
- Remove unnecessary gridlines
- Eliminate redundant legends
- Drop 3D effects
- Use color and contrast strategically

MODULE 04

Designing with Your Audience in Mind

The lens through which every later decision is made.

25 MIN

04

Three Audience Questions

ACCORDING TO COLE NUSSBAUMER KNAFLIC

- Who is the audience?
- What do you need them to know or do?
- How can you use data to help make your point?

04

The Audience Profile

Definition: Summary of key audience segments, including demographics, roles, and goals.

Possible Tools: Survey, interview.

How it helps: Guides tone, detail, and relevance of the data story to match the needs and context of different groups.

04

Audience Profile: General Management



PROVOST / VP ACADEMIC AFFAIRS / DEAN

“Tell me what this means for the institution — and what I need to decide.”

WHO THEY ARE

PRIMARY LENS

Institutional strategy, finance, and reputation

DECISION AUTHORITY

High — sets direction and reallocates resources

DATA FLUENCY

Reads trends; doesn't dig into methodology

TIME BUDGET

5–15 minutes, often interrupted

WHAT THEY NEED

TOP QUESTION

“What does this mean for us, and what should we do?”

PREFERRED FORMAT

One-page brief or short presentation + one clear chart

LEVEL OF DETAIL

Implications and recommendation, not mechanics

SUCCESS LOOKS LIKE

A confident, defensible decision

04

Audience Profile: Enrollment Advisor



PROGRAM COORDINATOR / ENROLLMENT ADVISOR

“Show me which programs are slipping, how classes are scheduled, and what students are saying.”

WHO THEY ARE

PRIMARY LENS

Day to day operations and individual program outcomes

DECISION AUTHORITY

Operational – outreach, scheduling, etc.

DATA FLUENCY

Knows the students; comfortable working with details

TIME BUDGET

20-30 minutes, with the report open beside their work

WHAT THEY NEED

TOP QUESTION

“Which programs need my attention this year?”

PREFERRED FORMAT

Detailed report or interactive dashboard with filters

LEVEL OF DETAIL

Granular – by program, cohort, demographic, at-risk flags

SUCCESS LOOKS LIKE

A specific list of students or programs to act on

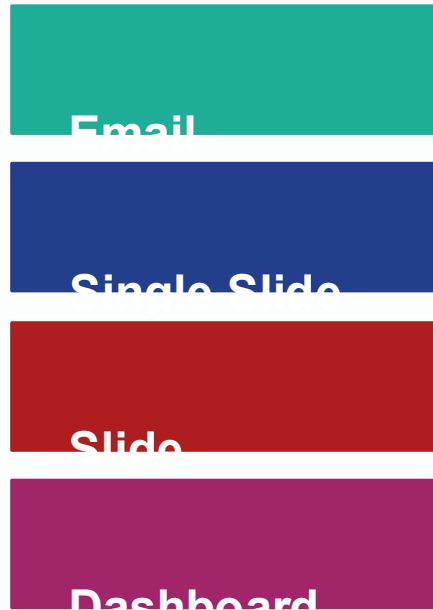
04

Main Takeaway

DECLUTTER SO YOUR AUDIENCE'S BRAIN DOESN'T HAVE TO WORK HARD

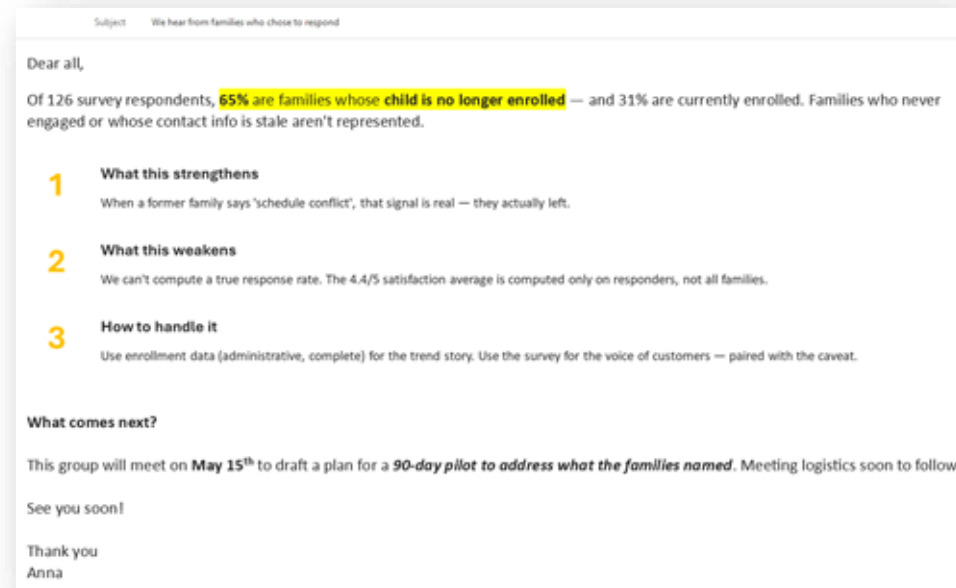
- The audience comes first — before the chart, before the analysis
- Same data does not mean same story
- Design for the next move, not your last analysis

Choosing the Right Presentation Format



04

Email for Quick Insights & Next Steps



Description: A narrative-style format delivered via email, often with embedded visuals or links to supporting materials.

Audience: Internal teams, project stakeholders, or clients.

