



BranchED



Data Discovery: Harnessing Insight for Program Excellence

Summer Institute

June 11, 2025



Agenda



BranchED

Day 2

Welcome and Connector

Review

Making Data Speak

Team Time

Right People, Real Impact

Data with a Pulse

What Could Possibly Go Wrong?

Pause the Eyeroll, Let's Talk

Closing

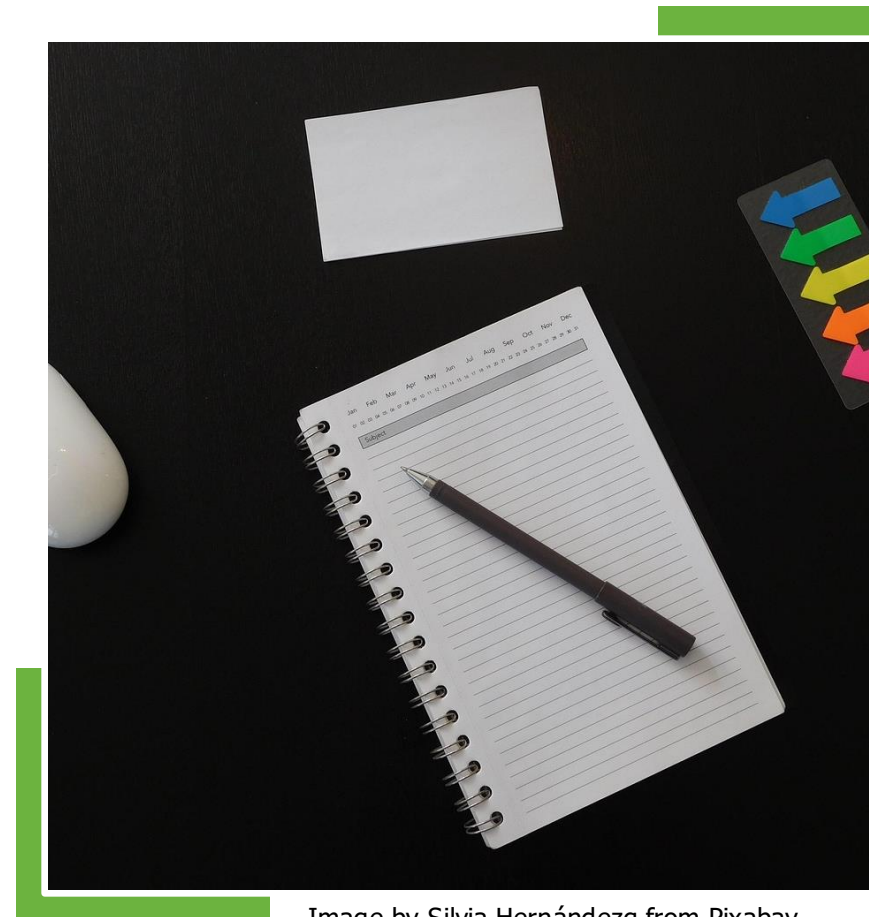


Image by [Silvia Hernándezg](#) from [Pixabay](#)

What feedback can you give us to help us improve tomorrow's sessions?

Stretch breaks

Just continue to be positive as you were today and we will be alright.

Get some rest.

Great start of the summit. Thank you!

N/A

Get some rest.

Everything is perfect

Climate control—loved today but it was a little chilly. If nothing can be done about climate perhaps another hot option besides coffee, may tea?

N/A

I'm having a great time and learning a ton. I've just been up since 2:30am and I'm tired. Thanks for the coffee!

N/A

The BranchED team is doing great! I love this engagement with data! Thank you

What feedback can you give us to help us improve tomorrow's sessions?

Continue providing a purpose for the work

When we are working on small groups keep music level volume lower so we can hear each other. I.e. the weather introductions today

N/A

N/A

Nothing much for improvement. It went well today. Thank you!

None at this time. I love the collaboration efforts of the team.

Not sure, today was very good

N/A

N/A

Everything has been wonderful.

None at this time. I enjoyed today's session. Thank you for having me!

Nothing comes to mind. I am looking at data from a different lense from other participants But data is data and these tools will apply to my situation.

What feedback can you give us to help us improve tomorrow's sessions?

I'm not sure at the moment. What I've experienced thus far has been really positive.

Include information about the usage of technology in education such as UDL and AI.

Continue the pace. Mixing the lecture with activities was helpful. Kept us engaged.

Today's session went well. It was very interactive, organized, and the activities were well planned. The instructors/facilitators did a great job.

Really great session! Nice examples to take back to my institution. Wanted time to work with our group to strategize.

I loved the session—this was my first time with BranchEd, and you did an excellent job! For tomorrow, just keep the same great energy and maybe add a few more interactive moments.

I loved the session—this was my first time with BranchEd, and you did an excellent job! For tomorrow, just keep the same great energy and maybe add a few more interactive moments.

Space...a bit more elbow room per table and between tables.

Access to paper/chart paper for activities that we complete at our tables

Thank you!

Move us around so we can be introduced to more people.

What feedback can you give us to help us improve tomorrow's sessions?

Continue the pace. Mixing the lecture with activities was helpful. Kept us engaged.

Today's session went well. It was very interactive, organized, and the activities were well planned. The instructors/facilitators did a great job.

Nothing. Keep things engaging

N/A

I loved the session—this was my first time with BranchEd, and they did an excellent job! For tomorrow, just keep the same great energy and maybe add a few more interactive moments.

Repeat directions to make sure that groups understand the requested tasks.

If possible add a little more working space at tables.

Move us around so we can be introduced to more people.

Maybe we could have broken into groups more than once. The rotation would allow us to have the same discourse with others on our topic



Learning Objectives: Day 2 AM



1

Explore and analyze data sets to identify key trends or anomalies, build comfort with data manipulation, and create visual representations of varied data.

2

Analyze disaggregated performance data to uncover disparities in outcomes and consider how structural factors may contribute to those differences, guiding more inclusive and responsive practices.

3

Engage in collaborative discussions to align preparation efforts with district hiring needs and begin developing data-informed strategies to strengthen the teacher pipeline and address current and future workforce demands.



Data Visualizations



BranchED

Major Chart Type Categories

Overall, what percentage of students passed the exam?

Where are students' strengths and challenges?

How has performance (overall passing score and by domain) differed in previous years?





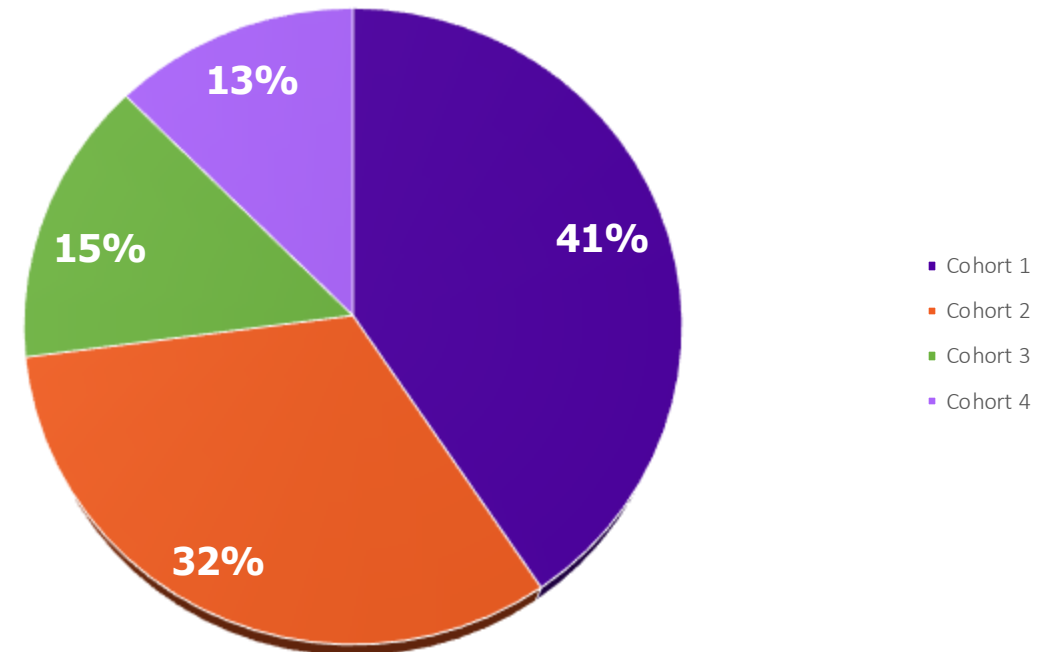
Show Composition

Example: What Not to Do



	NOT PASSED	PASSED
Cohort 1	32%	68%
Cohort 2	35%	65%
Cohort 3	39%	61%
Cohort 4	43%	57%
Total	36%	64%

Cohort Pass Rate - Disaggregated





Show Composition

Better...

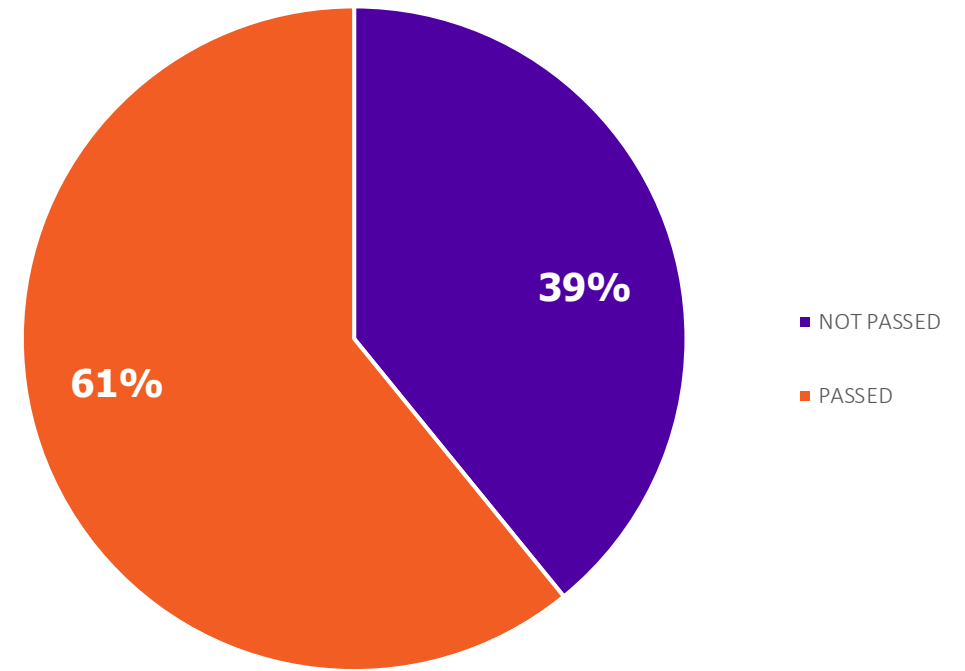


BranchED

	NOT PASSED	PASSED
Cohort 1	32%	68%
Cohort 2	35%	65%
Cohort 3	39%	61%
Cohort 4	43%	57%
Total	36%	64%

