Data Discovery: Harnessing Insight for Program Excellence

Summer Institute

June 10, 2025

Welcome

BranchED

Agenda

Day 1

Welcome and Connector

Setting the Stage

What's the Story Here?

Closing

Reception and Dinner

Image by Silvia Hernándezg from Pixabay

Who We Are

BranchED

Norms of Engagement

- Take an Inquiry Stance
- Be Vulnerable
- Assume Positive Intentions
- Take Responsibility for Impact
- Value Multiple Perspectives
- Be Present and Present
- Have FUN!

Surprise!

BranchED Tradition

- Poetry Slam
- Battle of the Bands
- Math Superheroes
- Children’s Books
- It’s All About the Data
- EBP Cheers
- Songs of the Summit: AI Edition
- ???

Lyrics

Goals

Source: www.freepick.com

Develop strategies to engage stakeholders in meaningful data conversations.

Identify and evaluate the quality of data.

Utilize techniques within the data processing cycle to turn raw data into meaningful information.

Explore various data sources to compare and contrast candidate performance.

Institute Webpage

https://www.educatordiversity.org/summerinstitute25/

International Association for Continuing Education and Training (IACET)

- International accrediting body.
- Accredits education providers that meet strict continuing education guidelines.
- IACET's standard is the core of thousands of educational programs worldwide.
- CEUs
  - Upon completion of all deliverables.

What We Ask of You

As a Sponsored Participant

Full attendance and active engagement during the institute

Complete feedback surveys (pulse check and final evaluation)

After the institute:

- Engage in a learning journey that will include applying what you've learned in your professional context.
- Submit a learning deliverable, which captures your key takeaways and implementation efforts.
- Participate in two, 1-hour, virtual comeback sessions, which will provide opportunities to share your experiences, discuss the impact of your learning, and continue collaborating with your peers.

Learning Objectives: Day 1

1

Understand the purpose, structure, and goals of the institute, setting expectations for collaborative work.

2

Surface preliminary assumptions and become familiar with the Summit Valley College of Education's contextual data to ground their work.

3

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

Getting to Know Each Other

Connector: Data Forecast

Review the various weather props.

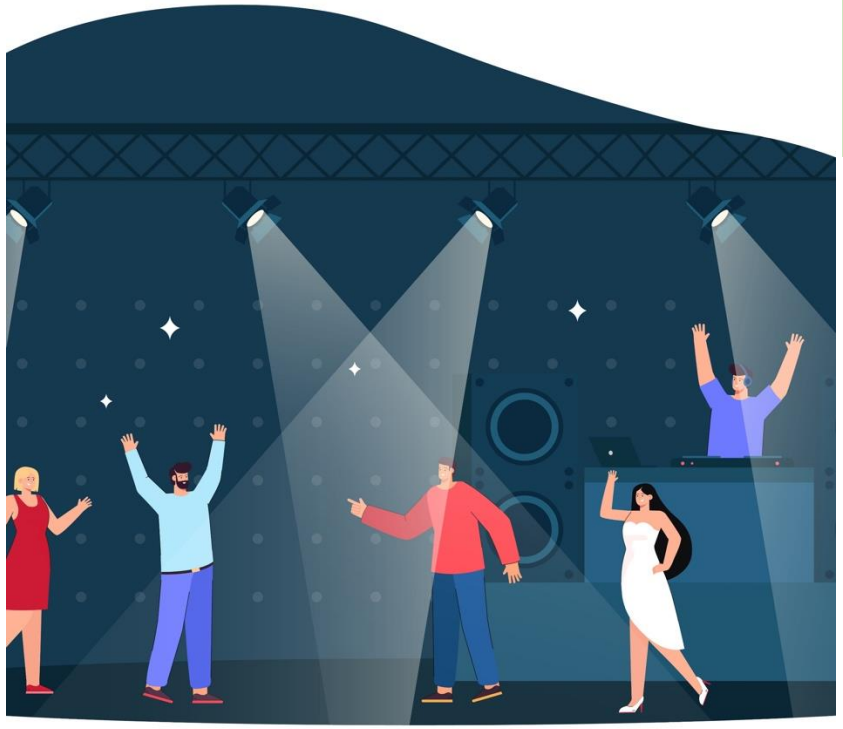
If your current relationship with data were a weather forecast, what would it be and why?

Share with your group and synthesize the forecast

Share Out

Setting the Stage

- Our Time Together
- The Story of Summit Valley College of Education and Its K-12 Partners



www.freep!k.com

Teams

www.freep!k.com

Team Composition

Perspectives to be Represented

- EPP Administrator (e.g., Department Chair, Associate Dean, Dean)
- EPP Faculty
- PK-12 Leader (e.g., District, Building)
- District HR Representative
- Others?

