Storytelling with Data

Module 11: Infographic wrap-up; ideas on presentations

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Agenda

Upcoming deliverable

Today’s objectives

Present infographics

Communication with presentations

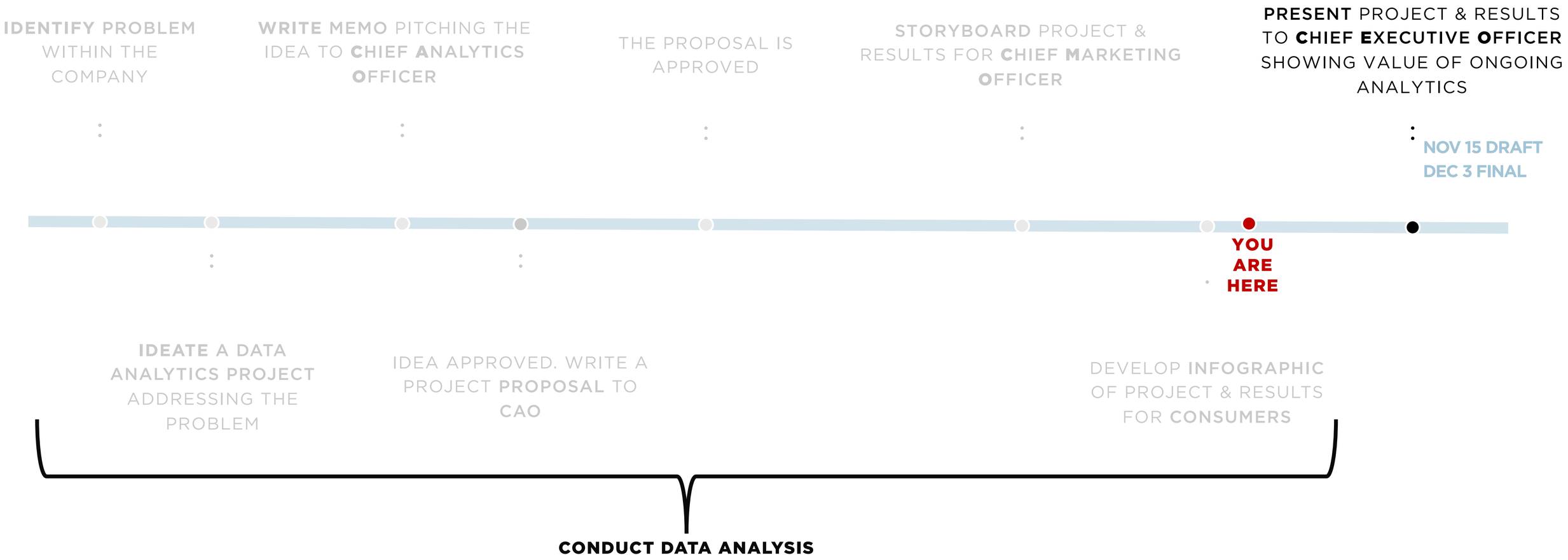
Lessons learned on infographics

Questions or suggestions?

Upcoming deliverables

Upcoming deliverables

Persuasive presentation to CEO — tell the story of the analytical project that was pitched in the memo and proposal and communicated with consumers in the storyboard and infographic assignments to convince the CEO to invest further in analytics.