Domain range: 1-50
Overall Score Range: 1-200
Minimum Passing Score: 150

Overall Performance in State Exam, Cohort 3

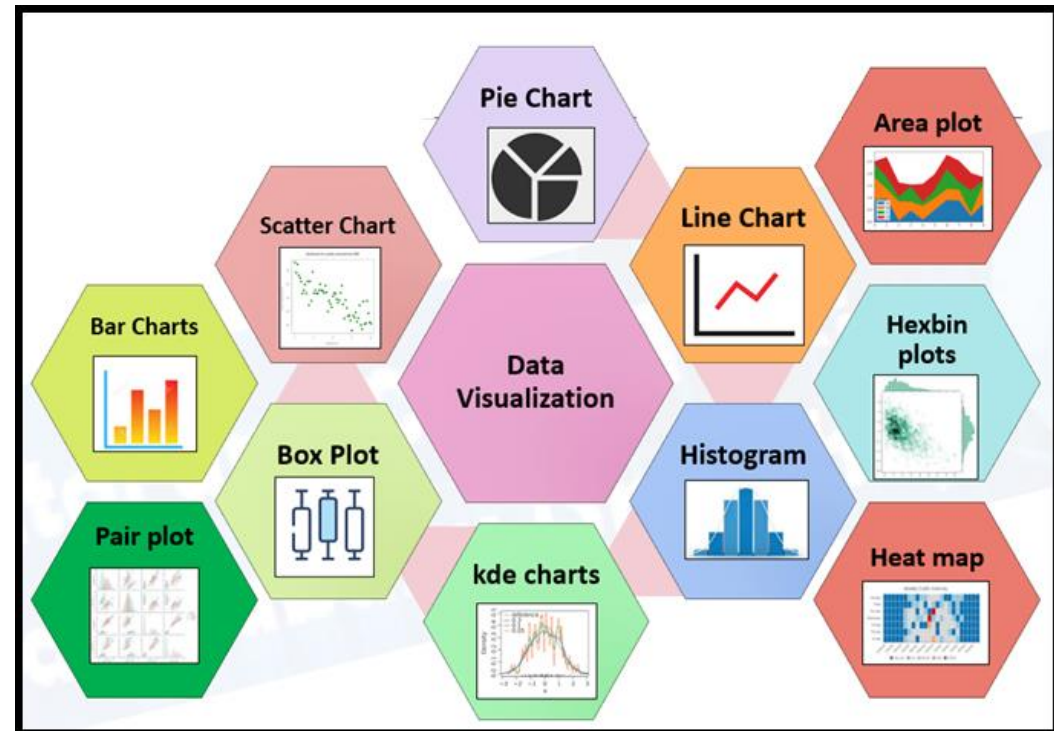




Next Level Visuals

Tips for Creating Effective Data Visualizations

1. Clear Purpose
2. Right Classic Visual
3. Formatting is a Must
4. Strong Title
5. No Deception
6. Review, Revise, and Repeat



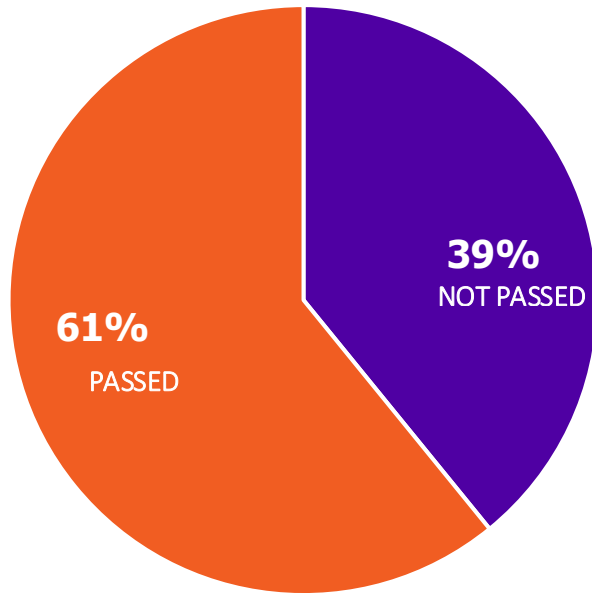


Next Level Visuals



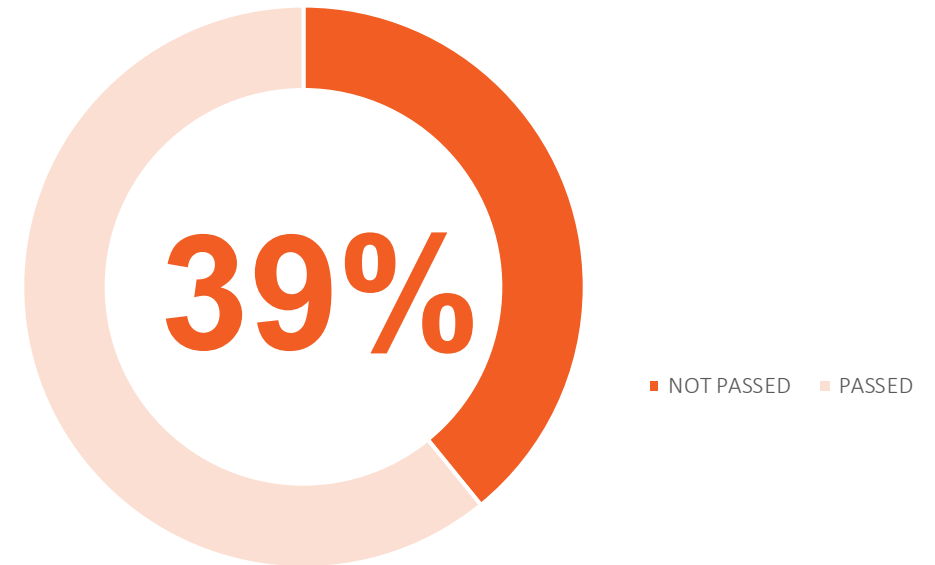
Best

Cohort 3 is experiencing difficulty in passing the state exam for pedagogical knowledge.



Source: EPP Data 2018-2021

Cohort 3 is experiencing difficulty in passing the state exam for pedagogical knowledge.



Source: EPP Data 2018-2021



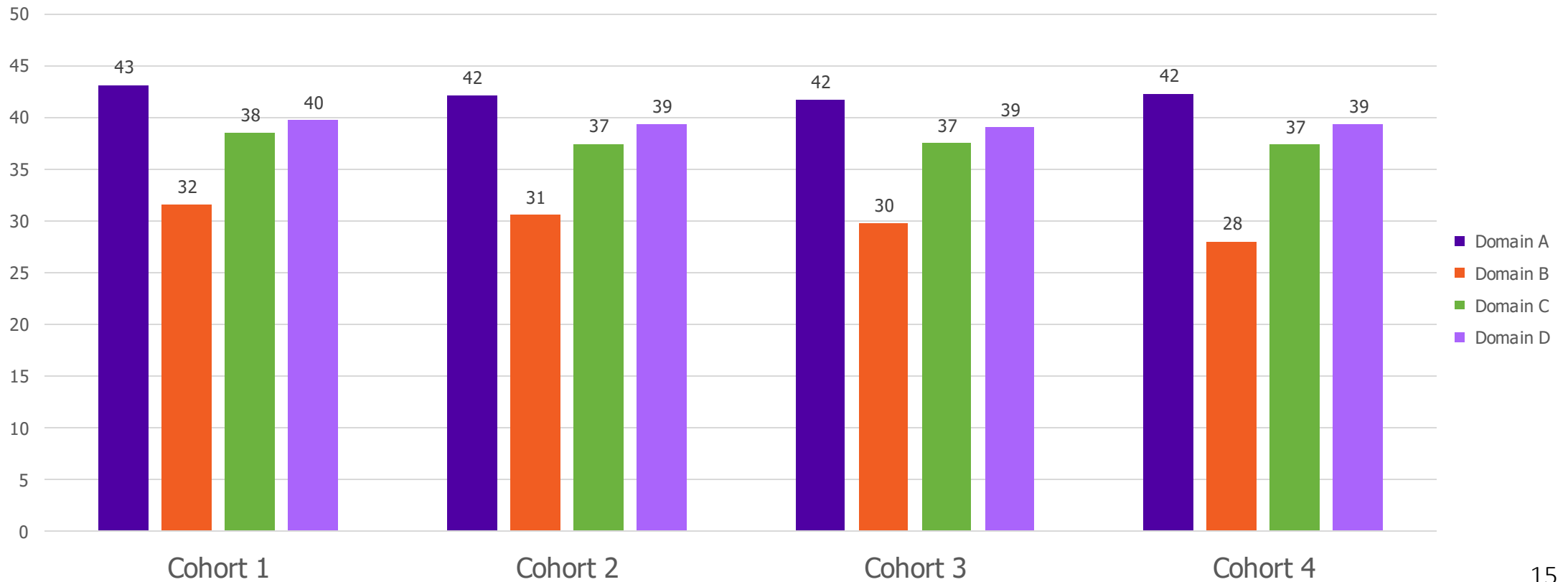
Compare Values



BranchED

Example: What NOT to Do

Mean Score by Domain, All Cohorts





Compare Values

Better



BranchED

Cohort	Mean Scores By Domain				Overall Exam Score (Mean)
	Domain A	Domain B	Domain C	Domain D	
Cohort 3	42	30	38	39	148

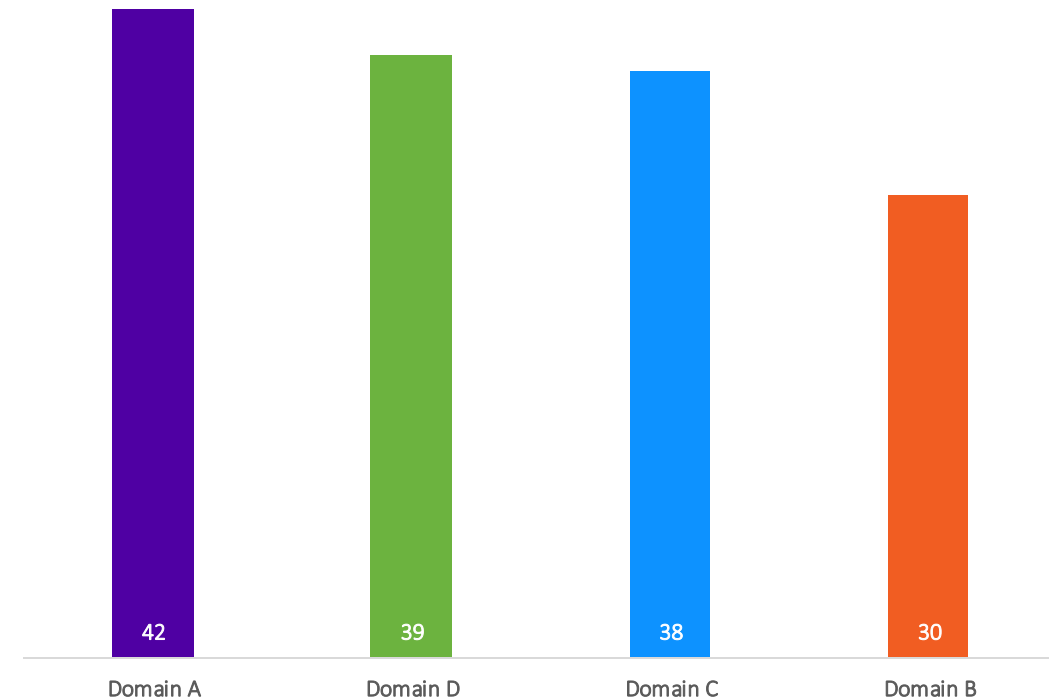
Pass rate: 61%

Domain range: 1-50

Overall Score Range: 1-200

Minimum Passing Score: 150

Mean Scores by Domain, Cohort 3



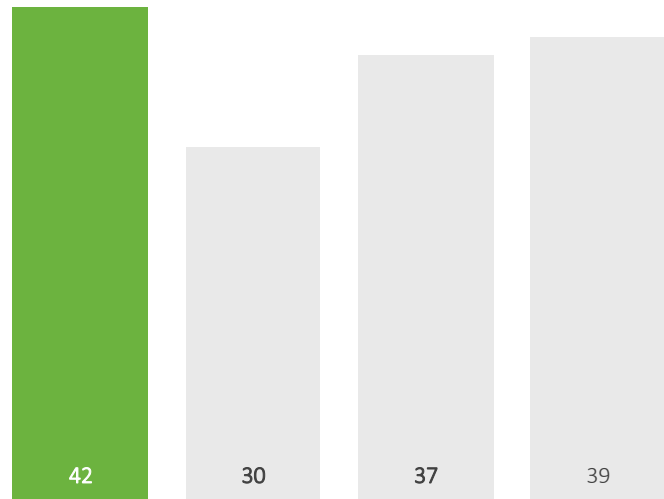


Next Level Visuals

Best

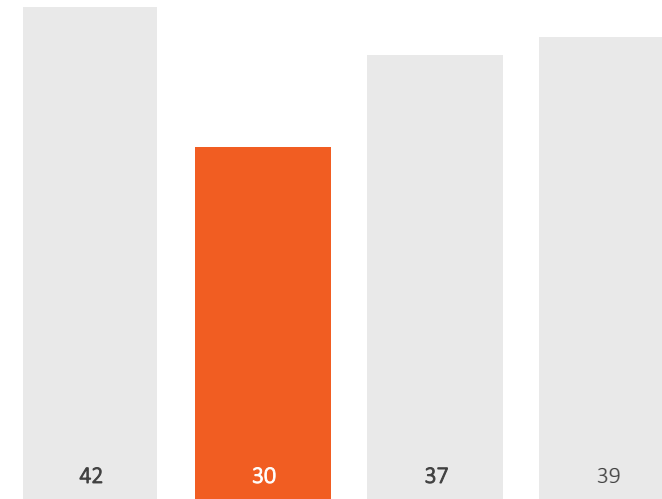


Candidates score the highest in Domain A based on average scores by domain



■ Average of Domain A
■ Average of Domain B
■ Average of Domain C
■ Average of Domain D