Key Traits:

- **Conversational Tone:** Can include context, background, and analysis in a readable form.
- **Efficient Distribution:** Easily sent to targeted or broad audiences with minimal friction.
- **Action-Oriented:** Often includes next steps, recommendations, or calls to action.
- **Use Cases:** Project updates, status reports, informal data insights, announcements with data.

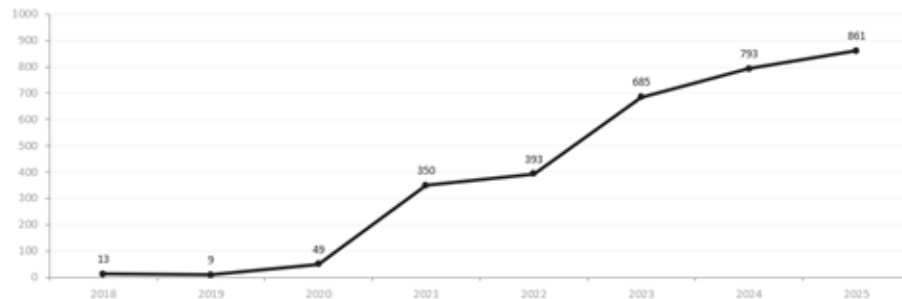
04

Single Slide for Essentials



Total enrollment has grown every year since 2020.

From 49 enrollments in 2020 to 861 in 2025 — including +8.6% growth in the most recent year.



Description: A concise, one-page summary that presents the most essential insights or recommendations at a glance.

Audience: Executives, senior leadership, or anyone needing a quick update.

Key Traits:

- **Highly Visual:** Prioritizes clarity with minimal text and impactful visuals.
- **Strategic Summary:** Focuses on the “so what” — key insights, decisions, or outcomes.
- **Standalone:** Designed to be understood without additional context or narration.
- **Use Cases:** Executive briefings, high-level updates, key takeaways from a longer report or project.

04

Slide Deck for Strategic Updates

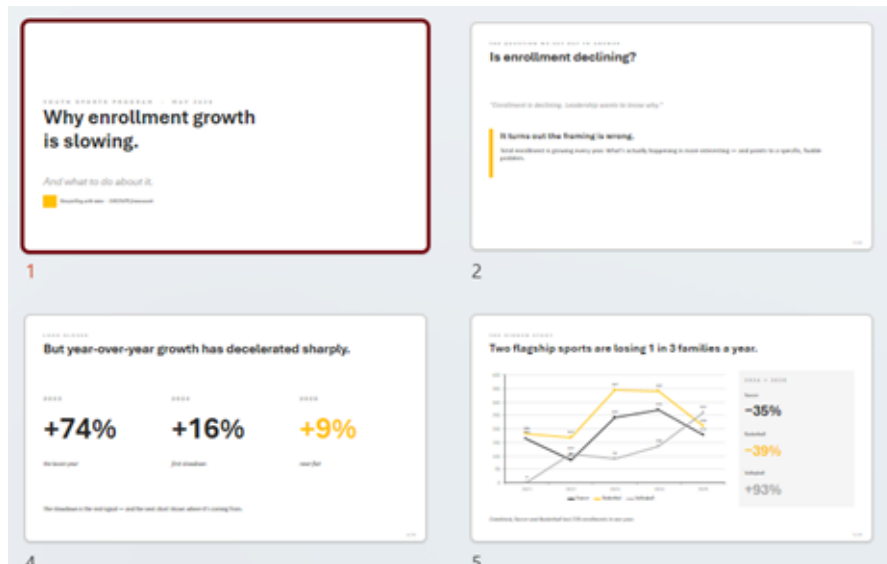


Description: Multi-slide deck intended for independent viewing or with a live presenter.

Audience: Internal (training, updates), or external information sharing.

Key Traits:

- **Self-Explanatory:** Designed to be understood with or without narration.
- **Detailed:** Offers structured storytelling, often using a mix of visuals and explanatory text.
- **Asynchronous-Friendly:** Suitable for sharing via email or platforms for on-demand review.
- **Use Cases:** Workshops, strategic updates, performance reviews, storytelling with data.



04

Dashboard for Self-Service



Description: An interactive, visual interface that displays key data points and insights in real-time or near-real-time.

Audience: Internal (executives, managers, analysts) or external (clients, stakeholders, public users).

Key Traits:

- **Interactive:** Allows users to filter, drill down, and explore data based on their needs.
- **Data-Rich but Digestible:** Visual encoding (charts, graphs, KPIs) prioritizes clarity and actionability.
- **Self-Service:** Empowers users to answer their own questions without needing a report request.
- **Use Cases:** Business intelligence reporting, operational tracking, campaign monitoring.



04

Main Takeaway

DECLUTTER SO YOUR AUDIENCE'S BRAIN DOESN'T HAVE TO WORK HARD

- The audience comes first (before the chart, before the analysis)
- Same data does not mean same story
- Design for the next move, not your last analysis

MODULE 05

Incorporating the Basic Parts of the Narrative Arc

The three main parts adapted for data.