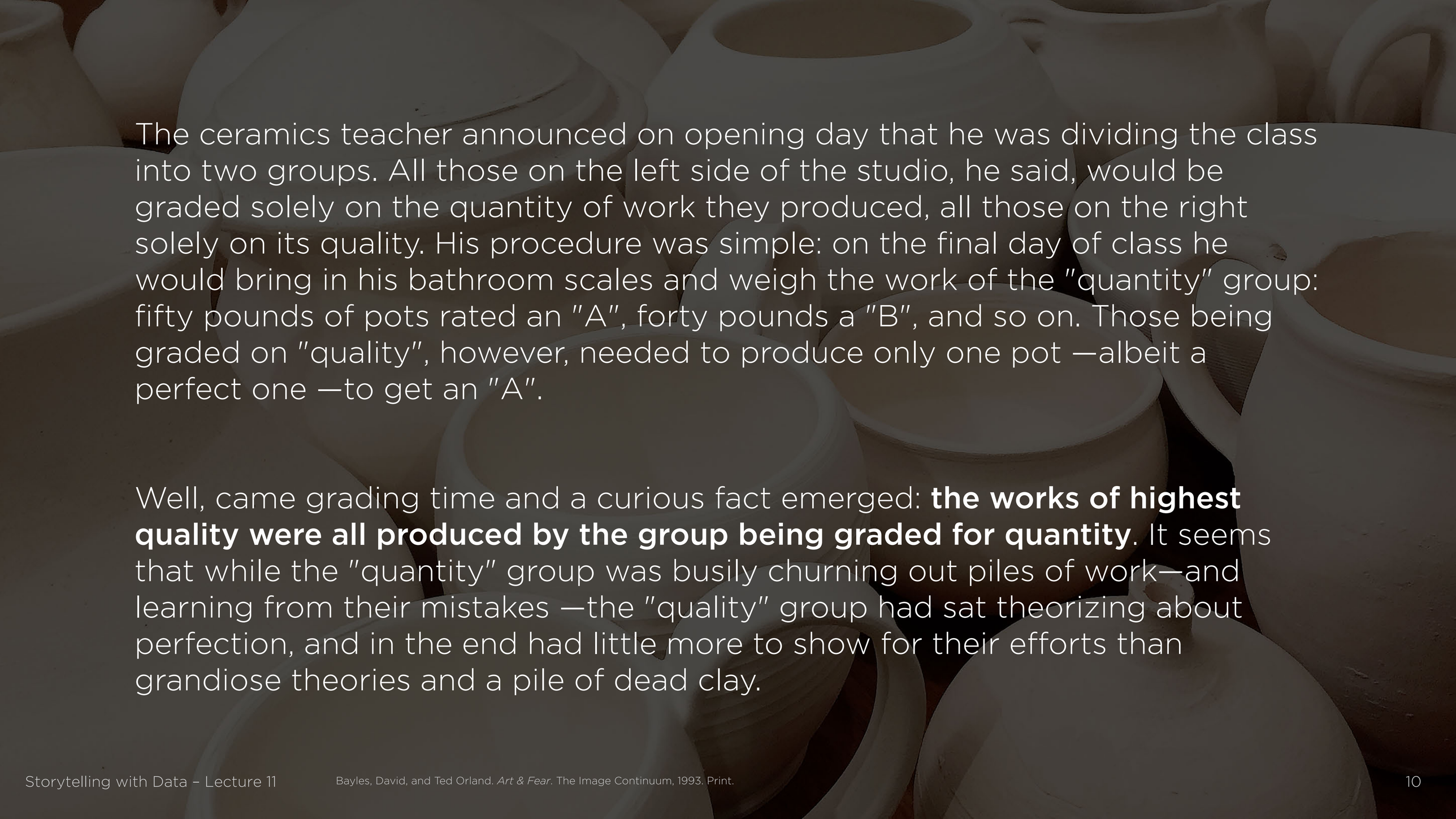
Today's Objectives

Objectives

1. Use active listening techniques to advance analytical projects.
2. Use verbal communication tools to connect with an audience.
3. Employ effective body language when working in team settings or presenting to a group.

Short presentations: explaining infographics

An iterative approach to preparing communications



The ceramics teacher announced on opening day that he was dividing the class into two groups. All those on the left side of the studio, he said, would be graded solely on the quantity of work they produced, all those on the right solely on its quality. His procedure was simple: on the final day of class he would bring in his bathroom scales and weigh the work of the "quantity" group: fifty pounds of pots rated an "A", forty pounds a "B", and so on. Those being graded on "quality", however, needed to produce only one pot —albeit a perfect one —to get an "A".

Well, came grading time and a curious fact emerged: **the works of highest quality were all produced by the group being graded for quantity**. It seems that while the "quantity" group was busily churning out piles of work—and learning from their mistakes —the "quality" group had sat theorizing about perfection, and in the end had little more to show for their efforts than grandiose theories and a pile of dead clay.

Bayles, David, and Ted Orland. *Art & Fear*. The Image Continuum, 1993. Print.

Design is a search problem

Bostock

He is former graphics editor at the New York Times and inventor of the ubiquitous JavaScript library for interactive graphics: D3.js

Get fresh eyes frequently; invite criticism

You are too close to critique your own work well. Evaluation requires an external perspective. Conduct ad hoc user tests. Does your visualization communicate? Is your interface intuitive? Verbalize what does and does not work.

Prototypes should emphasize speed over polish

It needn't look good, or even have labels. Make just enough to evaluate the idea. Then decide whether to go straight or turn. Identify the intent of the prototype. What hypothesis are you testing?

From exploring to refining

Transition from exploring to refining near deadline:

Delete code as you go. Be ruthless.

Make your process reproducible.

Try bad ideas deliberately.

Don't be afraid to fail.

Bostock, Mike. *Design is a search problem*. OpenViz Conference. 2014. Web video. https://youtu.be/fThhbt23SGM

Joe Biden, in Video, Says He Will Be 'More Mindful' of Personal Space

Senate Republicans Go 'Nuclear' to Speed Trump Confirmations

Subpoena for Mueller Report and Documents Approved by House Judiciary Committee

House Intelligence Committee Seeks Documents From Trump's Inaugural

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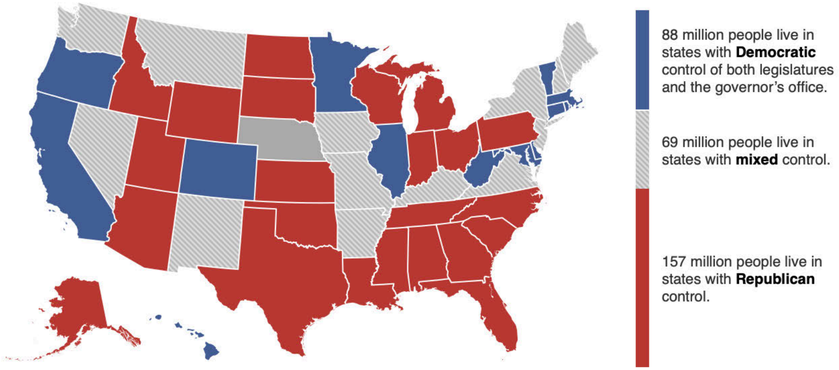
POLITICS | ONE-PARTY RULE

SHARE

Taking the Battle to the States

By **HAEYOUN PARK**, **JEREMY ASHKENAS** and **MIKE BOSTOCK** JAN. 11, 2014

Republicans or Democrats have single-party control of both the legislature and the governor's office in 36 states, the most in six decades. Lawmakers in these states have been seeking to reshape government policy in recent years, from legalizing same-sex marriage to restricting labor unions. Some of these laws were passed after the rapid rise of single-party control in 2010; others have been in place for years. Below is a look at where states stand on some key issues.