Candidates score the lowest in Domain B based on average scores by domain



■ Average of Domain A
■ Average of Domain B
■ Average of Domain C
■ Average of Domain D



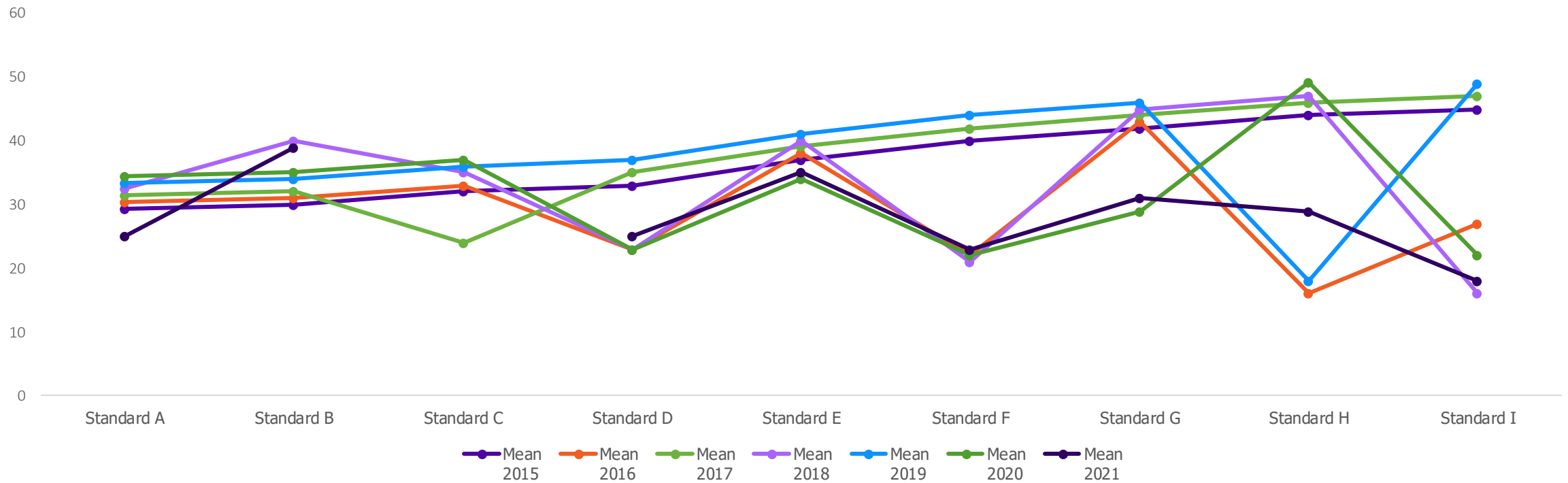
Examine Trends



BranchED

Example: What NOT to Do

Standard Mean Scores Over the Years





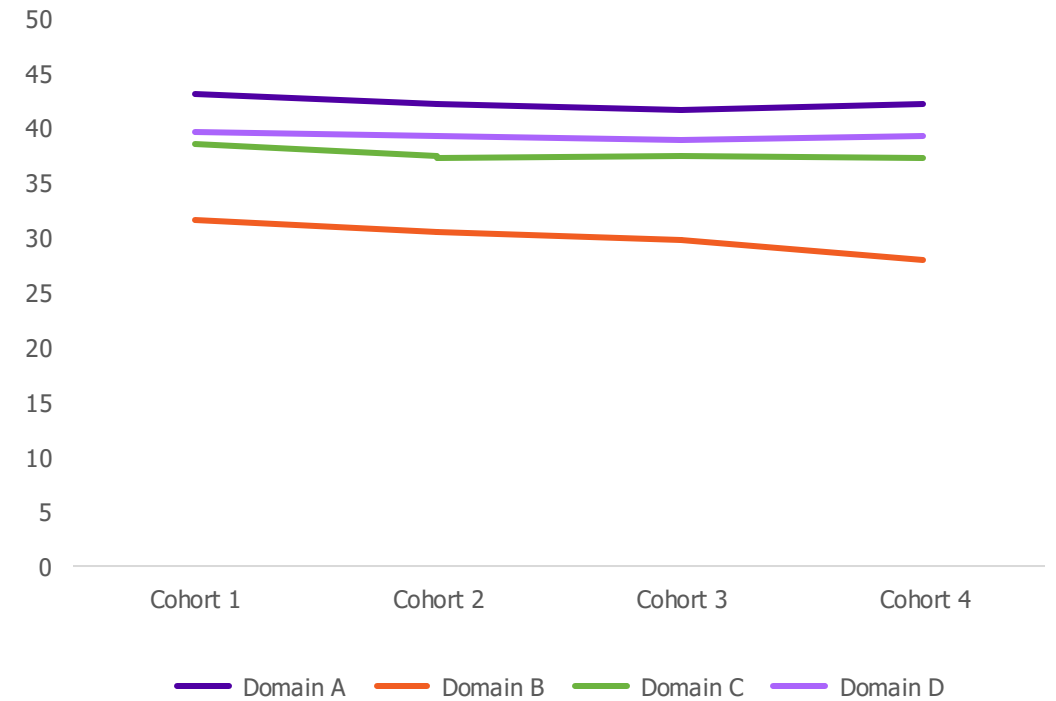
Examine Trends

Better



Year	Mean Scores By Domain				Overall Exam Score (Mean)
	Domain A	Domain B	Domain C	Domain D	
2019-2020	43	32	38	40	153
2020-2021	42	31	37	39	149
2021-2022	42	30	37	39	148
2022-2023	42	28	37	39	147
Overall Mean	42	30	38	39	150

Exam Performance by Domain, 2019-2023



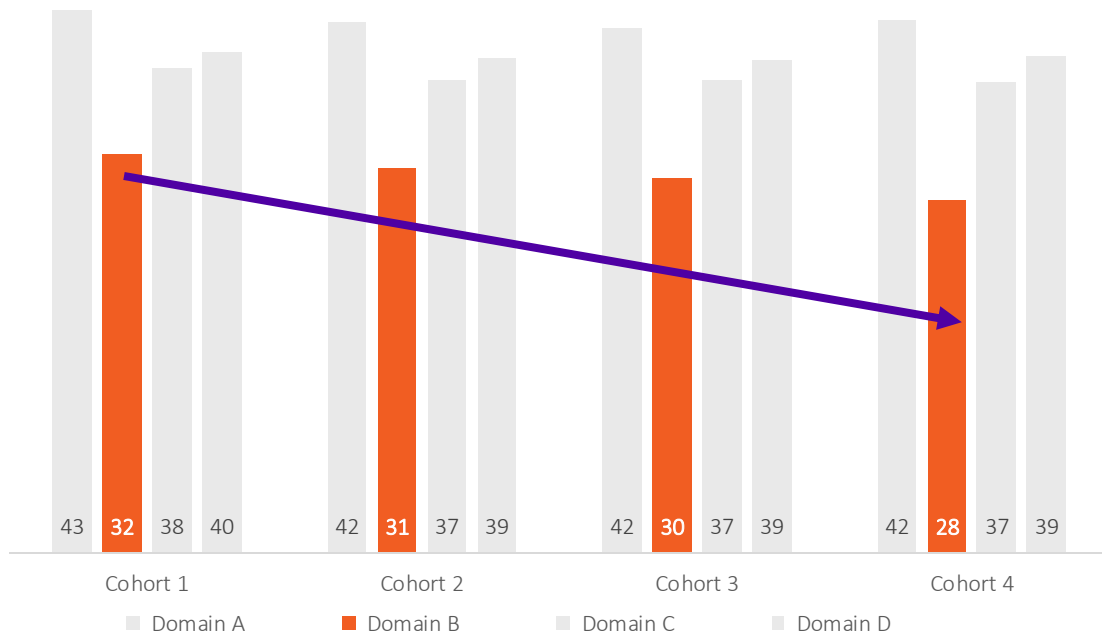


Next Level Visuals

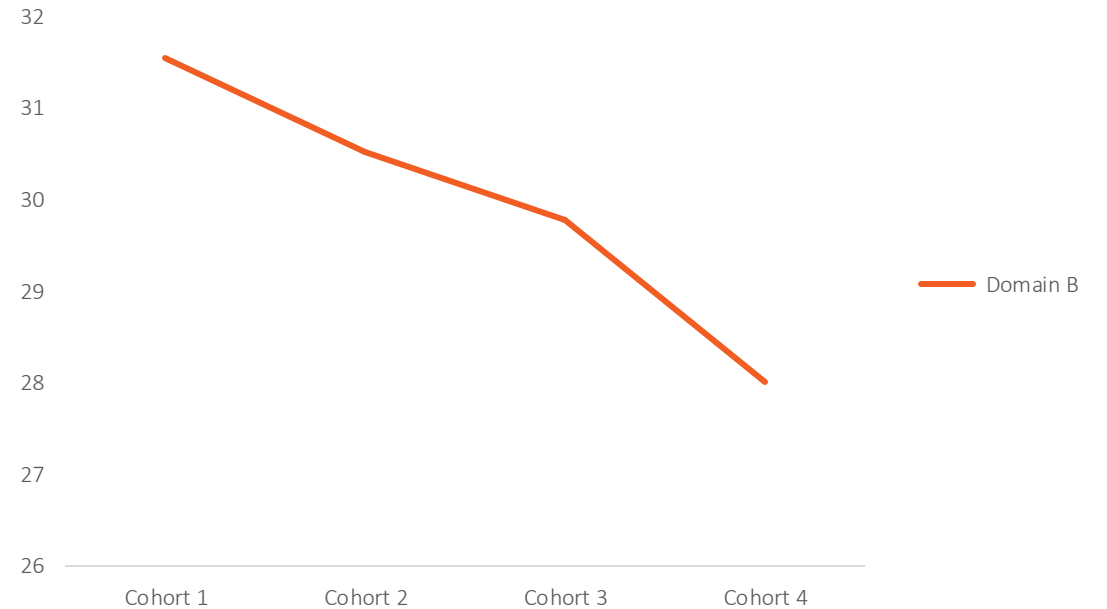
Best



For the past four years, Domain B has been the most challenging for candidates



For the past four years, Domain B has been the most challenging for candidates





Best Practices



Creating Effective Visualizations

- Pie charts should not be used if there are more than 3 categories.
- If shares among categories are similar to each other, pie charts would be useless.
- Bar charts are for showing the relationship between 1 categorical variable against 1 numerical variable
- Time series are for showing changes over time



Which Chart Should I Use

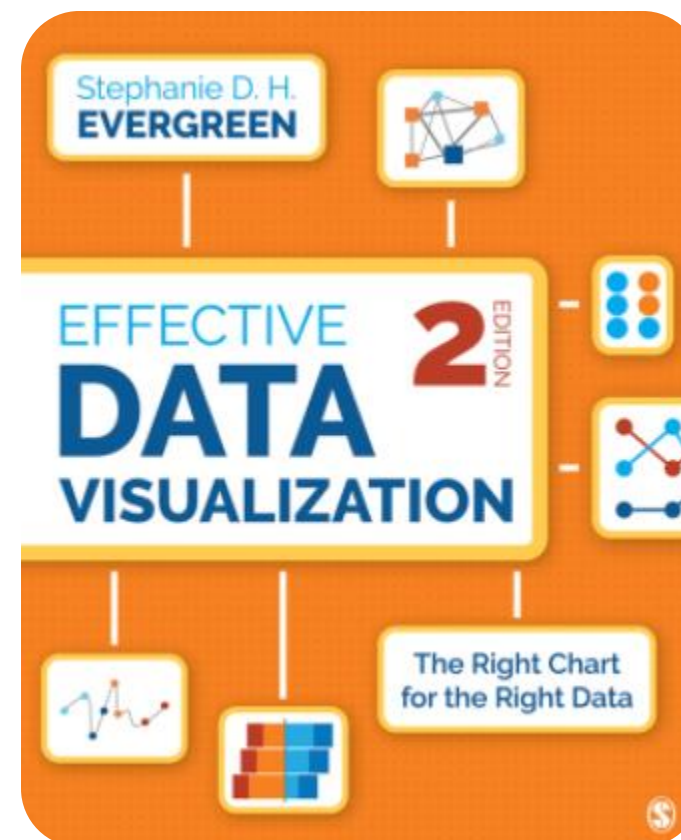


Another Resource



BranchED

*To Help You
Visualize Your
Data*





Focus Area

Domain B: Creating a Positive,
Productive Classroom
Environment

- What are our questions?