30 MIN

05

Amelia Parnell on Data as a Conversation Starter



Image sourced from: <https://kystudentsuccess.org/advisory-group/>

Video created by Anna Kourouniotis using a short clip from the original podcast

Amelia Parnell, Cynthia Golden and Jack Suess Thursday, September 29, 2022

EDUCAUSE & The Integrative CIO Leadership and Professional Learning, Season 1, Episode 10

Access full podcast here: <https://er.educause.edu/podcasts/educause-and-the-integrative-cio/amelia-parnell-on-data-as-a-conversation-starter>

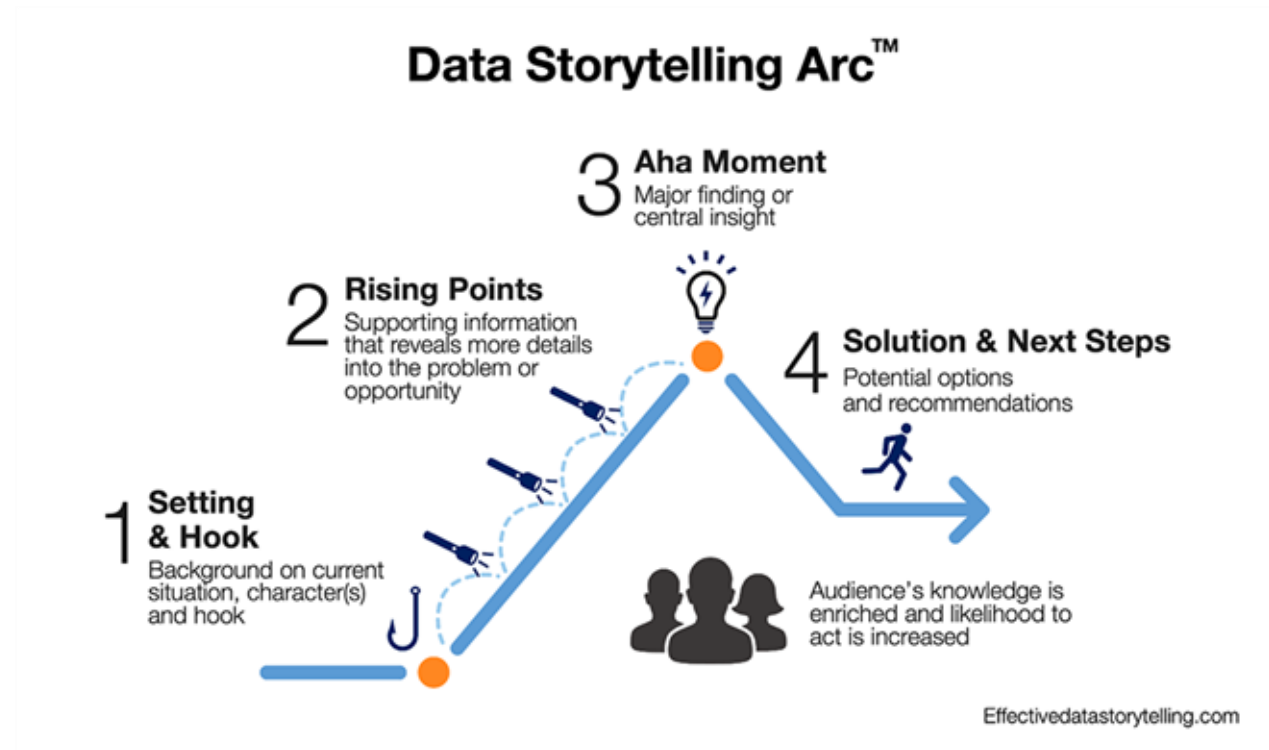
05

“Mastering narrative structure lets you organize your analysis findings into meaningful flows that resonate with your audiences.”

-
- BRENT DYKES

05

The Data Storytelling Arc™



05

The Simple Arc Adapted for Data



05

Set the scene. Anchor the question.

Beginning

(context + situation)

IN OUR PHD STORY

Leadership is concerned that female enrollment in PhD programs has been declining.

WHAT MAKES A STRONG BEGINNING

- **The plot**
Explain the original concern, set the stage.
- **Stakes they care about**
Connect to a decision, a budget, a board meeting — something real.
- **A scenario they recognize**
Familiar framing buys you trust before any chart appears.

■ **Coming up in DISCOVER • Stage D — Define the Problem**

05

Raise the tension. Reveal the surprise.

Middle (insights)

IN OUR PHD STORY

We compiled the numbers and average enrollment has grown in most programs but...

WHAT MAKES A STRONG MIDDLE

- **It contradicts the premise**

The data should bend the original question, not just confirm it.

- **The audience is curious**

If nobody leans forward here, you don't have a middle — you have a memo.

■ **Coming up in DISCOVER • Stages S — Scrutinize & C — Choose Your Story**

05

Land the insight. Name the action.

Middle

(major finding)

IN OUR PHD STORY

Enrollment in programs a + b rose then plateaued at n% in 2025.

WHAT MAKES A STRONG MIDDLE**■ A specific pattern**

Vague trends are forgettable. Name a number, a program, a year.

■ ***Coming up in DISCOVER · Stages O — Organize & E+R — Engineer & Reflect***

05

Land the insight. Name the action.

End
(recommendation)

IN OUR PHD STORY

***Run diagnostics in the two programs
before the next admissions cycle.***

WHAT TO INVESTIGATE NEXT

■ A specific recommendation

Track female share at each stage — apply, admit, accept, persist, complete.

Compare with national field data (NSF) and peer programs.

Exit and stay interviews surface the hypotheses; a survey then sizes them.
Include those who left and those who never applied.