Data Empowered

Shared Understanding

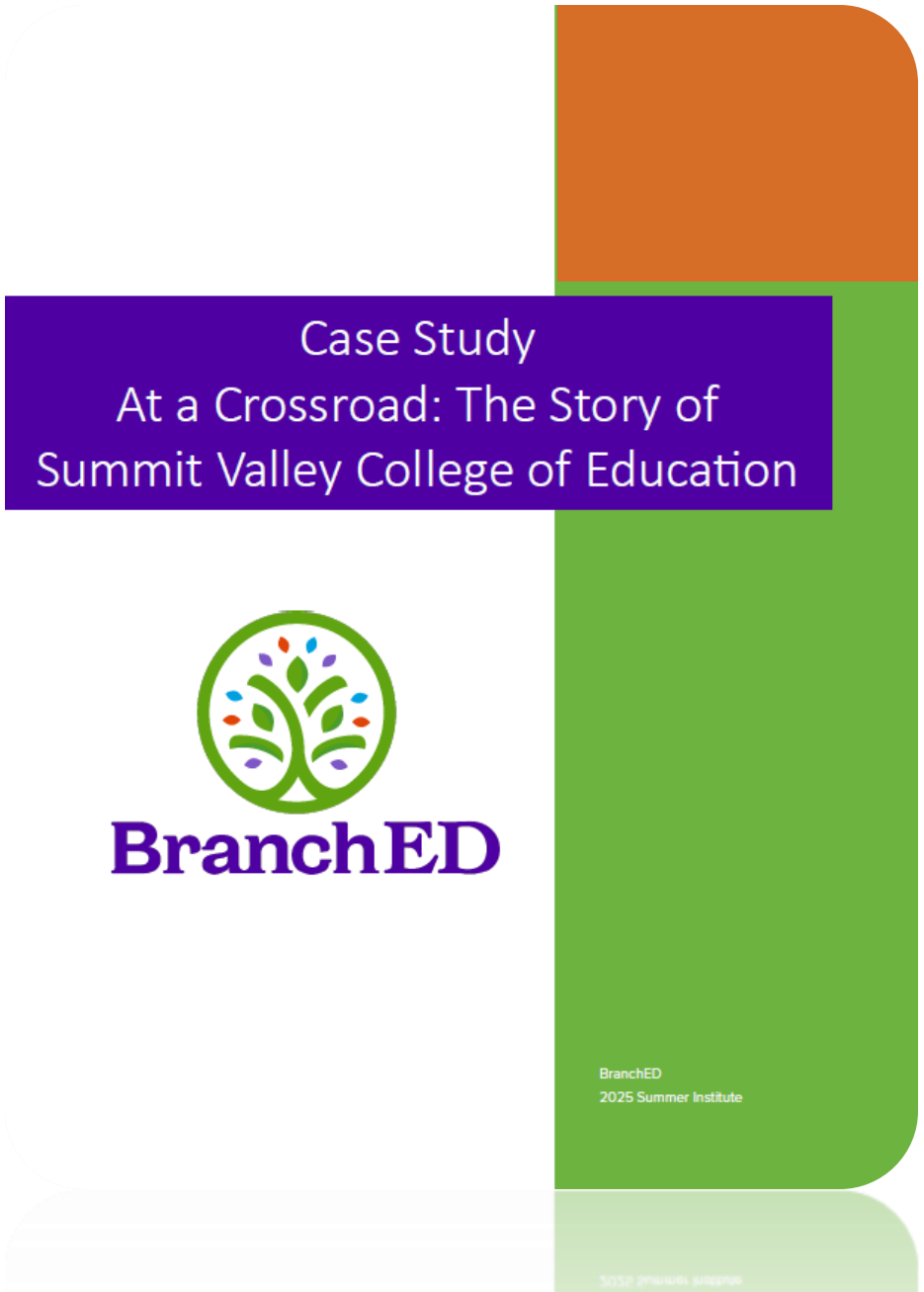
Individuals and the collective are **empowered to access and engage with their own data** to improve their community through an authentic and ongoing cycle of data collection, analysis, action, and reflection, which assists with **addressing systemic barriers and correcting unsubstantiated assumptions**.

- An active culture of inquiry
- Authentic and ongoing cycles of evidence-based improvement
- Entails asking thoughtful questions, moves through organizational learning and action, and ends with an evaluation of the effectiveness of actions taken.

What’s the Story Here?

Summit Valley College of Education and District Partner(s)

Case Study


Case Study
At a Crossroad: The Story of
Summit Valley College of Education
BranchED
BranchED
2025 Summer Institute

Dialogue versus Discussion

Shared Understanding

Dialogue

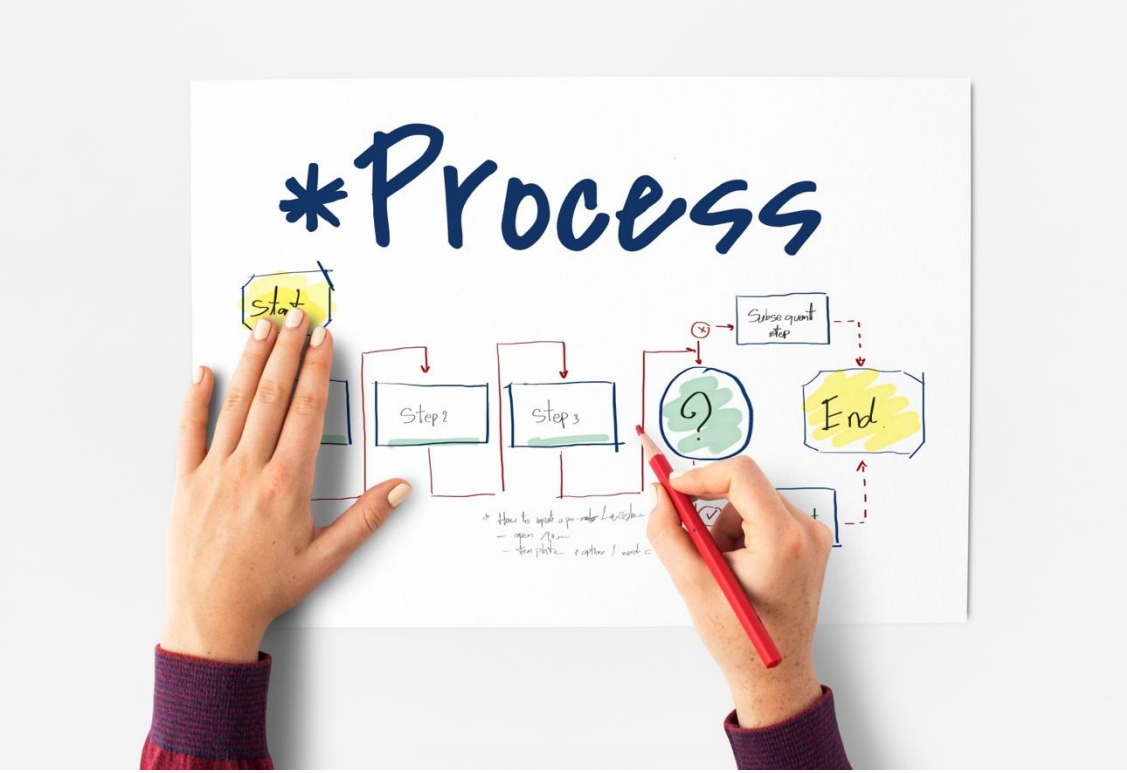
Free flow of communication amongst participants as they exchange and respond to ideas for the purpose of **reaching an understanding of the phenomena** being addressed.