Domain B: Creating a Positive, Productive Classroom Environment



- **Competency 5** – The teacher knows how to establish a classroom climate that fosters learning, equity and excellence and uses this knowledge to create a physical and emotional environment that is safe and productive.
- **Competency 6** - The teacher understands strategies for creating an organized and productive learning environment and for managing student behavior

Year	Mean Scores By Competency		Mean Score Domain B
	Comp 5	Comp 6	
2019-2020	18	13	32
2020-2021	18	12	31
2021-2022	19	11	30
2022-2023	17	11	28
Overall Mean	18	12	30





**How are our
graduates
performing in the
district in this area?**



Meadowbrook: Domain 2



BranchED

Year	Competency	Unsatisfactory (%)	Basic (%)	Proficient (%)	Distinguished (%)
2022	Cultivating Respect	10	25	45	20
2023	Cultivating Respect	15	30	40	15
2024	Cultivating Respect	20	35	35	10
2022	Fostering Culture	12	28	43	17
2023	Fostering Culture	18	33	37	12
2024	Fostering Culture	22	38	32	8
2022	Purposeful Environments	8	22	50	20
2023	Purposeful Environments	14	27	42	17
2024	Purposeful Environments	19	32	37	12
2022	Positive Behavior	9	24	47	20
2023	Positive Behavior	16	29	39	16
2024	Positive Behavior	21	34	31	14
2022	Organizing Spaces	11	26	44	19
2023	Organizing Spaces	17	31	36	16
2024	Organizing Spaces	23	36	30	11



SVCU and Meadowbrook Data



What the Data Says

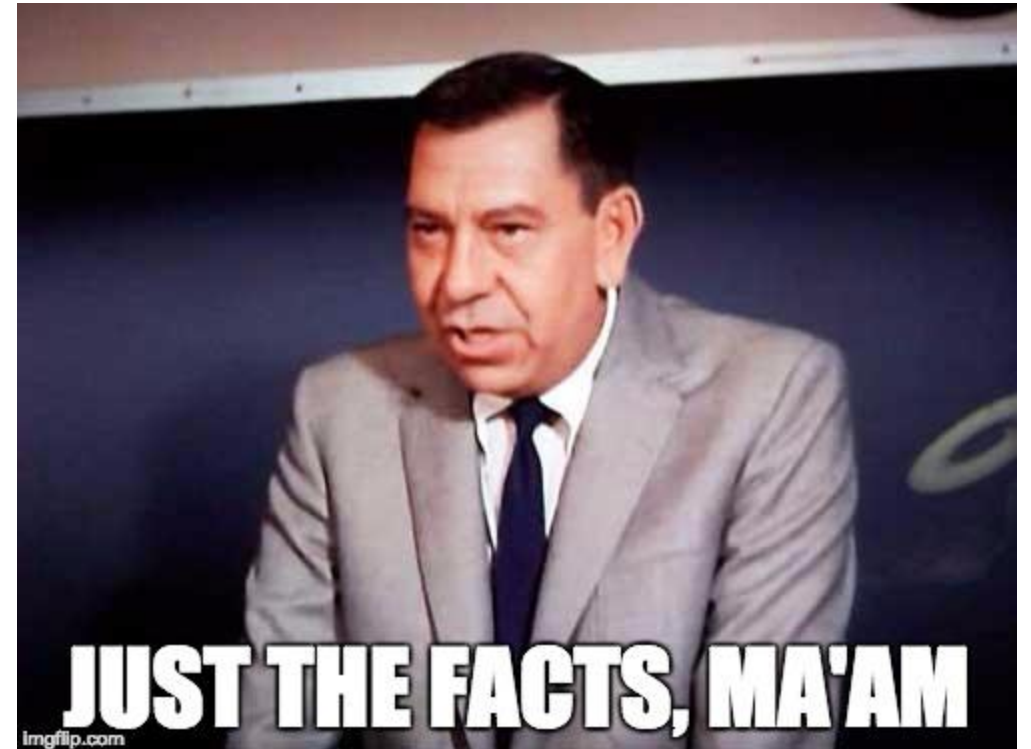
Review the data and respond to the following questions:

I observed...

Some patterns/trends that I notice...

I can count...

I see that...





BranchED



**BREAK
TIME!**



Moving from Facts to Explanations



BranchED



- 1 Look for data patterns—bright spots and opportunities.
- 2 Select one focus area.
- 3 Conduct a root cause analysis (The “5 Whys”)
- 4 Identify solutions (The “5 Hows”)



Data Inquiry



BranchED



What might be some explanation(s) beyond "the students"?

- Content / relevancy
- Courses logistics / work assignments
- Faculty / teachers
- Assignments / expectations
- Evaluations
- Social Media



5-Whys Worksheet



BranchED

Describe the opportunity/challenge:

Why is it happening?

Because:

Why is that?

Because:

Why is that?

Because:

Why is that?

Because

Why is that?

Because:





5-Hows Worksheet



BranchED

Describe the proposed solution:

How will you accomplish this?

How will you accomplish this?

How will you accomplish this?

How will you accomplish this?

How will you accomplish this?





BranchED

Action and Accountability

Tasks	Person Responsible	Success Criteria	Time Frame	Resources

Progress Monitoring Schedule

Team Members:	
Meeting Schedule:	





Cohort Count



BranchED

Cohort	Number
Cohort 1	57
Cohort 2	48
Cohort 3	23
Cohort 4	21
Total	149



BranchED

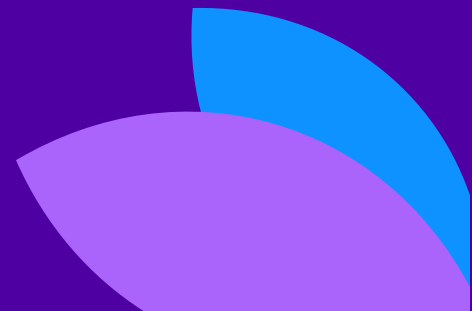
Your Turn

- *Your focus was on*
- *You think this happen because of*
- *Solution(s) are.....*
- *Your plan is to.....*





SHARE OUT





Why Does This Matter?

- Data represents people.
- Data is power.
- Data prompts accountability.
- Data supports informed actions.



BranchED





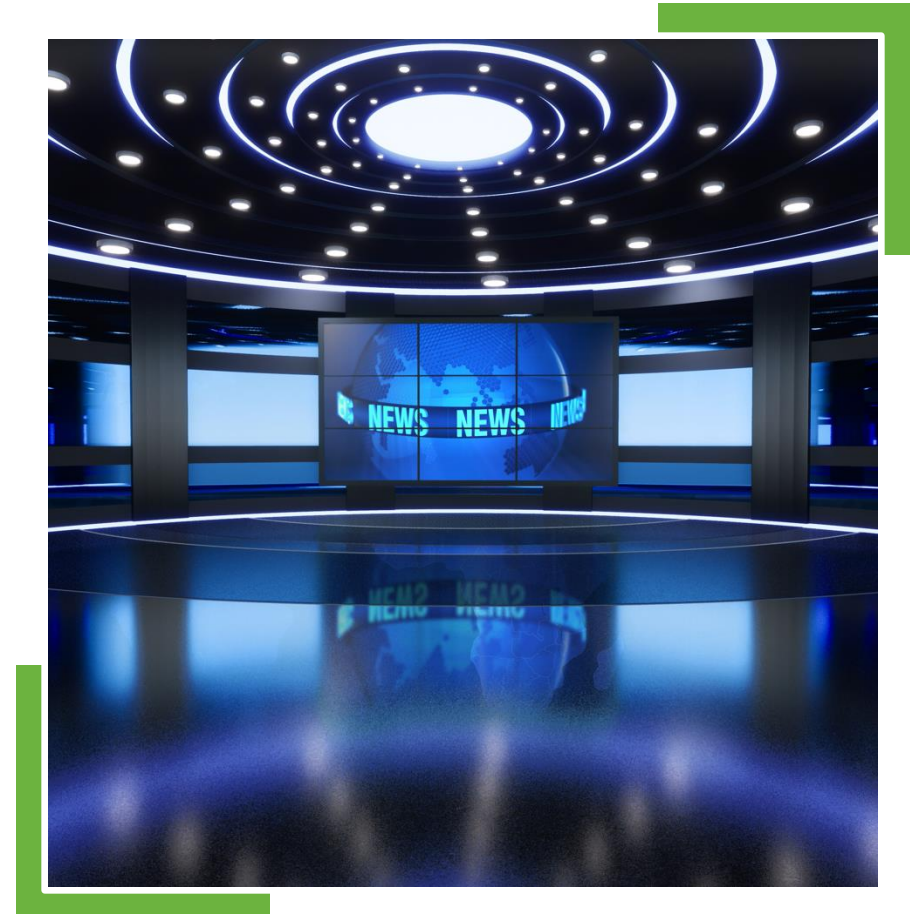
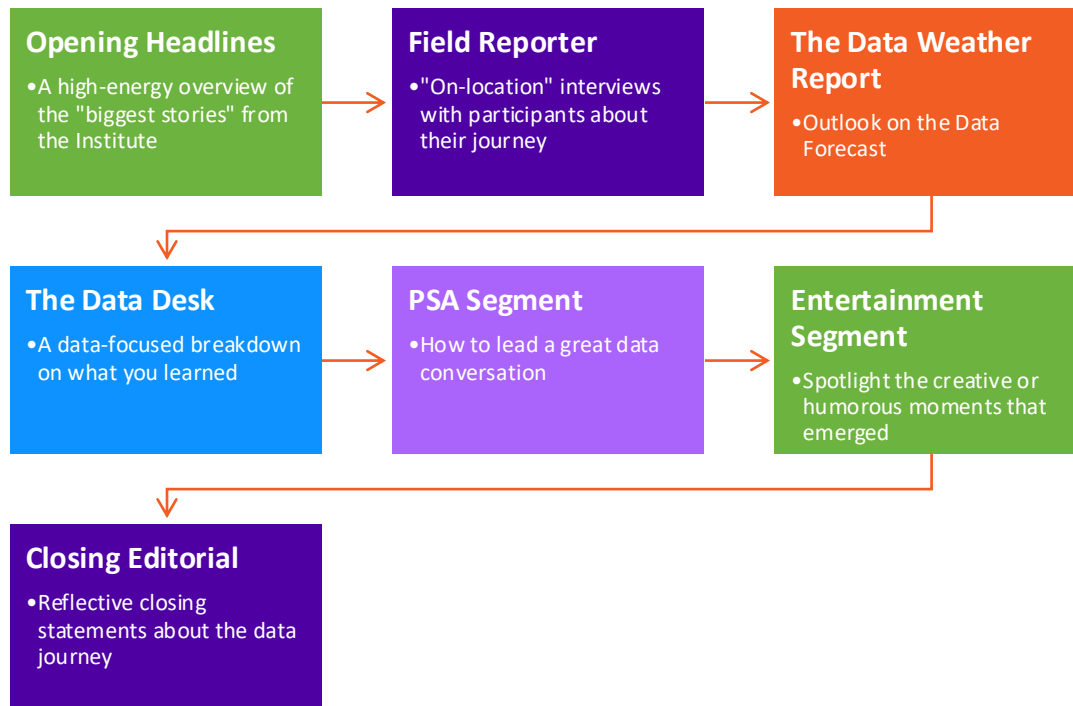
Team Time



BranchED

Data News Network

Planning Meeting





BranchED



Lunch Time!