■ Coming up in DISCOVER • Stages O — Organize & E+R — Engineer & Reflect

05

You will build a different final story later...

05

When you pick the number, you pick the story.

THE HEADLINE WE WANT TO RUN

+156%

Engineering female PhDs, 2012 → 2021 (9 → 23)

***“Women are surging in Engineering.
Mission accomplished.”***

WHAT WE QUIETLY OMITTED

Chemistry
female share fell 17 points **58% → 41%**

Computer Science
female share fell to zero **11% → 0%**

The “Big Idea”

THE DECLINE

57%

What overall enrollment fell by in the last three years.

THE COMPOSITION

77%

Of the drop in enrollment is from non-History majors like Public Health and Pre-Health. History major enrollment is stable.

SURVEY FINDING 1

98

of students who added HIST218 to their registration cart but never enrolled.

SURVEY FINDING 2

4/5

Average interest in the course

SURVEY FINDING 3

88%

Respondents who are non-majors

SURVEY FINDING 4

- 1. Scheduling conflict**
- 2. Offered only in the Fall**

Top reasons for not enrolling

05

Main Takeaway

USE NARRATIVE STRATEGIES TO DESIGN WHAT YOUR AUDIENCE NEEDS

- Structure is the story
- Scaffolding turns charts into communication
- Every headline hides something
- Articulate your story using the “Big Idea”

Looking Ahead

DISCOVERY framework



5 MIN

05

Let's DISCOVER Together!

A PREVIEW

Part 2

The DISCOVER Mapping



MODULE 01

Quick Review of Foundations & the DISCOVER Framework

10 MIN

Let's Remember Together!

- Structure is the story
- Same data does not mean same story
- Articulate your story using the “Big Idea”
- The audience comes first (before the chart, before the analysis)
- Same data does not mean same story
- Every headline hides something
- Design for your audience (reduce clutter, increase white space, resist the urge to use all the colors, choose the right chart)

The “Big Idea” Worksheet (START)

■ WHO IS YOUR AUDIENCE?

- 1) List the person/people you will communicate to.
- 2) What does the audience care about.?
- 3) What action do they need to take?

■ WHAT IS AT STAKE?

- 1) What are the benefits if your audience acts upon what you inform them about?
- 2) What are the risks if your audiences does not act?

■ FORM YOUR BIG IDEA

- 1) Articulate the point.
- 2) Convey what is at stake.
- 3) Form a complete and single sentence.

The “Big Idea”

THE DECLINE

57%

What overall enrollment fell by in the last three years.

THE COMPOSITION

77%

Of the drop in enrollment is from non-History majors like Public Health and Pre-Health. History major enrollment is stable.

SURVEY FINDING 1

98

of students who added HIST218 to their registration cart but never enrolled.

SURVEY FINDING 2

4/5

Average interest in the course

SURVEY FINDING 3

88%

Respondents who are non-majors

SURVEY FINDING 4

1. **Scheduling conflict**
2. **Offered only in the Fall**

Top reasons for not enrolling

The “Big Idea” Worksheet (ONE ITERATION 1/3)

■ WHO IS YOUR AUDIENCE?

- 1) List the person/people you will communicate to. The History Department chair and the curriculum/scheduling committee (the people who control when and how often HIST 218 is offered and how it's described in the catalog).
- 2) What does the audience care about? Healthy enrollment, efficient use of faculty time, the course's value to the major and across campus, and not losing the cross-listed students who help justify the course.
- 3) What action do they need to take? Move HIST 218 out of the once-a-year, fall-only morning slot; add or alternate a second offering at a non-conflicting time, and rewrite the catalog/syllabus copy to show it satisfies the gen-ed and counts as an elective for other majors.

The “Big Idea” Worksheet (ONE ITERATION 2/3)

■ WHAT IS AT STAKE?

- 1) What are the benefits if your audience acts upon what you inform them about? Recover the non-major audience (who rate the topic 4.0/5), rebuild total enrollment toward its 76-student peak, and strengthen the course's standing without changing its content.
- 2) What are the risks if your audiences does not act? Continued decline: non-major enrollment is already down 77% and total is down 57%. This leaves a course that's increasingly just its ~20 required majors, and any fix waits a full year because it runs only once.

The “Big Idea” Worksheet (ONE ITERATION 3/3)

■ FORM YOUR BIG IDEA

HIST 218 doesn't have a demand problem but an access problem because every lost seat is a non-major shut out by a fall-only schedule, and unless we change the format we'll keep losing the students who once filled half the room.

OR



Expanding access to HIST 218 would reach students currently shut out by the fall-only schedule.