Discussion

Exchange of information with the **express goal of decision making**, which often results in participants emphasizing the validity of their ideas versus being open to others' ideas.

Process for Dialogue

- Surface Assumptions and Make Predictions
- Suspend Judgement
- Inquire
- Reflect
- Listen
- Act



www.freep!k.com

Predictions

Initial Reaction

Individually	Small Group	Whole Group
Complete the following prompts: I assume… I predict… I wonder… My responses are influenced by…	Share your responses with your table mates. Where there any similarities? Differences? Wonderings that emerged	Popcorn share out 

BREAK TIME!

Predictions are based on assumptions

Surfacing Assumptions

Your assumptions are your windows on the world. Scrub them off every once in a while, or the light won't come in.

Alan Alda

The Problem

Be more in love with the problem than the solution. Trade assumptions and ambiguity for empathy and understanding.

Tom Barrett

What to do?

What Do We Need?

BranchED

Data

Here You Go...

Data say...

Record	Cohort Year	Cohort	Gender	Ethnicity	DOB	DOBY	DOBM	DOBD	Transfer	HS Graduate	High School	District Categories	HS GPA	HS GPA Categories	Pell	FIRST-GEN	EARLY COLLEGE	Exam Date	Exam Status	Domain A	Domain B	Domain C	Domain D	Exam Score
11	2020	Cohort 3	Female	White	4232004	2004	4	23	0	1	Southwood Charter Consortium	3	3.78	3	0	0	1	3/1/2022	NOT PASSED	33	25	36	36	155
14	2020	Cohort 3		White	5182003	2003	5	18	0	1	Southwood Charter Consortium	3	3.89	3	0	0	1	2/1/2022	NOT PASSED	35	33	38	40	179
22	2020	Cohort 3	Female	White	10272003	2003	10	27	0	1	Southwood Charter Consortium	3	3.82	3	1	0	1	1/10/2022	PASSED	35	38	35	50	196
27	2020	Cohort 3	Male	White	10272001	2001	10	27	0	1	Southwood Charter Consortium	3	3.72	3	0	0	1	12/15/2021	PASSED	38	28	44	50	188
28	2020	Cohort 3	Female	White	10212001	2001	10	21	0	1	Southwood Charter Consortium	3	3.79	3	0	0	1	1/10/2022	PASSED	32	29	39	50	179
37	2020	Cohort 3	Female	White	7192002	2002	7	19	1	1	Northgate Public Schools	2	3.43	2	0	0	1	12/15/2021	PASSED	46	33	38	48	198
42	2020	Cohort 3	Female	White	10212004	2004	10	21	1	1	Northgate Public Schools	2	3.51	3	0	0	1	1/10/2022	PASSED	35	38	45	40	196
45	2020	Cohort 3		White	9212001	2001	9	21	1	1	Southwood Charter Consortium	3	3.50	2	0	0	1	12/15/2021	PASSED	45	31	37	47	191
48	2020	Cohort 3	Female	White	522003	2003	5	2	0	1	Southwood Charter Consortium	3	3.71	3	0	0	1	2/1/2022	PASSED	44	30	38	45	187
53	2020	Cohort 3	Prefer not to respond	White	9112001	2001	9	11	1	1	Southwood Charter Consortium	3	3.86	3	0	0	0	2/1/2022	PASSED	35	40	29	46	190
56	2020	Cohort 3	Female	Hispanic/Latino	7152002	2002	7	15	1	1	Northgate Public Schools	2	3.16	2	1	1	1	3/1/2022	NOT PASSED	36	18	38	38	148
79	2020	Cohort 3	Binary	White	9262002	2002	9	26	0	1	Southwood Charter Consortium	3	3.89	3	0	1	1	2/1/2022	PASSED	43	30	31	46	180
81	2020	Cohort 3	Female	White	9132003	2003	9	13	1	1	Northgate Public Schools	2	3.50	2	0	1	1	12/15/2021	PASSED	45	22	45	48	182
86	2020	Cohort 3	Female	White	2242003	2003	2	24	0	1	Northgate Public Schools	2	3.29	2	1	1	1	3/1/2022	NOT PASSED	31	22	38	39	152
93	2020	Cohort 3	Male	White	9262002	2002	9	26	1	1	Southwood Charter Consortium	3	3.62	3	0	0	1	12/15/2021	PASSED	47	32	38	48	197
98	2020	Cohort 3	Female	ack/African Americ	9152003	2003	9	15	0	1	Northgate Public Schools	2	3.30	2	1	1	1	2/1/2022	NOT PASSED	35	23	32	50	163
103	2020	Cohort 3		White	282002	2002	2	8	0	1	Northgate Public Schools	2	3.81	3	0	0	1	2/1/2022	NOT PASSED	33	30	37	44	174
106	2020	Cohort 3		White	11262002	2002	11	26	0	1	Southwood Charter Consortium	3	3.72	3	0	0	1	12/15/2021	PASSED	40	40	40	41	201
109	2020	Cohort 3		White	7212002	2002	7	21	0	1	Southwood Charter Consortium	3	3.52	3	0	0	1	2/1/2022	NOT PASSED	40	25	30	48	168
115	2020	Cohort 3	Female	Hispanic/Latino	2242002	2002	2	24	1	1	Meadowbrook United	1	2.90	1	1	0	0	3/1/2022	NOT PASSED	33	25	36	36	155
118	2020	Cohort 3	Female	White	692002	2002	6	9	1	1	Northgate Public Schools	2	3.22	2	0	0	1	2/1/2022	PASSED	46	30	39	39	184
121	2020	Cohort 3	Female	White	11112002	2002	11	11	0	1	Northgate Public Schools	2	3.55	3	0	0	1	2/1/2022	NOT PASSED	36	29	36	39	169
124	2020	Cohort 3	Female	White	382002	2002	3	8	1	1	Northgate Public Schools	2	3.62	3	0	1	1	12/15/2021	PASSED	39	36	40	46	197