Quick Debrief



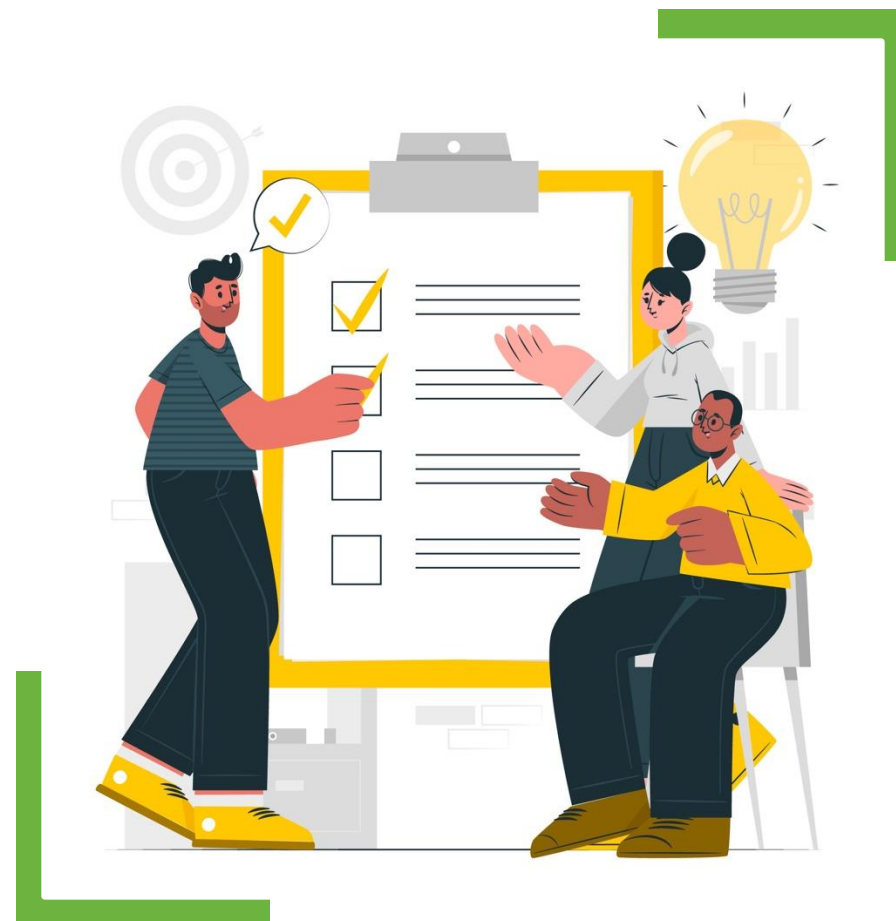
Where are we so far...

Looked at some EPP and District data

Identified an area of focus

Develop an explanation for what we were seeing

Developed an action plan for moving forward





Learning Objectives: Day 2 PM



BranchED

1

Identify and prioritize key stakeholders and strategies to engage diverse voices and ensure the right individuals are consistently at the decision-making table to foster collaboration and impactful outcomes.

2

Explore strategies to build compelling data stories by contextualizing numbers, humanizing quantitative information, and using emotion to evoke understanding and inspire action.

3

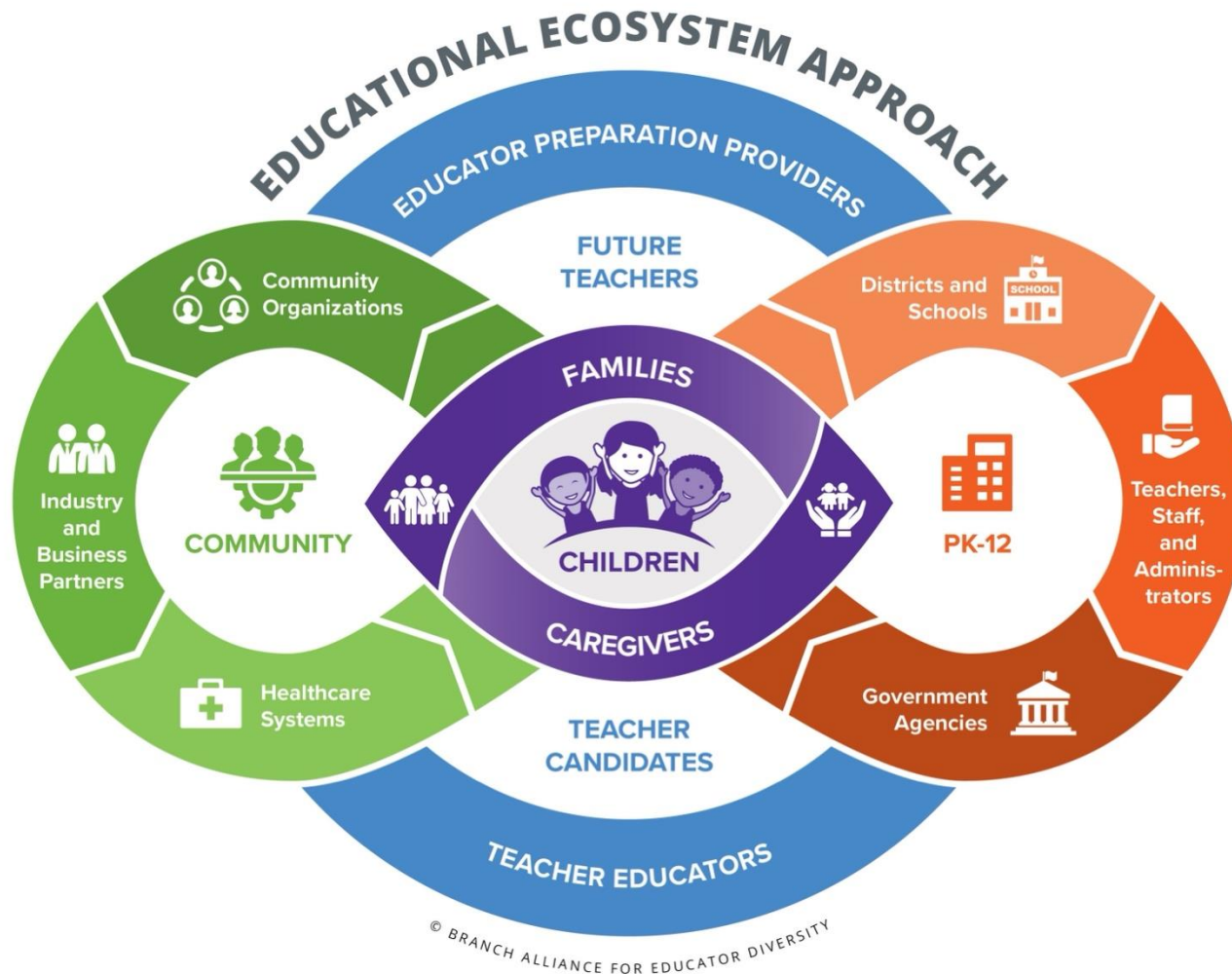
Engage in a candid, creative process to surface hidden barriers, challenge unproductive norms, and make space for innovation. Through collective problem-solving and playful disruption, they will build trust and lay the groundwork for meaningful change.

4

Examine common emotional responses to data and engage in purposeful practice through mixed reality simulation to build confidence and skill in navigating resistance and moving conversations toward constructive outcomes.



BranchED



Right People: Right Impact

- Place a **green** dot on the area of the ecosystem where you are most situated.
- Place 0-3 **orange** dots on areas of the ecosystem where you interact the most.



Children at the Center



Identify a Child in the Ecosystem

3-minute silent write:

- Name that child
- Describe their experience in the educational ecosystem

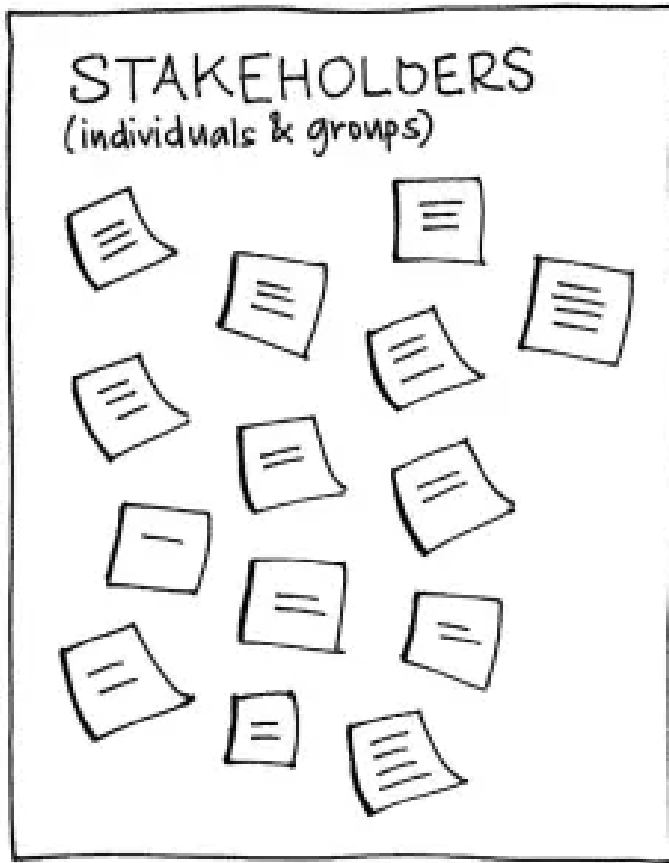




Right People, Real Impact



BranchED



*Game Storming: A Playbook for Innovators,
Rulebreakers, and Changemakers*

SVCE Stakeholder Analysis

Create list of stakeholder groups

- Who will be impacted by the project?
- Who will be responsible or accountable for the project?
- Who will have decision authority on the project?
- Who can support the project?
- Who can obstruct the project?
- Who has been involved in this type of project in the past?

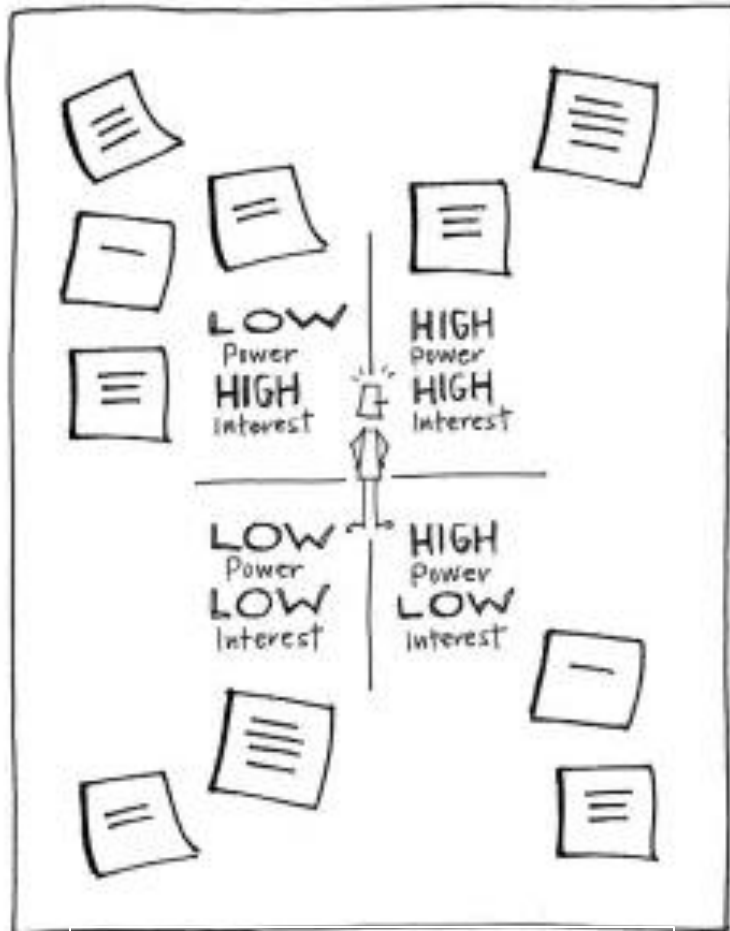




Right People, Right Impact



BranchED



Mapping the Stakeholders

Group your stakeholders into the matrix based on power and interest

*Game Storming: A Playbook for Innovators,
Rulebreakers, and Changemakers*



Right People, Right Impact



Developing a Strategy for Outreach: Guiding Questions

Who needs to be informed of what, and when?