MODULE 02

Problem Walkthrough & Presentation

05



45 MIN

Let's Dive Into the DISCOVER Framework

THIS NEXT PART WILL BE DISCUSSED INSIDE THE EXCEL AND POWERPOINT FILES



DISCOVER_Framework

Big_Idea_Build_Guid
e_and_Blurb_HIST21
8



DISCOVER_Workshop_Cours
e_Enrollment

Course_Enrollment_and
_Survey_Data



One-Slide Story

Anna's One-Slide Story Reveal



One-Slide Story

MODULE 03

Wrapping Things Up

Mostly Q&A and reflection

05

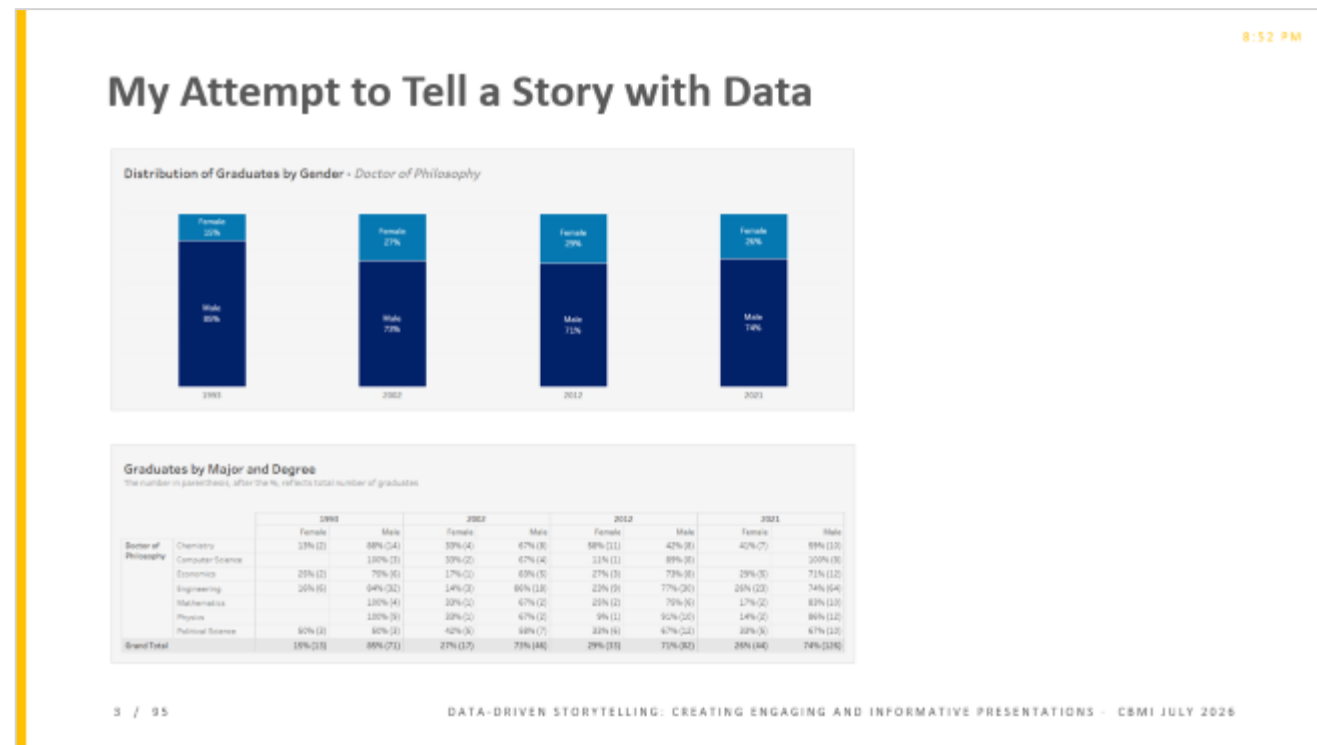


20 MIN

A Framework You Can Use With Any Software

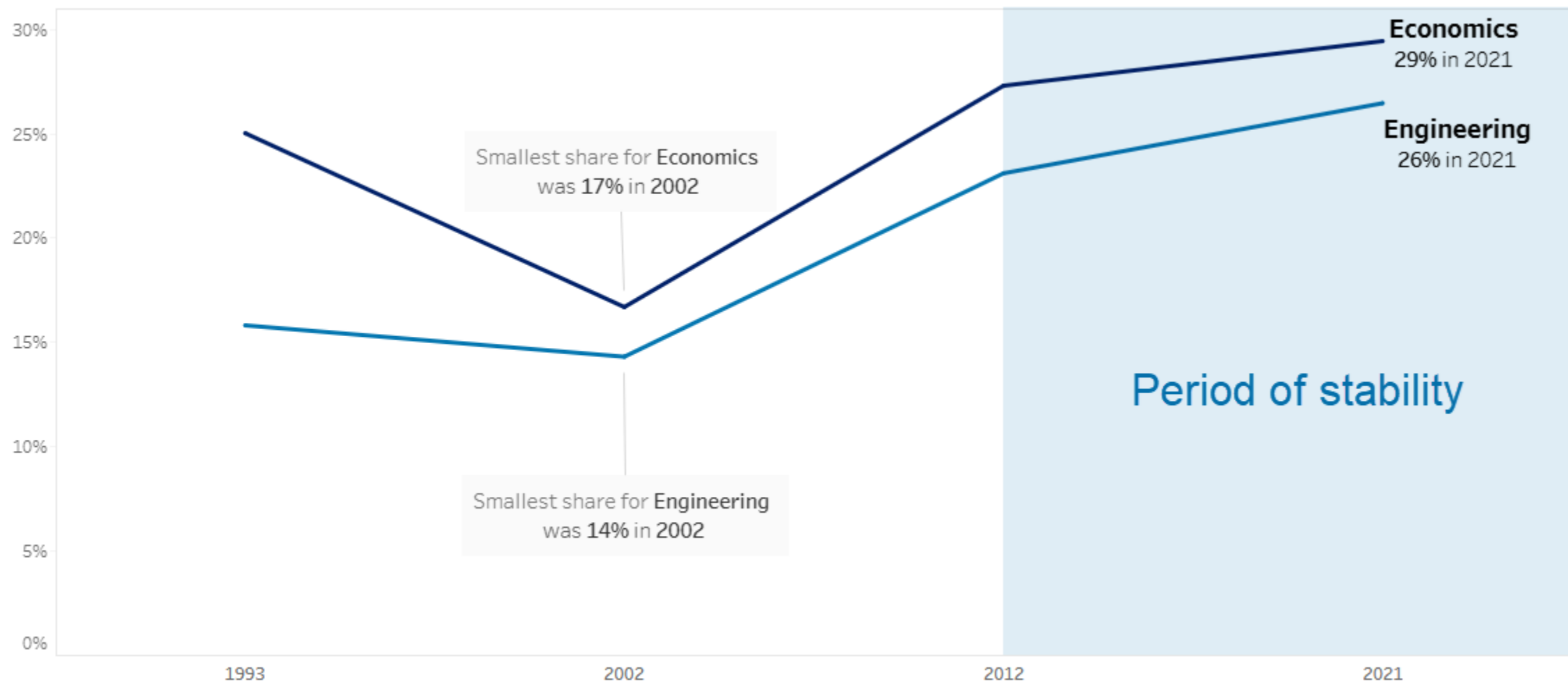
- Start with the audience and the question, not the data.
- Know your data's limits before drawing conclusions.
- Bias is the most skipped and most important step.
- You can't tell every story — choose one.
- Visuals are communication decisions, not design decisions.