Data Assurance

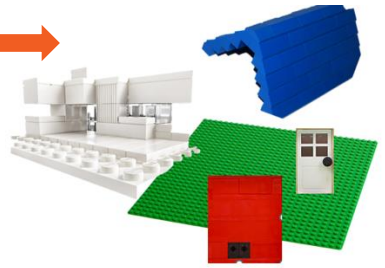
- Do we have a systematic process of identifying and eliminating anomalies in the data in preparation for analysis and interpretation?
- Why is that important?
  - Supports better decision-making, regulatory compliance, and operational efficiency.
  - Ensures data are accurate, consistent, and trustworthy throughout its lifecycle.
    - Data are at risk of being distorted by the influence of people and other external factors.

Data Assurance and Analysis Process

1 Data

2 Data Cleaning

3 Data Visualization



4 Data Analysis

?

Dimensions of Data Quality

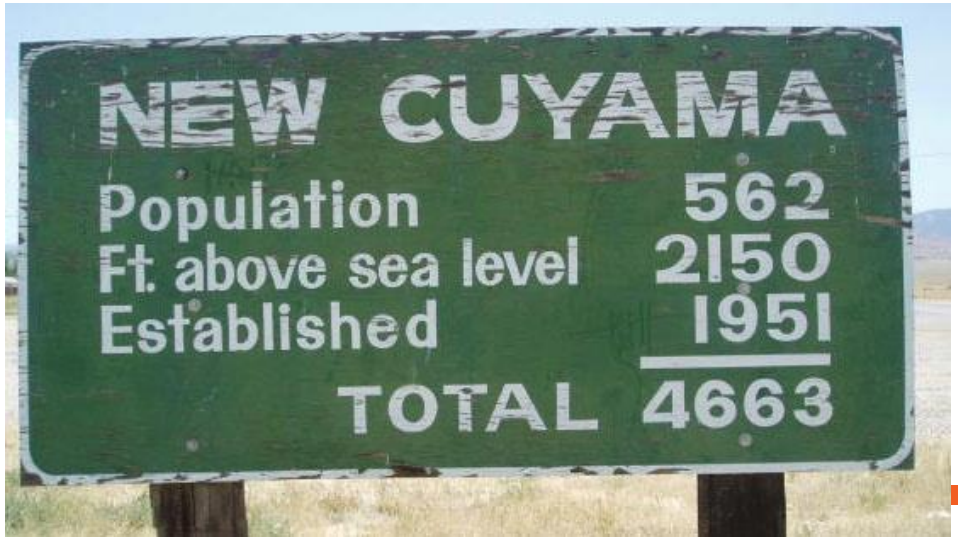
Accuracy
Are the data correct?

Completeness
Is anything missing?

Consistency
Are the data the same across systems?

Timeliness
Are the data up to date?

Validity
Does the data make sense?



Assuring Data Quality

Things to Keep in Mind

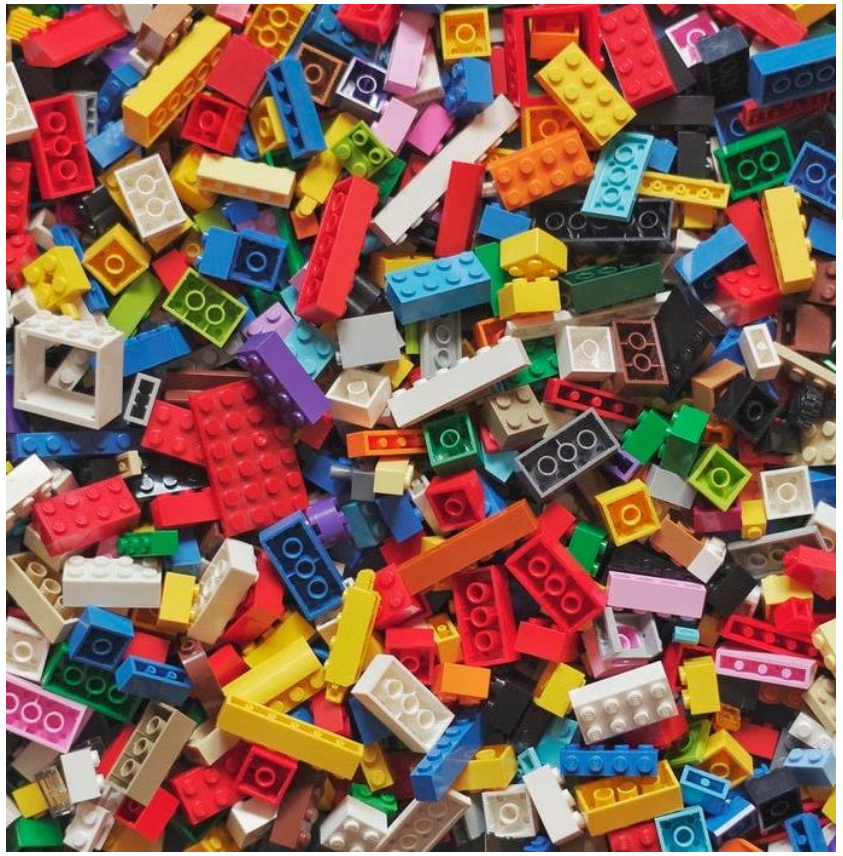
- Know what data you need to collect
- Establish rules for data entry, storage, and use
- Assign responsibilities across teams
- Leverage technology
- Schedule routine checks on data
- Encourage a culture of data ownership and stewardship

Making Data Speak

Data Visualization

The Why

- Creates opportunities for information to be shared and examined
- Focuses attention on fostering curiosity
- Provides context by drawing attention to key insights
- Leads to action



What "Legos" are we playing with?