Who needs to be consulted about what, and when?

How will stakeholders be invited? Engaged? Who is responsible for doing this?

What formats will facilitate meaningful engagement?

How will roles be coordinated across teams or departments?

How will we track effectiveness of our outreach efforts and what metrics or feedback mechanisms will we use?

How will we maintain stakeholder relationship over time?

How will we close the loop with stakeholders and demonstrate impact?



Gallery Walk



BranchED

Sharing Ideas

- Take a moment to explore other's strategy document
- Take any ideas that resonate and would work in your context

QUICK SHARE OUT



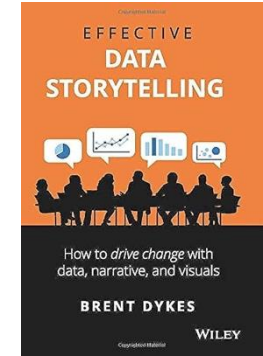


Data with a Pulse



BranchED

How to Energize Stakeholders into Action



The Power of a Good Story

“A story is a fact, wrapped in an emotion that compels us to take an action that transforms our world.”

-Richard Maxwell & Robert Dickman



Small Group



Discussion

Think about a story that you heard or read that had a profound impact on you or propelled you to action.

Share with your teammates.



This Photo by Unknown Author is licensed under [CC BY-NC-ND](https://creativecommons.org/licenses/by-nc-nd/4.0/)



Data Storytelling



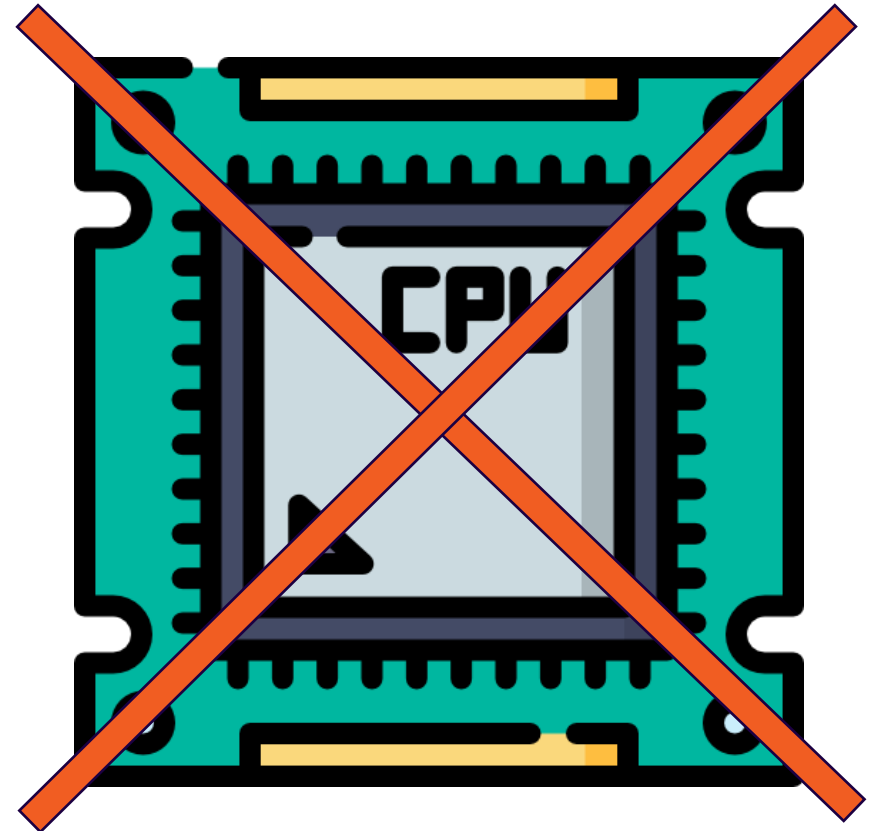
BranchED

Why?

- The Right Data Explain
- The Right Visualizations Enlighten
- A Good Story Engages

The human mind is a story processor, not a logic processor.

Jonathan Haidt
Social Psychologist





Reacting to Facts Versus Stories



FACTS

Mainly scrutinize facts we don't like.

May fight conflicting facts like a physical threat.

Brain may bend or break facts to support existing biases.

Corrective facts can potentially strengthen our misinformed position.

Visualized facts are more difficult to reject.

STORIES

Engage more of our brain.

Form a strong connection between the storyteller and the listener.

Increase our attention and empathy.

Make us less skeptical and more receptive to change.

Enhance our comprehension.

(Dykes, 2020, pg. 69)

Data stories won't overcome all resistance but it may represent the best chance of persuading you audience with numbers.



Process for Data Storytelling



First Things First

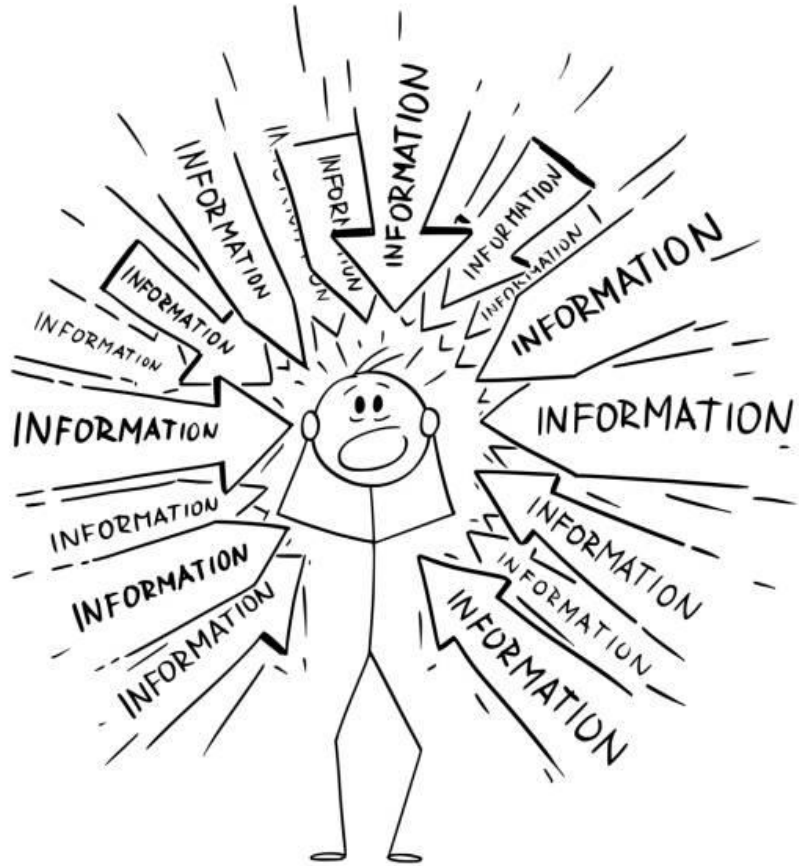
- Capture your data
- Clean your data (Data Quality)
- Conduct some descriptive analysis and exploration
- Design your visualizations
- Decide what you want to present



Remember



BranchED



*A wealth of information
creates a poverty of
attention.*

Herbert A. Simon
Economist and Political Scientist



Process for Data Storytelling



Other Considerations

- Identify your audience
- Determine what you want to accomplish, what questions need to be answered to reach that conclusion
- Create a compelling story
- Connect all the dots

Remember, a data story is different from a story with data!





Who is Your Audience?



[This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)

Things to Consider

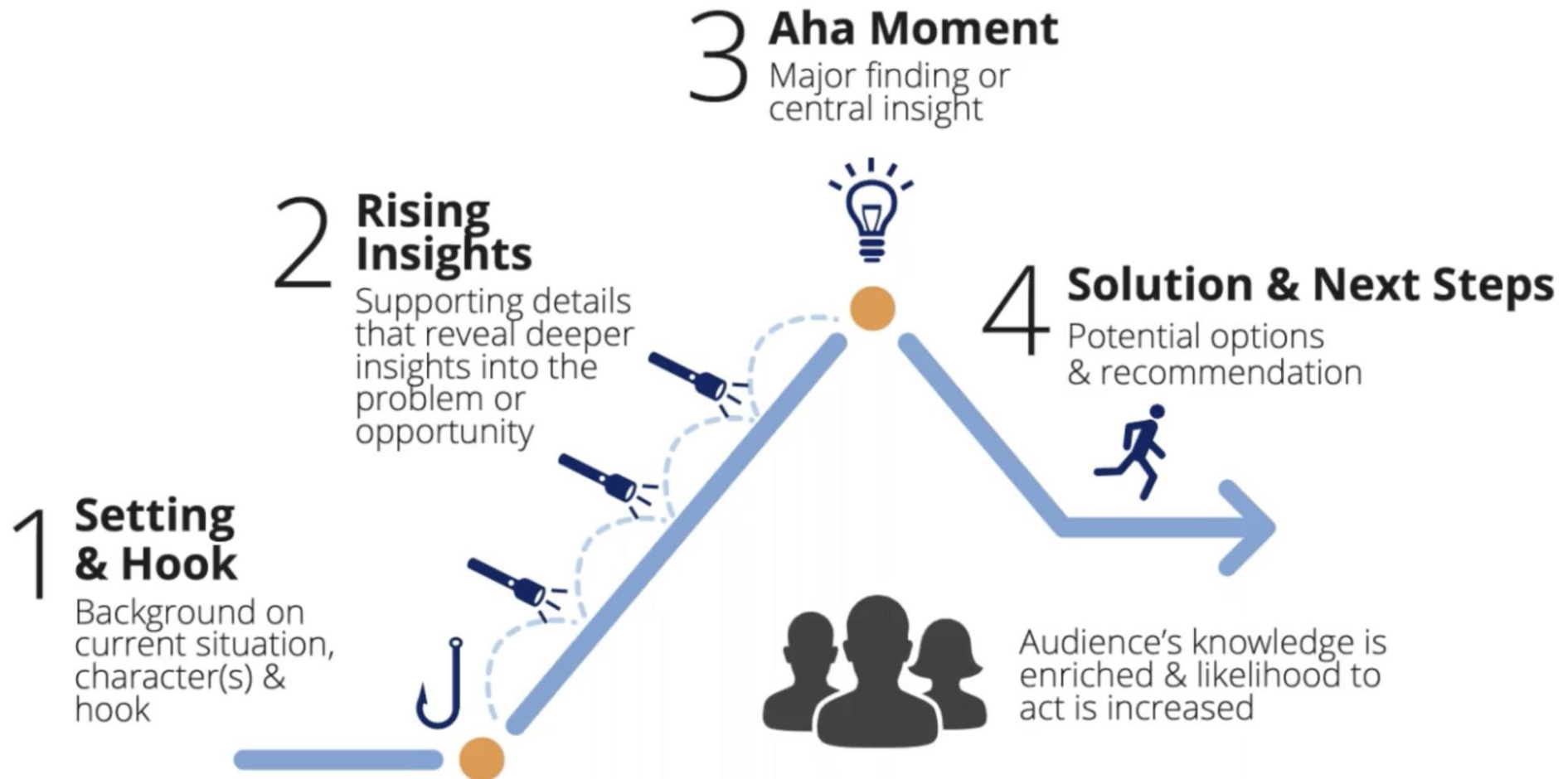
- Key Goals and Priorities
- Beliefs and Preferences
- Specific Expectations
- Opportune Timing
- Topic Familiarity
- Data Literacy
- Seniority Level
- Audience Mix