Abortion

Twenty-two states — all but six controlled by Republicans — enacted 70 abortion restrictions in 2013, according to the Guttmacher Institute, a research group. Laws ranged from bans on abortions 20 weeks after fertilization to limitations on insurance coverage of abortions.

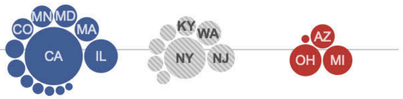
Did not pass new restrictions in 2013

Passed new restrictions in 2013

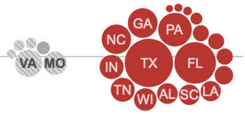
Medicaid

A 2012 Supreme Court decision allowed states to decide whether to expand Medicaid to more low-income adults under the Affordable Care Act. All 13 Democratic states have expanded the program. Most Republican states did not. Pennsylvania, Indiana and Tennessee have not expanded it but may do so.

Expanded Medicaid



Have not expanded at this time



Park, Haeyoun. Ashkenas, Jeramy. Bostock, Mike. *Taking the Battle to the States*, NY Times. 4 Jan 2014. Web. https://www.nytimes.com/interactive/2014/01/11/us/politics/who-controls-the-states-and-where-they-stand.html

The New York Times SPORTS

Published: November 30, 2013

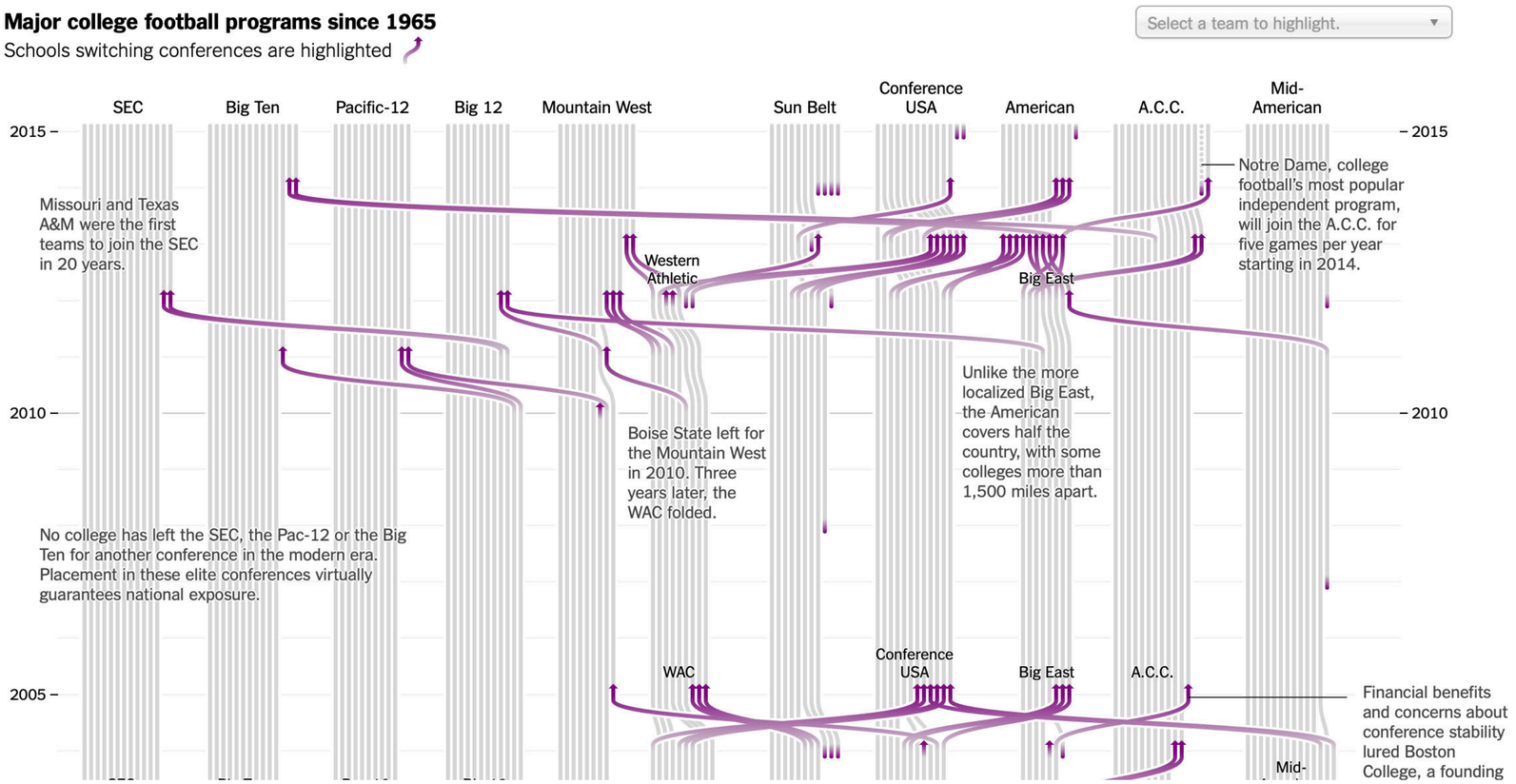
Tracing the History of N.C.A.A. Conferences