Our Dataset

- The EPP and the District are reviewing data to gather insight into program quality and address district needs.
- There has been an overall concern regarding the candidate preparation and certification exam pass rates.
- District is concerned about new teachers' ability to create positive learning environments and student reading scores.

What's Our Focus?

Our Dataset

- Variables of Interest:
  - Cohort year
  - Exam status
  - Domain A, B, C, & D scores
  - Overall exam score

Making Data Speak

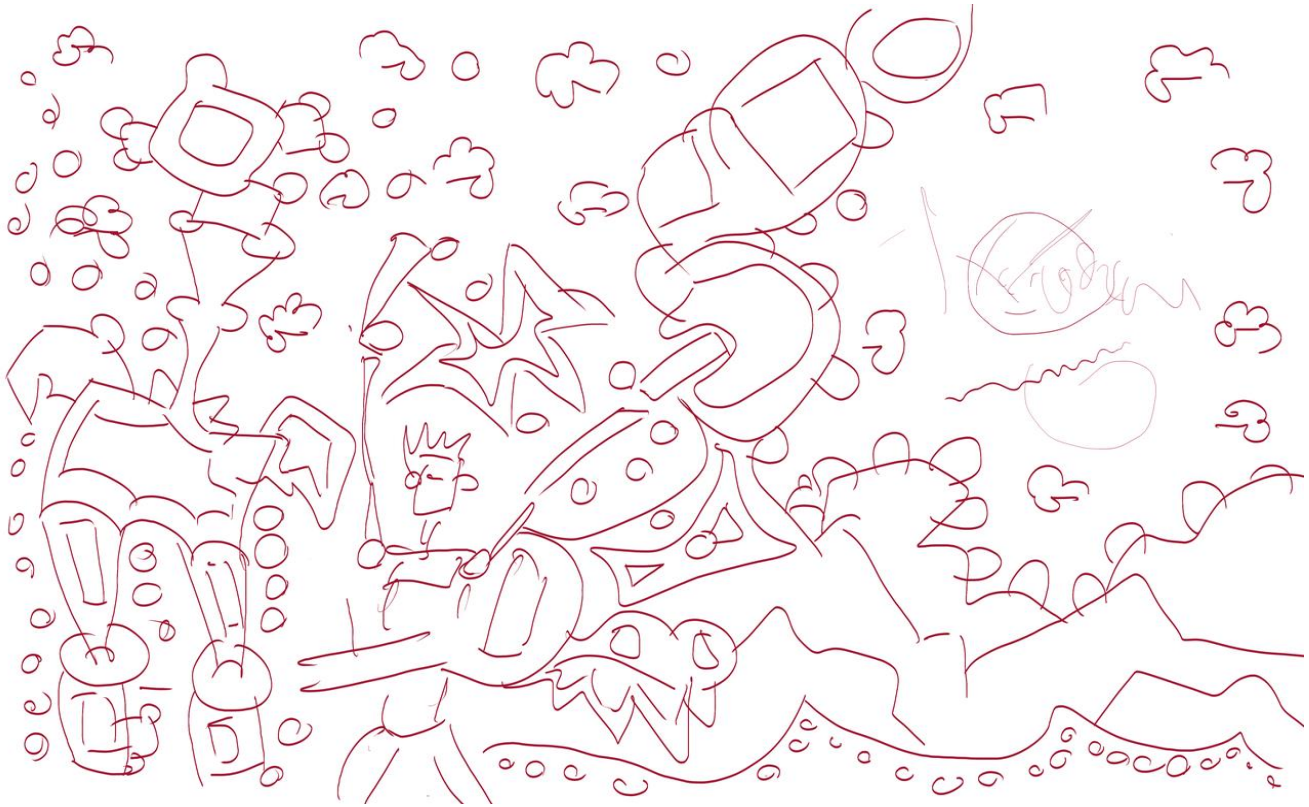
Data say…

Student ID	Cohort Year	Cohort	Exam Status	Domain A	Domain B	Domain C	Domain D	Exam Score
11	2021	Cohort 3	NOT PASSED	48	25	36	38	147
14	2021	Cohort 3	PASSED	42	33	38	38	151
22	2021	Cohort 3	PASSED	45	38	35	41	159
27	2021	Cohort 3	PASSED	45	28	44	40	157
28	2021	Cohort 3	PASSED	42	29	39	46	156
37	2021	Cohort 3	PASSED	46	33	38	42	159
42	2021	Cohort 3	PASSED	40	38	45	40	163
45	2021	Cohort 3	PASSED	45	31	37	41	154
48	2021	Cohort 3	PASSED	44	30	38	43	155
53	2021	Cohort 3	NOT PASSED	35	40	29	41	145
56	2021	Cohort 3	NOT PASSED	36	18	38	38	130
79	2021	Cohort 3	PASSED	43	30	31	50	154
81	2021	Cohort 3	PASSED	45	22	45	50	162
86	2021	Cohort 3	NOT PASSED	40	22	38	30	130
93	2021	Cohort 3	PASSED	47	32	38	40	157
98	2021	Cohort 3	NOT PASSED	35	23	32	30	120
103	2021	Cohort 3	NOT PASSED	40	30	37	30	137
106	2021	Cohort 3	PASSED	40	38	40	39	157
109	2021	Cohort 3	NOT PASSED	40	25	30	30	125
115	2021	Cohort 3	NOT PASSED	33	25	36	30	124
118	2021	Cohort 3	PASSED	46	30	42	41	159
121	2021	Cohort 3	NOT PASSED	36	29	36	39	140
124	2021	Cohort 3	PASSED	45	36	40	40	161

Initial SVCE Cohort 3 Dataset

Visualizing the Data

How would you do this?



OUR PROCESS

Reflect time: 2 minutes

Joint Review/Draw: 10 minutes

Share Out: 5 minutes

Discussion

Let's Talk

- Which visual did you use? Why?
- What data did you focus on? Why?
- What does the data show?

What are we trying to show?

Depends on the Data Scenario

How things change over time!