Storytelling Arc



BranchED



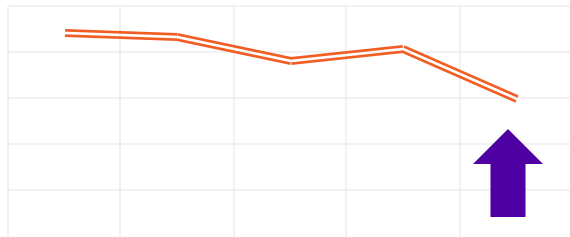


Storytelling Arc



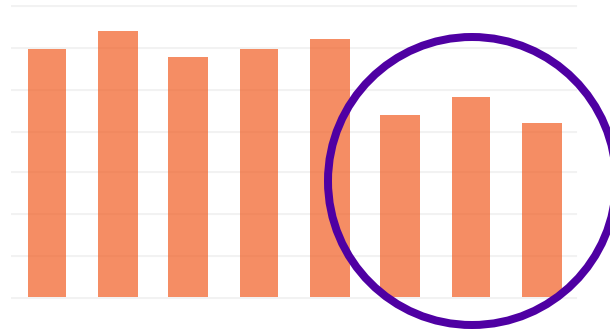
BranchED

OF CERTIFIED TEACHERS



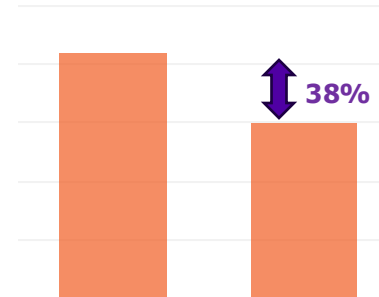
Setting and Hook

SCORE BY DOMAIN



Rising Insight

GAP ANALYSIS



Aha! Moment

PROPOSED ACTIONS

- Super Saturday Tutoring
- Curriculum Revisions
- Professional Development

Solution & Next Steps



Another Way to Engage Emotions



The Art and Science of Communicating Numbers

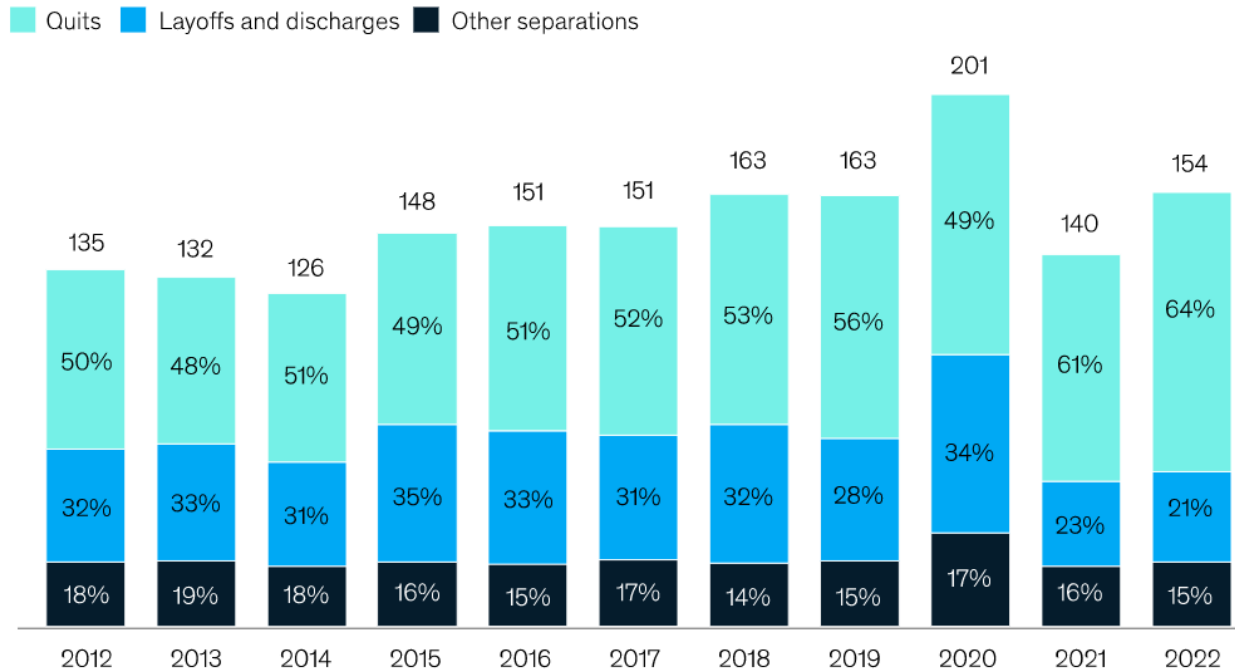
- Math is no one's native language.
- The higher or complicated numbers get, the less sensitive we get to them. That's "numbing."
- Bring numbers to life by contextualizing them in terms that are more human, more everyday.
- Make numbers emotional to evoke action.





A State of Emergency for Education

Average monthly total quits, layoffs and discharges, and separations in state and local government education, disaggregated, 2012–22,¹ thousands



Note: Figures may not sum to 100%, because of rounding.
¹2022 annual average projected from available data (January 2022 through July 2022); all variables are seasonally adjusted.
Source: US Bureau of Labor Statistics (BLS) Job Openings and Labor Turnover Survey (JOLTS)

Over the past decade, the last two years saw the highest annual rate of quits when it comes to teacher attrition.

Quitting accounted for 64% of separations in 2022 – up 15% since 2020

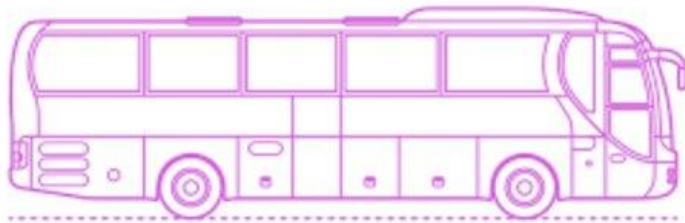
183,960 teachers quit between 2021-22.



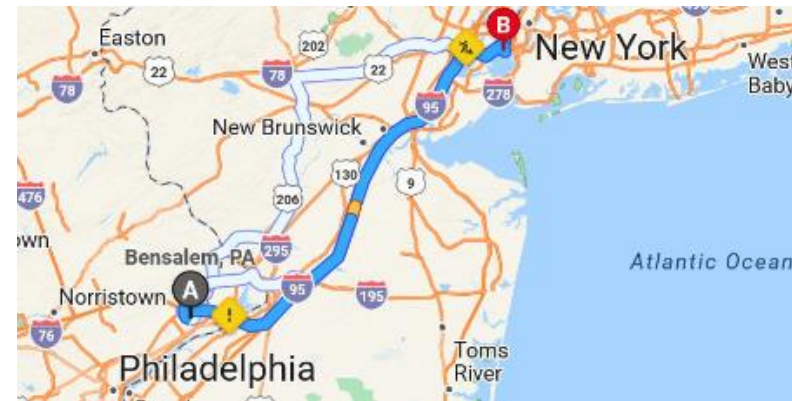
Translating 183,960



Transporting the teachers that quit between 2021 and 2022 would require 4000 coach USA buses.



When you line up 4000 buses, the line would stretch 76 miles. That's about the distance between the northeastern section of Philadelphia to the Statue of Liberty in NY.





Translating the Cost of Teacher Turnover



**Which statement creates a sense of drama?
Or a sense of movement?**

- Teacher turnover in urban districts can cost a school district as much as \$20,000 per teacher.
- The cost of a teacher leaving is equivalent to providing ~6,700 school lunches.



Teacher Candidate Exit Survey Findings



Which statement is more tangible?

- Only 37% of respondents said they have a clear understanding of how to customize instruction for diverse learners
- If, say, a soccer team had the same scores, only 4 of the 11 players on the field would know what position they play and what they are supposed to do.



Making Numbers Count



Translating Data and Numbers: Creating Emotion

1. Avoid Numbers: Put data in emotional context without using numbers.

The Standard Way	Translation Using This Technique
A very small percentage of Fortune 500 CEOs are women.	Among Fortune 500 CEOs, there are more men named James than there are women.





Making Numbers Count



Translating Data and Numbers: Creating Emotion

3. Favor User-Friendly Numbers: Convert complicated numbers (e.g., percentages, decimals, fractions, ratios, precise numbers, etc.) into simple ones.

The Standard Way	Translation Using This Technique
40% of US adults do not always wash their hands after using the bathroom at home.	2 out of 3 every 5 people you shake hands with may not have washed their hands between using the toilet and shaking your hand.



Making Numbers Count



BranchED

Translating Data and Numbers: Creating Emotion

5. Convert numbers into real objects: Translate abstract numbers into objects that are concrete and familiar.

The Standard Way	Translation Using This Technique
The amount of meat recommended as part of a healthy meal is 3-4 ounces.	The amount of meat recommended as part of a healthy meal is 3-4 ounces, which is about the same size as a deck of cards.



Making Numbers Count



BranchED

Translating Data and Numbers: Creating Emotion

10. Make it personal: Get attention by evoking the feeling, this affects you.

The Standard Way	Translation Using This Technique
<p>There is a 20% chance of experiencing a mental illness in a given year, and a 50% of being diagnosed with a mental illness in your lifetime.</p>	<p>For every 5 people, 1 of you will be diagnosed with a mental illness this year. At some point in your lifetime, you or the person across from you will be diagnosed with a mental illness.</p>



Let's Practice



BranchED

What are some ways you can translate these data in ways that the number really sinks in?

- In 21-22 academic year, there were 150 tests attempted in the PRAXIS II Content test and 60 passed.
- 585 graduates were recommended for educator licensing. 9% are Hispanic, 3% Black, 1% Asian, 85% White, 2% two or more races.



Let's Practice



BranchED

In 21-22 academic year, there were 150 tests attempted in the PRAXIS II Content test and 60 passed.

The Standard Way

40% of PRAXIS assessments attempted passed.

Translation

Only 2 out of every 5 attempt was passed.



Let's Practice



BranchED

585 graduates were recommended for educator licensing. 9% is Hispanic, 3% Black, 1% Asian, 85% White, 2% two or more races.

Translation

Imagine if the 585 graduates were shrunk to a village of 100:

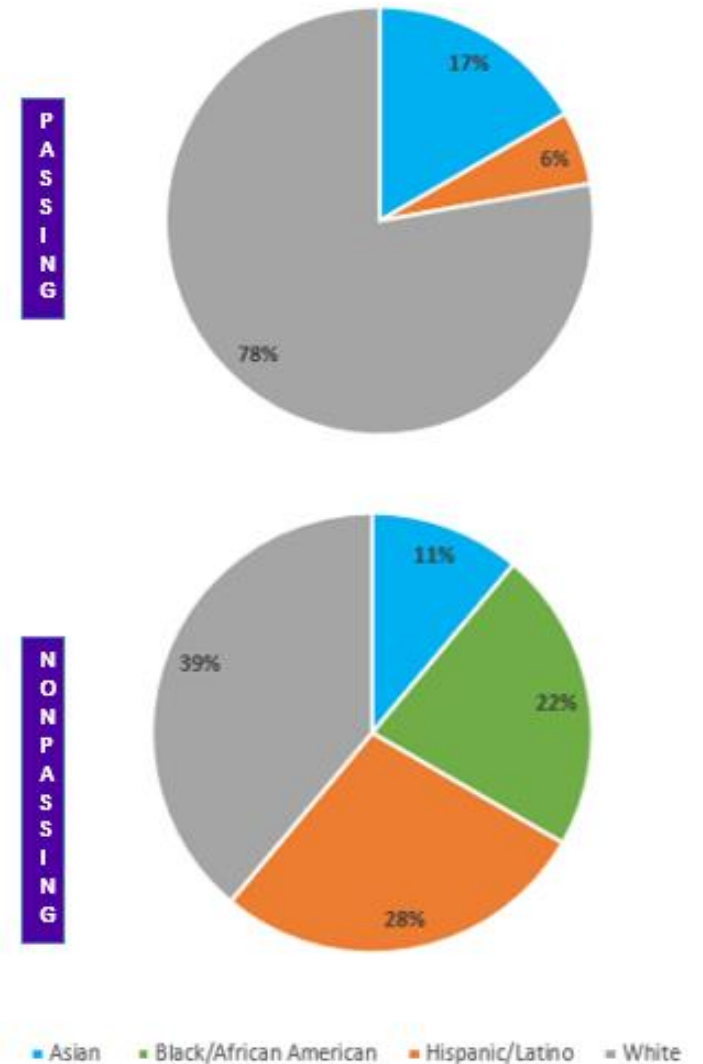
- 9 would be Hispanic
- 3 would be Black
- 1 would be Asian
- 85 would be White



Making Numbers Count

- 50% pass rate for all students
 - For every 2 people in this workshop, 1 of you will pass the state exam this year
- 26% pass rate for students of color
 - For every 4 students, 1 student will pass the state exam
- What does that say about the support we are offering to our students of color?

Who are the students who are passing vs. not passing?





Debrief



What? So What? Now What?

What?

We know that numbers aren't inherently helpful. It is the scale and context that make them so.