By MIKE BOSTOCK, SHAN CARTER and KEVIN QUEALY

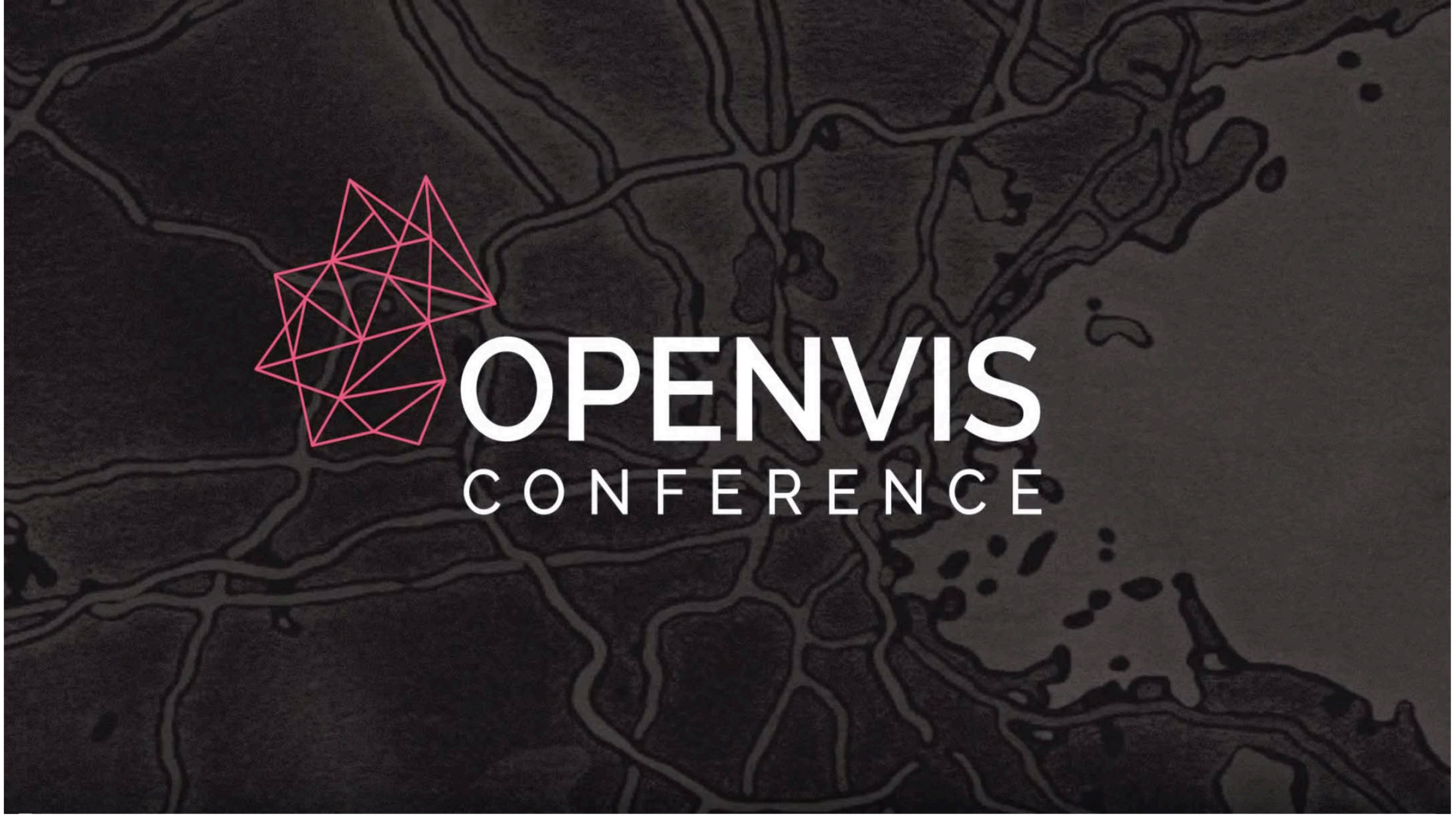
A frenzy of realignment has transformed college athletics: about one in four major football programs has switched conferences since 2010. The effects are only starting to play out as programs build new infrastructure to televise and market their programs, especially in up-and-coming conferences. As conferences have become essential to stay competitive, the number of unaffiliated major schools has declined sharply. Here, how major college football programs have shifted since 1965.

Major college football programs since 1965

Schools switching conferences are highlighted

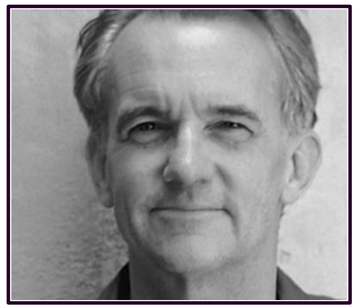


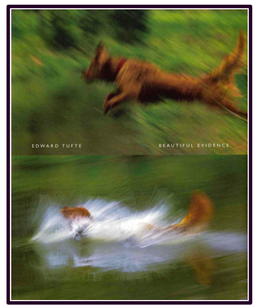
Bostock, Mike. Carter, Shan. Quealy, Kevin. *Tracing the History of N.C.A.A. Conferences*, NY Times. 30 Nov 2013. Web. http://www.nytimes.com/newsgraphics/2013/11/30/football-conferences/index.html



Bostock, Mike. *Design is a search problem*. OpenViz Conference. 2014. Web video. https://youtu.be/fThhbt23SGM

Thoughts on presentations





The cognitive style of PowerPoint, in Beautiful Evidence

Tufte

Hailed ”The Leonardo da Vinci of data” by the New York Times. He is professor emeritus of Political Science, Statistics, and Computer Science at Yale University.