To single out one important number!

How we are better than a benchmark!

How 2+ numbers are alike or different!

How this changes and that does/doesn't!

What the survey says!

Where there are parts of a whole!

More Questions

Overall "Big" Dashboard Questions

- How did the program do as a whole?
- What were our strengths?
- What were our challenges?
- What were the results based on testing differences?
- Were there differences in test questions (MC vs. open-ended)
- Who are the strong candidates?
- How are our graduates performing in the district? How do we know?

Data Visualizations

Major Chart Type Categories

Overall, what percentage of students passed the exam?

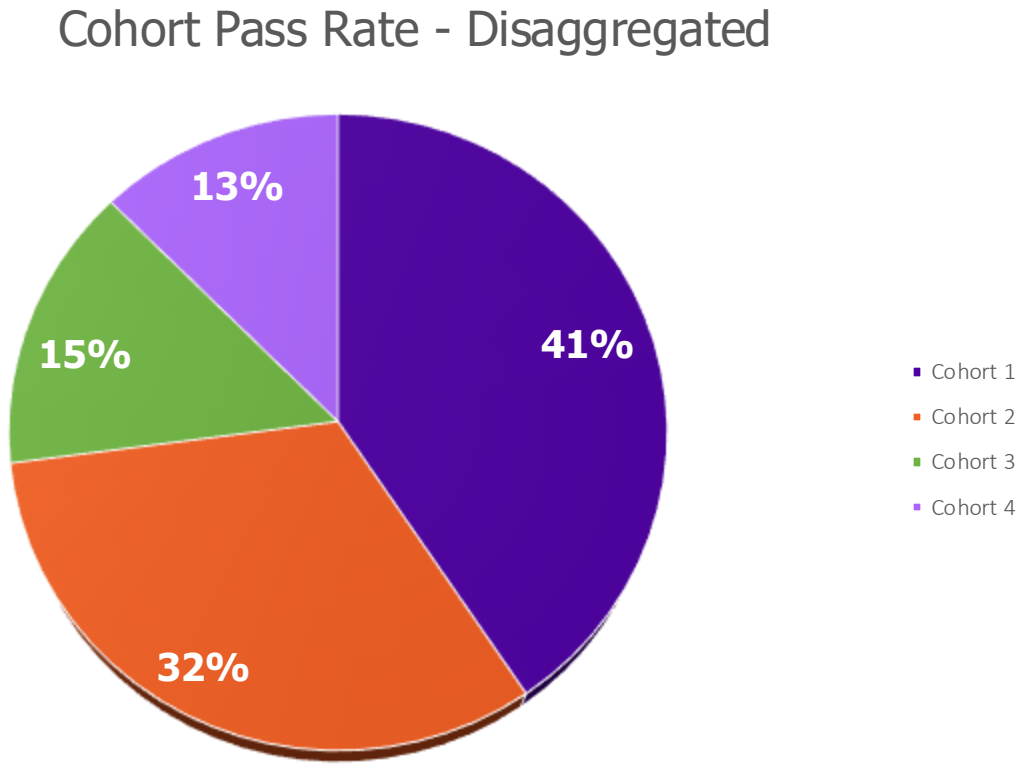
Where are students' strengths and challenges?