What Will Your Next Story Be?



Female PhD Representation in **Economics** and **Engineering** Has Held **Steady** for Nearly a Decade.

From the lowest recorded representation in 2002 to a steady 29% and 26% by 2021 — and holding.



THANK YOU

Let's Keep the
Conversation Going.

END

LINKEDIN

linkedin.com/in/anna-kourouniotis

SUBSTACK

substack.com/@annakourouniotis

YOUTUBE

[@annascuppdata](https://youtube.com/@annascuppdata)



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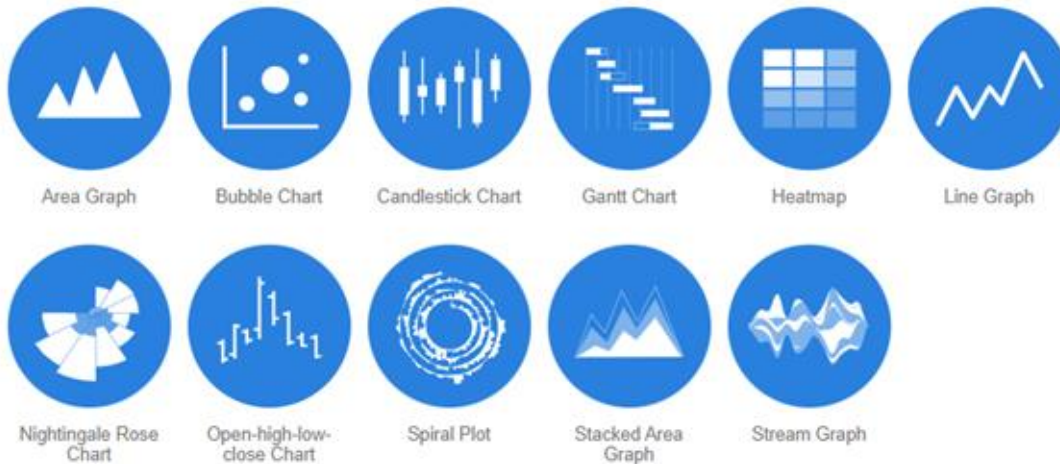
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03

The following slides include examples of re-worked charts using some of the design elements we discussed

03

Show Change Over Time



What to show

- Data over a time period to find changes or trends over time.

Example

- Line Graph

Caveat

- More than 4 lines adds clutter; harder to read.

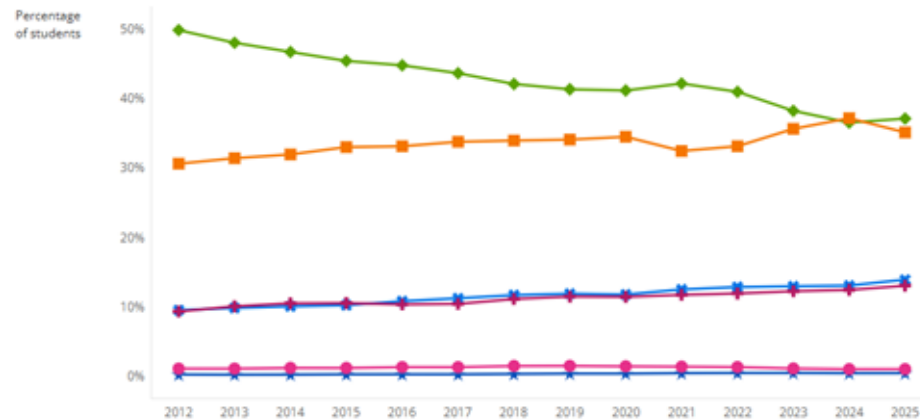
Solution

- Divide chart into smaller multiples, i.e. one line graph for each series.