His claim

PowerPoint, compared to other common presentation tools, **reduces the analytical quality** of serious presentations of evidence.

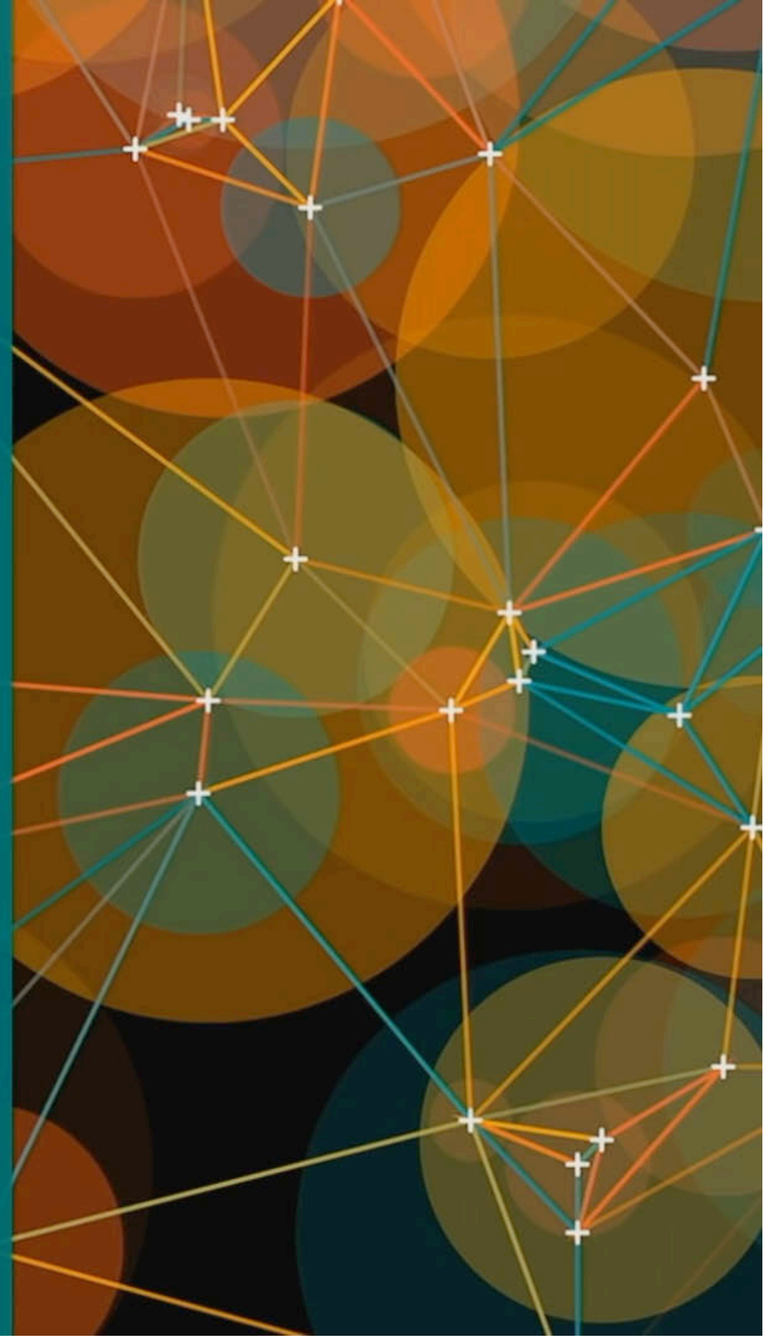
This is especially the case for the PowerPoint ready-made templates, which **corrupt statistical reasoning, and often weaken verbal and spatial thinking**.

Is he recommending we avoid presentations?

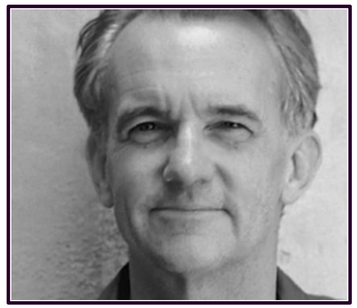
Tufte, Edward R. “The Cognitive Style of PowerPoint: Pitching Out Corrupts Within.” Beautiful Evidence. Graphics Press, 2006. 1–28. Print.

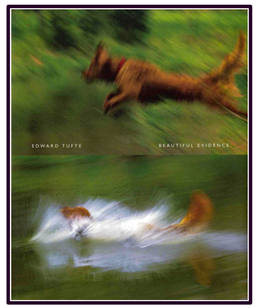
Microsoft

Microsoft Machine Learning & Data Science Summit



Tufte, Edward R. The Future of Data Science. Microsoft Machine Learning & Data Science Summit 2016 Keynote Session. YouTube. https://youtu.be/rHUDJ8RyseQ





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Poor defaults

There are better tools for doing business analysis than reading aloud from bullet lists.

Low resolution forces sequenced, not spatial, review

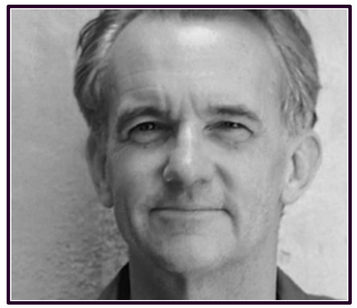
Slides are very **low resolution** compared to paper, most computer screens, and the immense visual capacities of the human eye-brain system.