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%

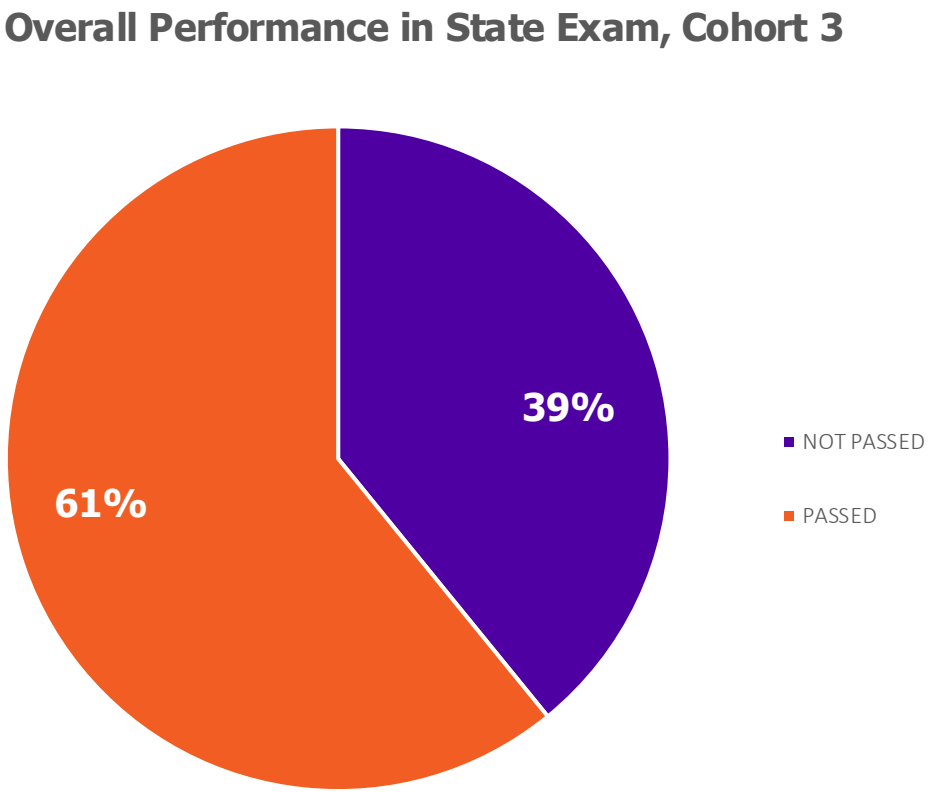


Show Composition

Better…

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

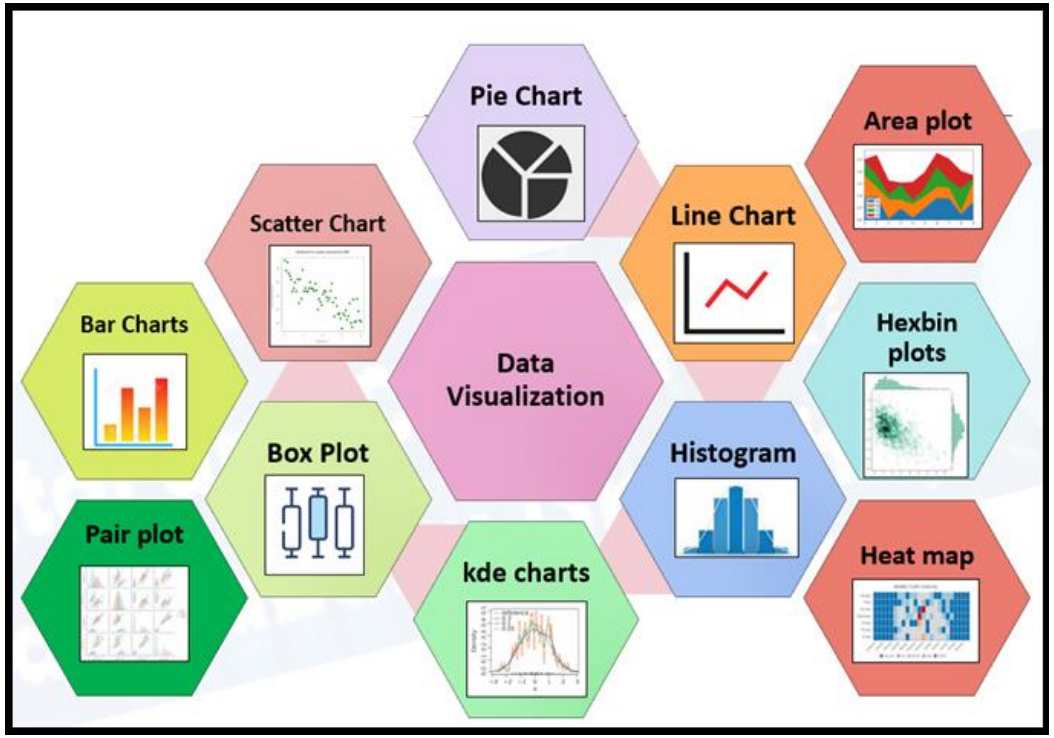
Domain range: 1-50
Overall Score Range: 1-200
Minimum Passing Score: 150



Next Level Visuals

Tips for Creating Effective Data Visualizations

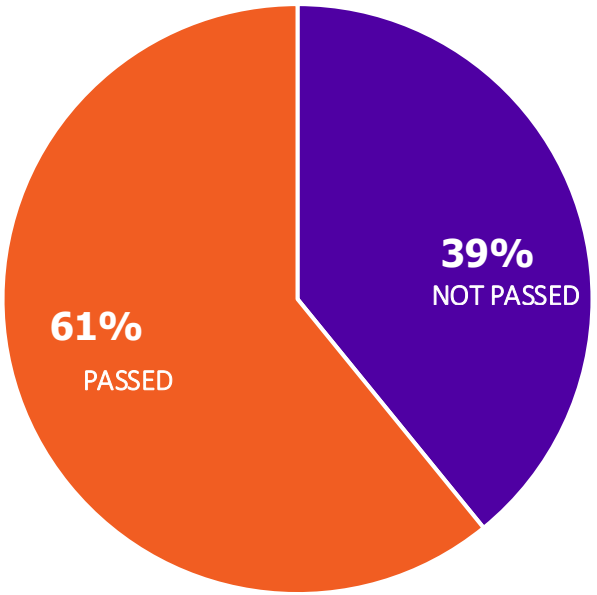
1. Clear Purpose
2. Right Classic Visual
3. Formatting is a Must
4. Strong Title
5. No Deception
6. Review, Revise, and Repeat