So What?

Translating numbers is important because it has a simulation value, makes it easy to imagine the information presented, makes us care more, and inspires us to act.

Now What?

Now that you understand the power of translating, you will be able to apply it to your own data. Think: What can I do?



The Power of Stories

- Numbers are important, but not everything
- Qualitative data provide an understanding of the lived experience of the student





BranchED



**BREAK
TIME!**



You've Put in the Work

Now It's Showtime!

Your team has been deep in the data trenches—digging through reports, talking with key stakeholders, surfacing lessons learned, and connecting the dots. You've built momentum, clarity, and a shared sense of purpose.

Now... it's time to **take the lead**. You're about to lead a **college-wide and partner-wide** initiative that can spark real insight and action.

You're putting your plan into motion. You're ready to roll!

Be the voice.

inspers...

What Could Possibly Go Wrong?



What it isn't...



BranchED

How can I/we _____?

(make sure that
everything goes wrong
with our data
presentation)

Go Wild!

10 Minutes





What it isn't...



BranchED

How can I/we _____?

(make sure that everything goes wrong with your data presentation)

Go Wild!

10 Minutes

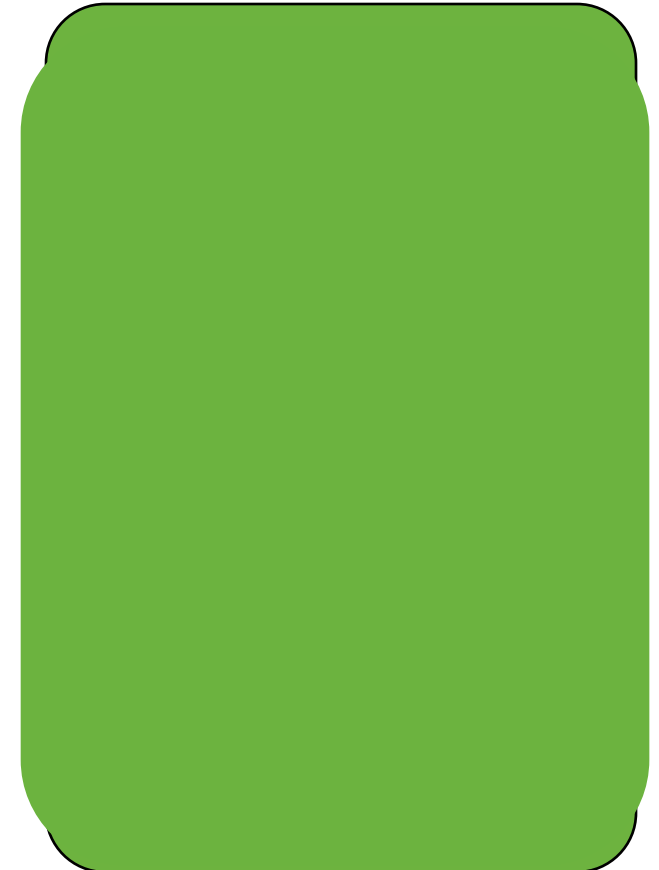


Is there anything we have observed in our meetings/interactions that resembles any of the items on our list?

Make a second list of those activities and talk about their impact.

Be unforgiving

10 Minutes

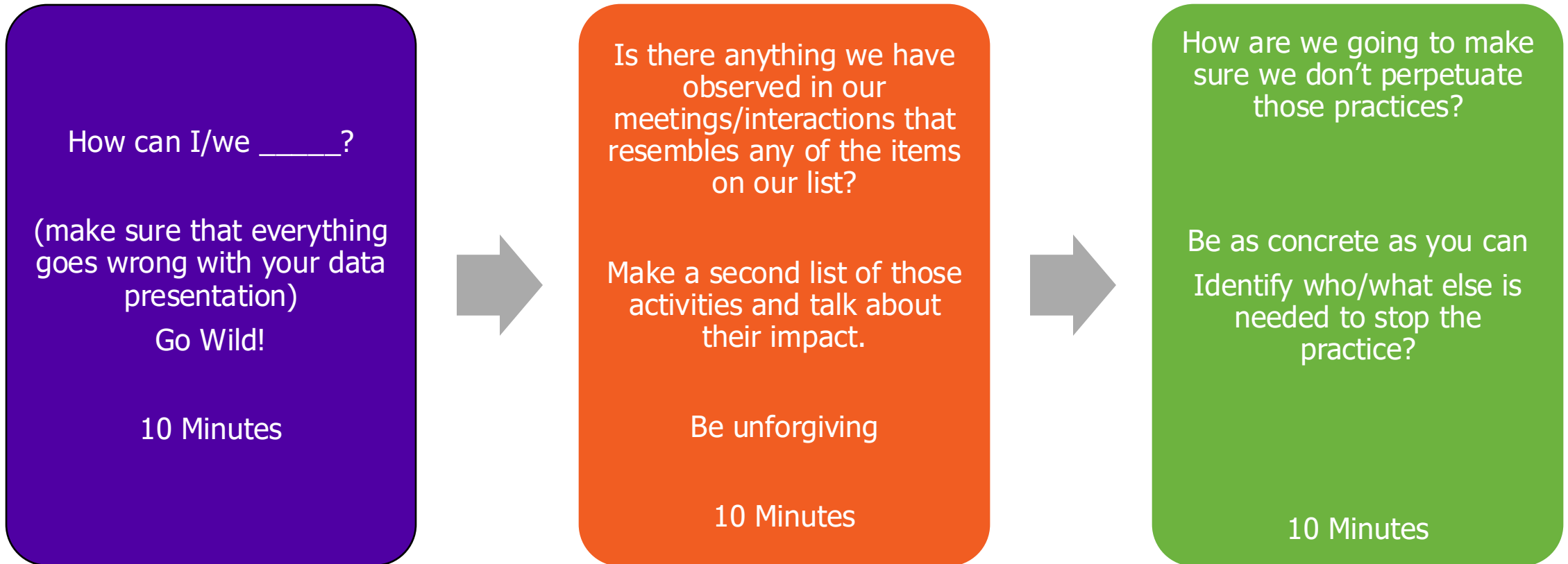




What it isn't...



BranchED





Debrief



BranchED





Pause the Eyeroll, Let's Talk



BranchED



When the data hits, reactions happen

Even when you have everything in place, crafted a compelling data story, ensured the data are accurate, and laid the groundwork for meaningful dialogue, there is still a chance that some folks might not be ready to hear it.

Remember: data doesn't just inform, it *stirs things up*.



Reaction to Data



BranchED

ACTION



Shock



Anger



Resistance



Acceptance



Purposeful Practice

Through Mixed Reality Simulations



Data Talk: Keeping it Focused



You are leading a shared governance meeting where you will present and discuss your most recent teacher candidate data with a diverse group of stakeholders. Gordon, Amar, and Elena are faculty members in the College of Education at SVCE and have worked in collaboration with the Meadowbrook District in some capacity over the years. Serena, a local Meadowbrook principal, and Ciara, Meadowbrook's Assistant Superintendent, have joined the meeting to provide in the district's perspective and voice.

Your objectives:

- To have the stakeholder introduce themselves.
- Keep the conversation on track, focused on the data, and curate questions/stems for data dialog.
- Create an environment in which all voices are heard and respected.



The Data MATCH TO SVCE

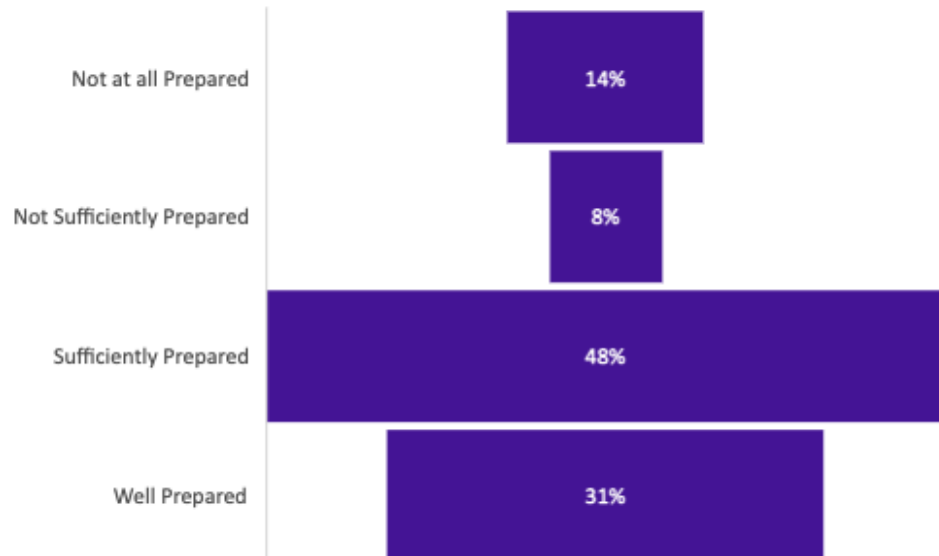


BranchED

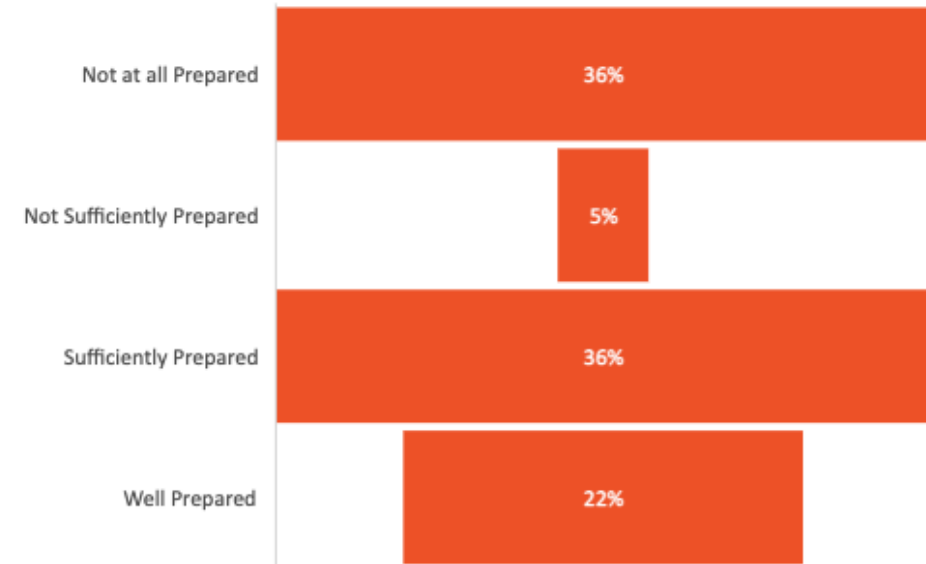
How well were teacher candidates prepared to address the needs of students with disabilities?

How well were teacher candidates prepared to address the needs of students identified as an emergent bilingual student?

Students with Disabilities



Emergent Bilingual Students





Data Talk At the District Level



You are the principal/instructional coach at a K–5 elementary school in the Meadowbrook School District. You are meeting with a team of 3rd grade teachers, **Ms. Gill, Mr. Kimura, Ms. Wilson, and Ms. Miranda**, to review recent reading assessment data and plan next steps.

You've observed ongoing resistance to using evidence-based practices, such as small-group instruction driven by data, vocabulary-focused strategies, and scaffolded questioning.

Your objectives:

- Facilitate the conversation and move the team toward actionable next steps.
- Keep the conversation on track and focused on the data.
- Create an environment in which all voices are heard and respected.



Data Information



BranchED

	2019-2020	2020-2021	2021-2022
	85% met or exceeded standards	68% met or exceeded standards	52% met or exceeded standards
RF.3.3 Phonics and Word Analysis (Overall Proficiency)	88%	70%	54%
RF.3.3a Prefixes/Suffixes	90%	72%	56%
RF.3.3b Latin Suffixes	85%	66%	49%
RF.3.3c Multisyllable Words	87%	68%	52%
RF.3.3d Irregular Words	89%	73%	59%
RF.3.4 Fluency (Overall Proficiency)	83%	66%	50%
RF.3.4a Purposeful Reading	85%	67%	52%
RF.3.4b Oral Reading	82%	65%	48%
RF.3.4c Contextual Self-Correction	81%	66%	51%



Reminder! It's Data News Network BranchED