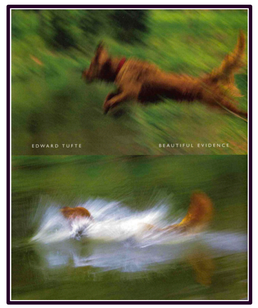
With little information per slide, many slides are needed. **Information stacked in time makes it difficult to understand context and evaluate relationships**.

Show comparisons adjacent in space

Visual reasoning usually works more effectively when the **relevant evidence is shown adjacent in space** within our eye span. This is **especially true for statistical data, where the fundamental analytical task is to make comparisons**.

Tufte, Edward R. "The Cognitive Style of PowerPoint: Pitching Out Corrupts Within." Beautiful Evidence. Graphics Press, 2006. 1–28. Print.





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Use the right tool for the information

Many true statements are too long to fit on a slide, but this does not mean we should abbreviate the truth to make the words fit. It means we should find a better tool to make presentations.

Increase data-ink on slides too, within reason

While PowerPoint is a competent slide manager, too often the images are content-free clip art, the statistical graphics don 't show data, and the text is grossly impoverished.

Alternate approaches

Consider distributing a well-prepared technical report before the meeting, and "following the reading period, the presenter might provide a guided analysis of the briefing paper and then encourage and perhaps lead a discussion of the material at hand."

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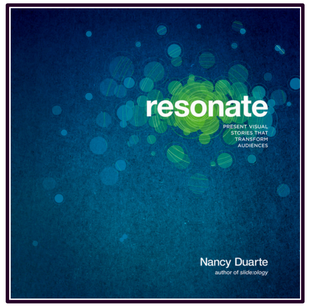


There's always room to improve, in Resonate

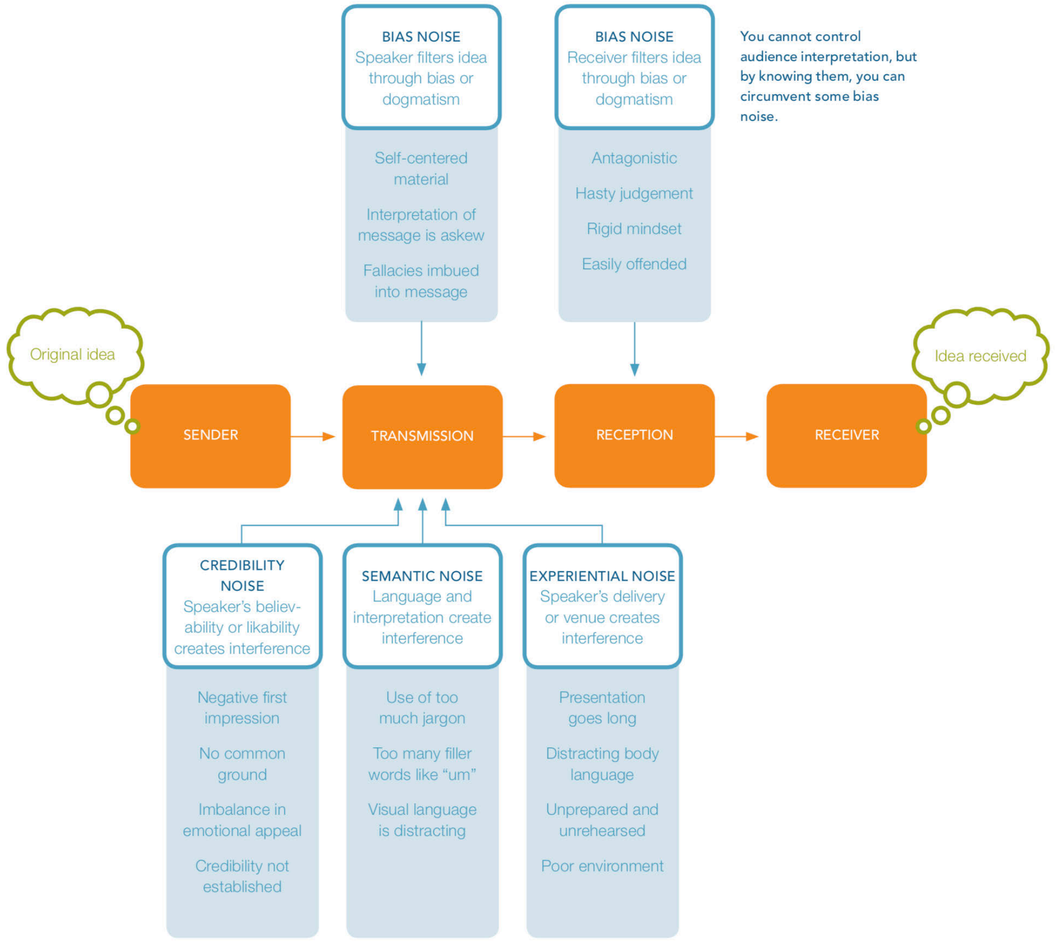
Duarte

Duarte is known for her work with Vice President Al Gore on the award-winning documentary slide show known as An Inconvenient Truth.

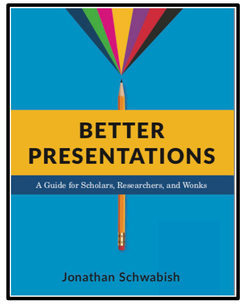
Focus the message

Remember Doumont's second law of communication?

Maximize signal, minimize noise:



Duarte, Nancy. Resonate: Present Visual Stories That Transform Audiences. Wiley, 2010. Print.