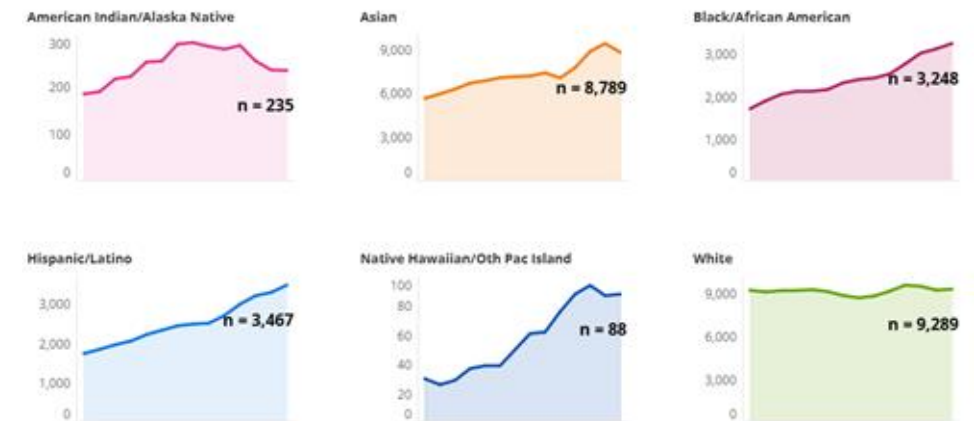
03

Line Graph Alternative: Small Multiples

Original: too many lines

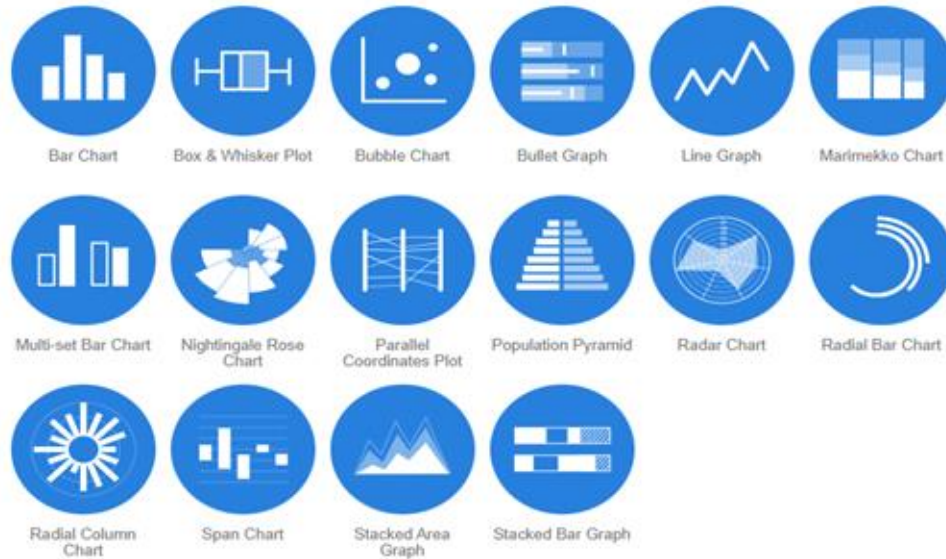


Alternative: small multiples



03

Comparison



What to show

— Differences or similarities between data values.

Example

— Clustered or Stacked bar chart.

Caveat

— The more bars the harder to read.

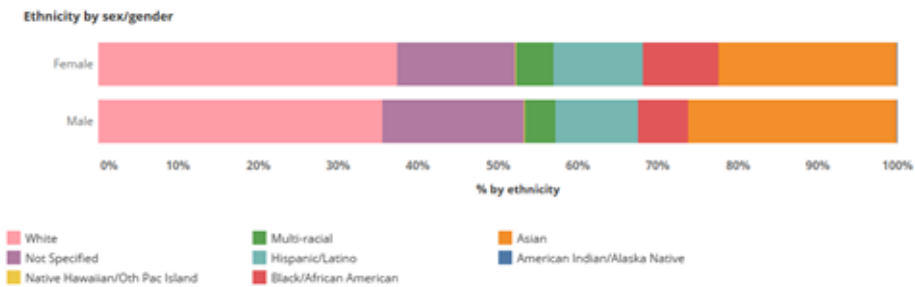
Solution

— Limit the number of bars per group.

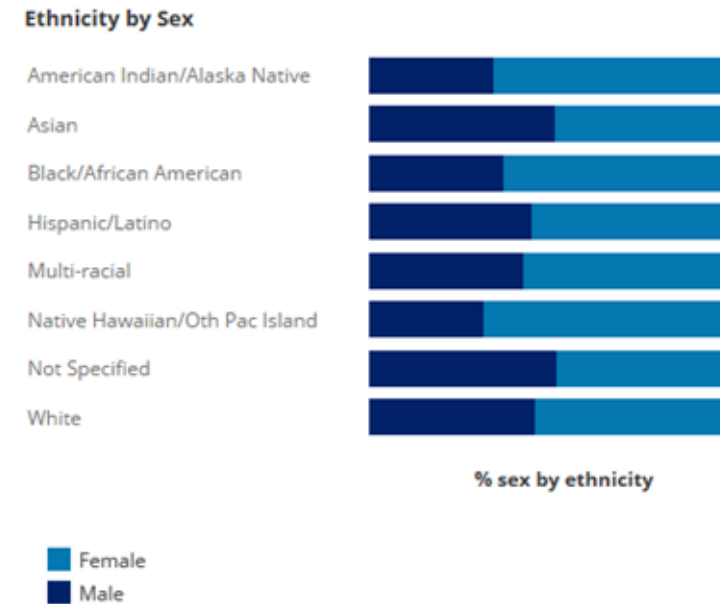
03

Stacked Bar Alternative: fewer bars

Original: too many bars



Alternative: two bars



03

Flow



Connection Map



Flow Map



Parallel Sets



Sankey Diagram

What to show

- Movement of or the flow of data.