Better Presentations: A Guide for Scholars, Researchers, and Wonks

Schwabish

He is a senior research associate at the Urban Institute's Income and Benefits Policy Center. He is also a member of the Institute's communication team, specializing in data visualization and presentation design. He has published widely in various journals.

Concepts

Designing your presentation

Building your presentation

Giving your presentation

Starting questions

What type of presentation are you giving?

Who is your audience?

What is the headline message?

What do you want your audience to do with your conclusions?

What is your opening statement? Focus on conclusions

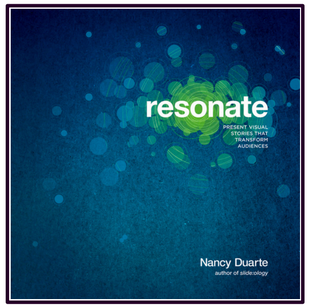
What is your closing statement? Get your audience to embrace and act on your message

What are the sections of your presentation?

What stories can you tell?

What graphs and images can you use?

Schwabish, Jonathan. *Better Presentations: a Guide for Scholars, Researchers, and Wonks*. (2016): 1–200. Print.

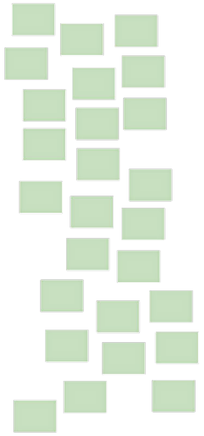


No single method or process works for all. Use whatever tools enable you to rearrange easily, add, and ~~remove~~ story components …

GENERATE IDEAS

Collect, create, and record as many ideas as possible.

FILTER DOWN

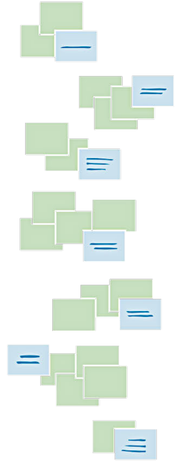


Filter down to the best ideas that support your big idea.

CLUSTER

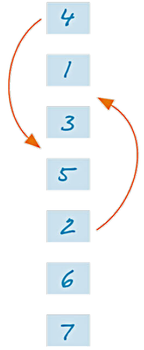
Cluster ideas by topic.

CREATE MESSAGES



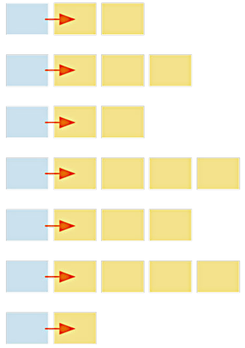
Turn topics into charged messages in the form of a sentence.

ARRANGE MESSAGES



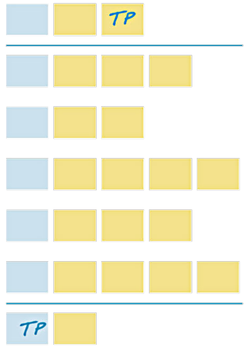
Place messages in an order that creates the most impact.

ADD SUPPORTING POINTS



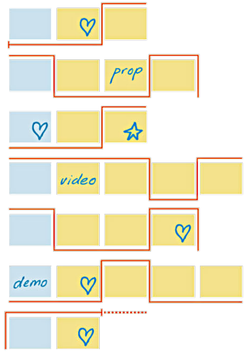
Each message needs supporting evidence in the form of slides.

STRENGTHEN THE TURNING POINTS (TP)



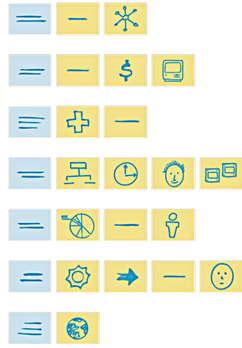
Get your acts together! Ensure you have a clear beginning, middle, and end with strong turning points.

VERIFY CONTRAST



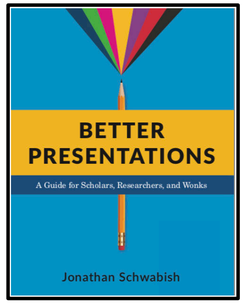
Validate the content contour, emotional contrast, and delivery contrast.

VISUALIZE MESSAGE



Once the message and the structure are final, turn the words into pictures.

Duarte, Nancy. *Resonate: Present Visual Stories That Transform Audiences*. Wiley, 2010. Print.



Better Presentations: A Guide for Scholars, Researchers, and Wonks

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He is a senior research associate at the Urban Institute's Income and Benefits Policy Center. He is also a member of the Institute's communication team, specializing in data visualization and presentation design. He has published widely in various journals.

Concepts

Designing your presentation

Building your presentation

Giving your presentation

Purpose of design: unify elements, focus attention

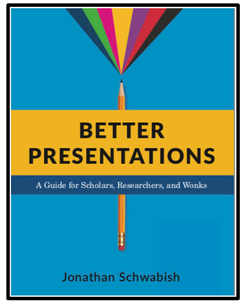
Employing good design techniques is about unifying the various elements on the screen and focusing your audience's attention on your important points so that they can decide whether or not to buy into your ideas.

Use color and type **to unify and focus**

Use **color** just as we've discussed—purposefully—for **linking** together text and graphics.

Size of minimum **type** for main content (c.f., footnotes, etc.) for readability from the back of the presentation room. Choose differences in size to reflect hierarchy of information. Use **white space** to organize and focus ideas.

Schwabish, Jonathan. *Better Presentations: a Guide for Scholars, Researchers, and Wonks*. (2016): 1–200. Print.



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Comprehension of text depends on amount and clarity

The difficulty for an audience to get the intended message depends on both amount of text and clarity of the words, phrases, and sentences chosen.

Best practices in graphs hold true in presentations, too

Consider what **specific message** you want your graph to show. This will let you **choose each attribute** (gridline, tick mark, data maker, data label, color, and other objects) to help the audience understand your message.

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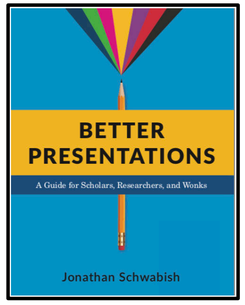

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With text and graphics, use layering to keep context and focus

The idea of layering is to use a progression of slides, each time keeping the previous information while defocusing it, and **layering in new context using color, type, and gestalt principles to shift focus**.

Images should support your message

Any images used should support your content and not be included merely for decorative purposes.

Consider full-bleed and background

With images in support of your message, such as to create emotion or context or example, consider making them full-bleed in the background, and adjust their crop or color to avoid interfering with main messages.

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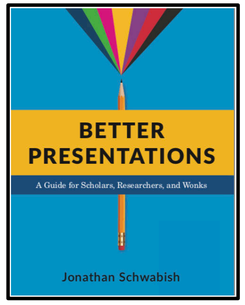

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Slides as guides and transitions:

Title
Agenda
Header
Breaker
Ending

The purpose of scaffolding slides is to **guide and focus** your audience's attention as you **transition from one section to another**, and to drive home important points.

They act as scaffolding because they ... **support the delivery of your messages**.

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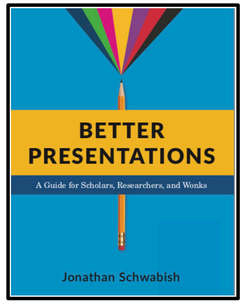

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Concepts

Designing your presentation

Building your presentation

Giving your presentation

Preparing means practicing,

and

practicing means speaking aloud

Practicing—or perhaps, better put, rehearsing—involves standing up, holding your presentation clicker, and speaking aloud.

It is not sitting at your desk and silently thinking about what you plan to say for each slide.

Speaking also allows you clarify your messages. Use your practice to adjust what reads awkward and remove or revise what doesn't make sense.

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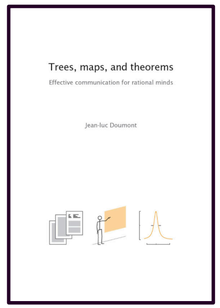


Effective oral presentations, in Trees, maps, and theorems

Doumont

An engineer from the Louvain School of Engineering and PhD in applied physics from Stanford University, Jean-luc Doumont wrote this book to help engineers, scientists, and managers with business communication.

First, develop interest and need

Attention getter — strives to draw everyone's attention to the topic as rapidly as possible by **relating the topic to audience concerns**.

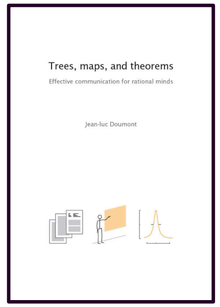
Need — motivates the audience by telling (or by reminding) them **why something had to be done**; closes in on a specific problem.

Task — identifies "who did what" in an effort to address the need; **situates the speaker with respect to the audience and to the topic**.

Main message — **states the main conclusion upfront**; also known as *thesis* or *take-home message*.

Preview — **announces the body's content**, suggesting how it helps support or develop the message just stated; also known as *outline*.

Heath, Chip, and Dan Heath. Making Your Presentation Stick. Random House, 2008. Print.



Effective oral presentations, in Trees, maps, and theorems

Doumont

An engineer from the Louvain School of Engineering and PhD in applied physics from Stanford University, Jean-luc Doumont wrote this book to help engineers, scientists, and managers with business communication.

Reveal your structure upfront, after getting interest

A presentation must do more than simply be well structured: it must make the structure and the underlying logic of this structure readily apparent to the audience.

Slides are for conveying messages, generally need text

Visual codings being in essence ambiguous, effective slides almost always include some text: **the message itself, stated as a short but complete sentence**. Besides the text statement, this message should be developed as visually as possible: this development should include only whatever words are necessary for the slide to stand on its own.

Heath, Chip, and Dan Heath. Making Your Presentation Stick. Random House, 2008. Print.

Sharing lessons on projects

Group discussion

What were some of the challenges you faced in creating your infographic?

How did your messages change as your audience changed from an internal audience to the public or customers?

Share with us the challenges you faced in organizing your narrative? If you tried a grid system, how did it help to anchor elements together?

What ideas from our discussion of color, lines, and typography did you find useful in linking your narrative elements to data?

How many drafts did you try before submitting your final version? What aspects differed more from your initial to final versions?

What aspect of your information graphic would you work on next?

What was your workflow and would it change when approaching your next information graphic?

Let’s look ahead

For Next Week, Module 12:

Agenda next week

Presentations **AND** peer review

The minimum

Catch up on any readings you missed, or go back and review them for better understanding.

As Einstein said, “any fool can know, the point is to understand.

Questions

As applied

What topics have you covered in other applied analytics courses that you are unsure of how to communicate?

See you next week!

Spencer, Scott. Jenga at Columbia. Illustration of Roy and Diana Vagelos Education Center. 24 Apr 2019.