Example

- Sankey chart.

Caveat

- Can get overwhelming or confuse users especially without clear annotations or context.

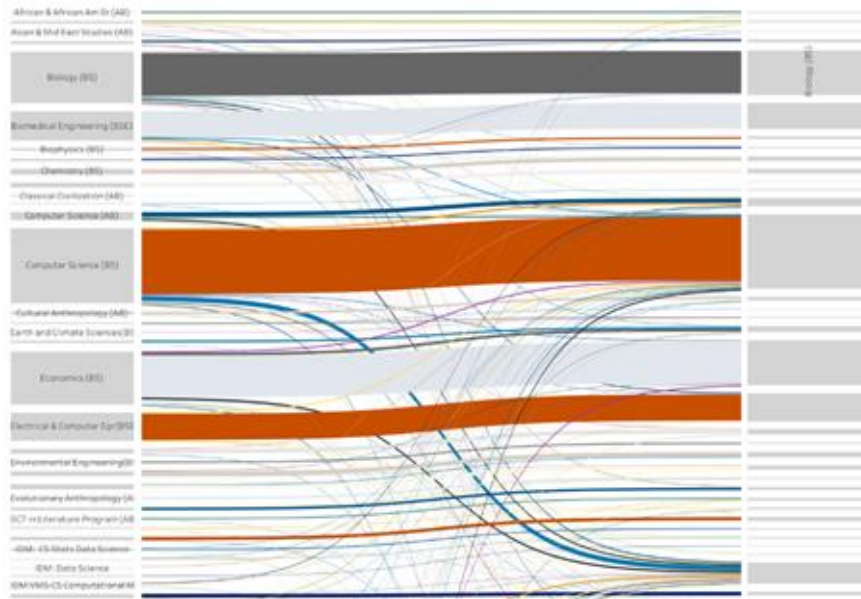
Solution

- Add clear labels, reduce the number of flows and use color thoughtfully.

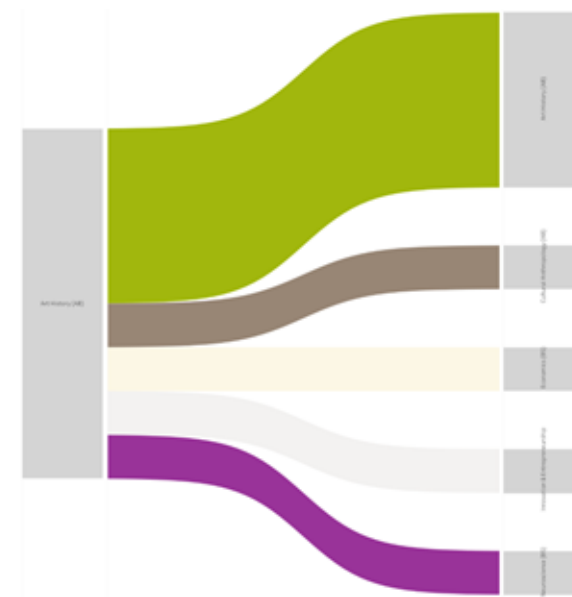
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Sankey Alternative: pre-filter what shows

Original: shows all flows

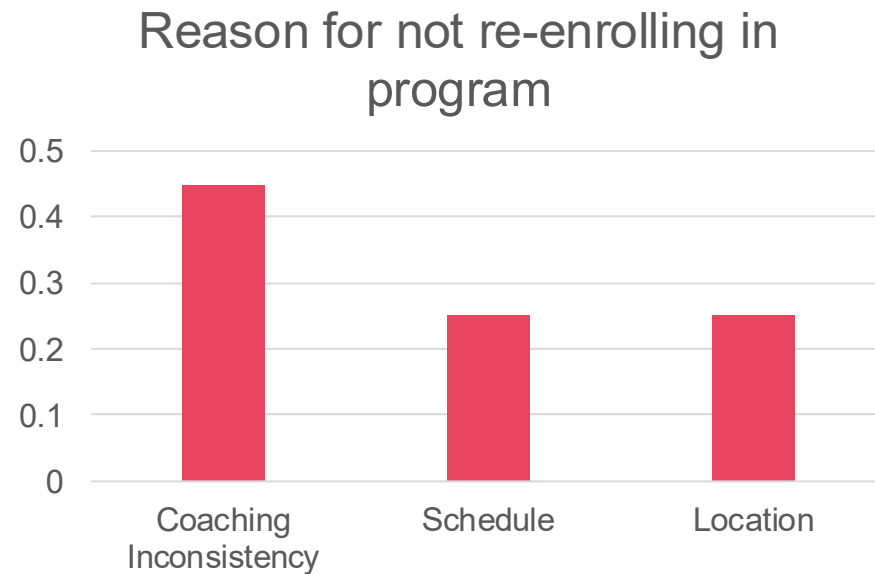


**Alternative: shows limited flows
(reducing audience cognitive load)**



03

Simple Text: keep it simple



45%

of **program participants** say that coaching inconsistency is the main reason they don't re-enroll