Next Level Visuals

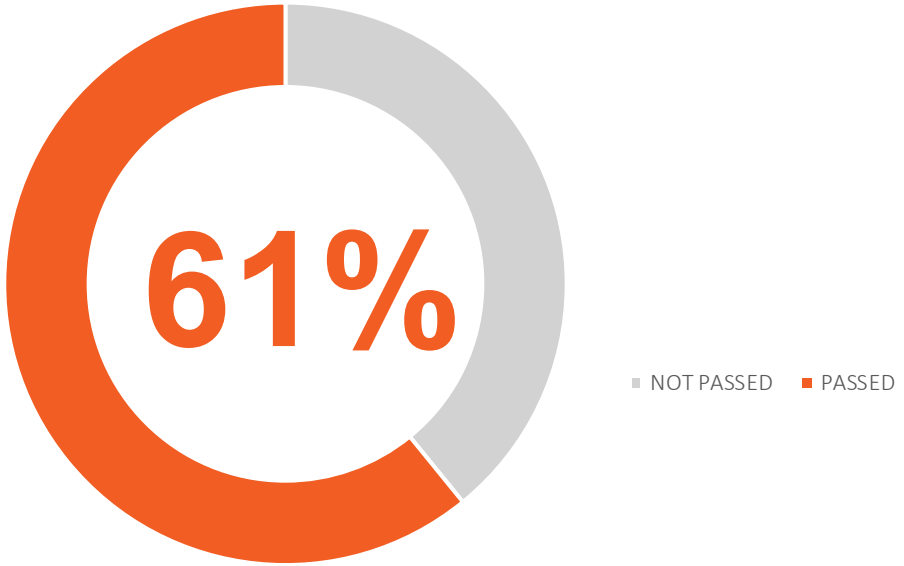
Best

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

Next Level Visuals

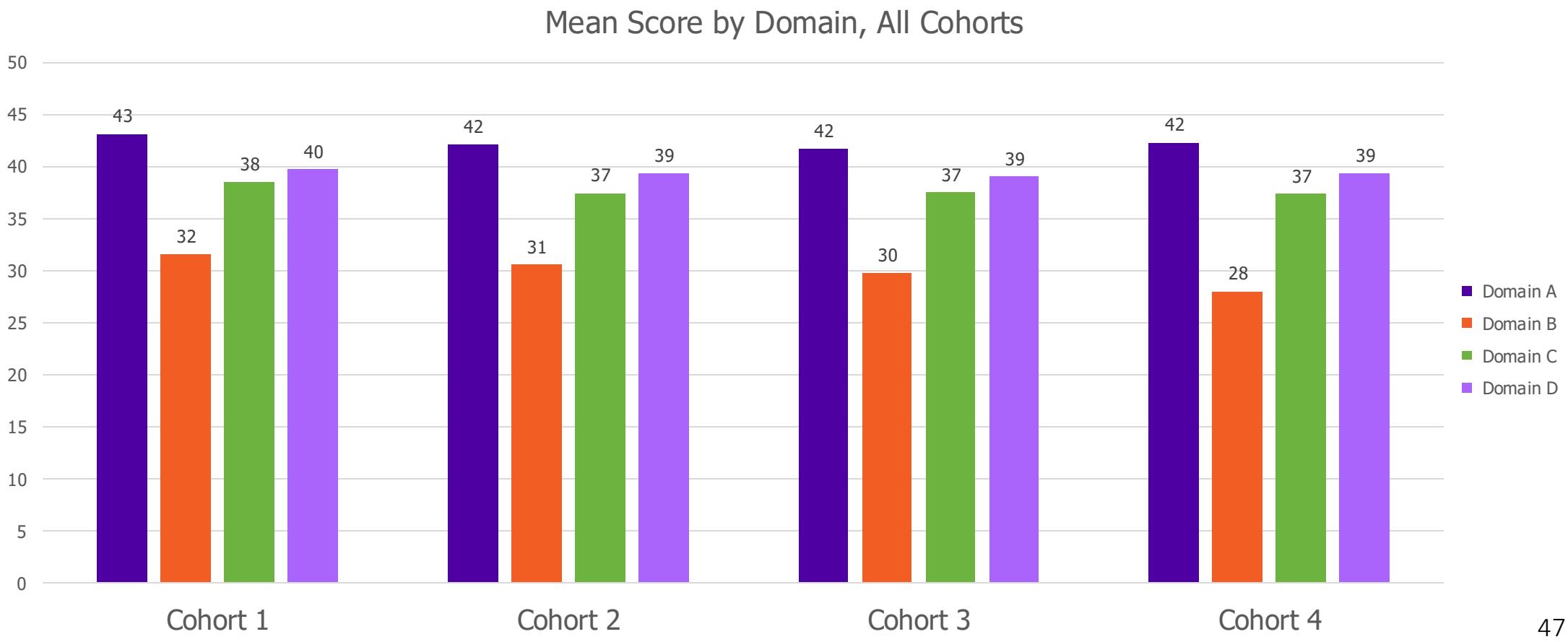
Showing Composition

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

61% **of all teacher candidates are passing the state exam for pedagogical knowledge.**

Compare Values

Example: What NOT to Do

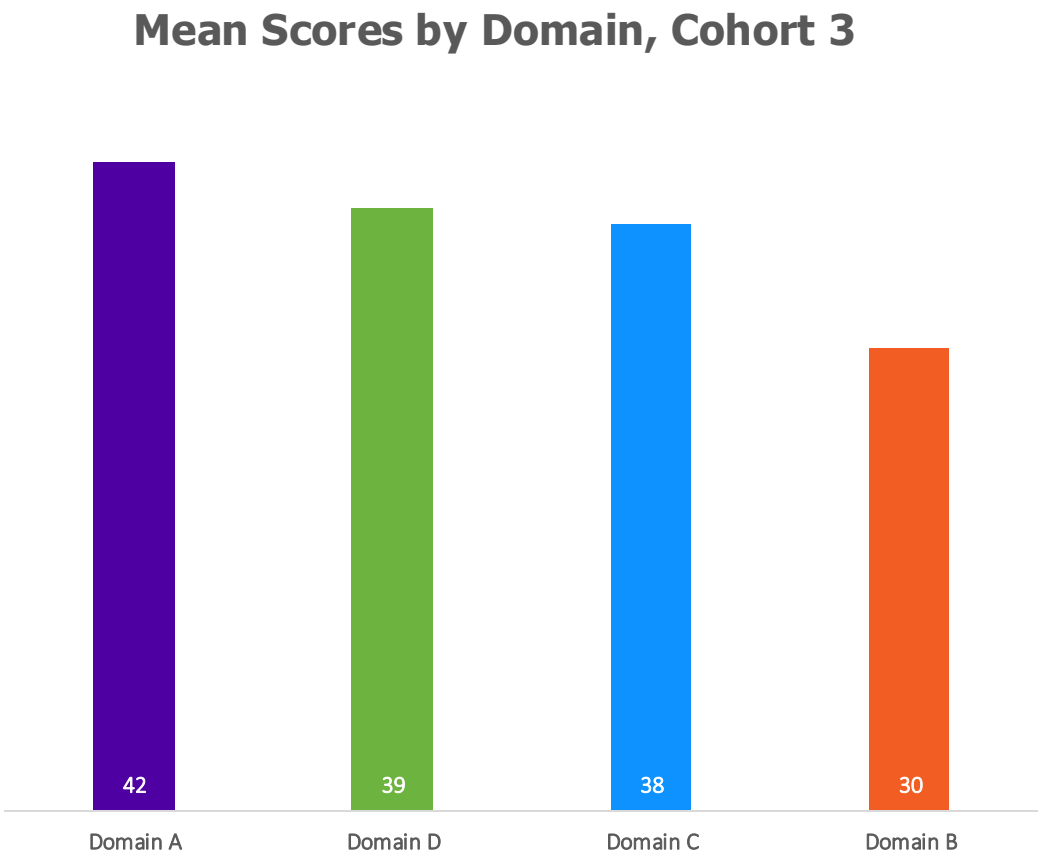


Compare Values

Better

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

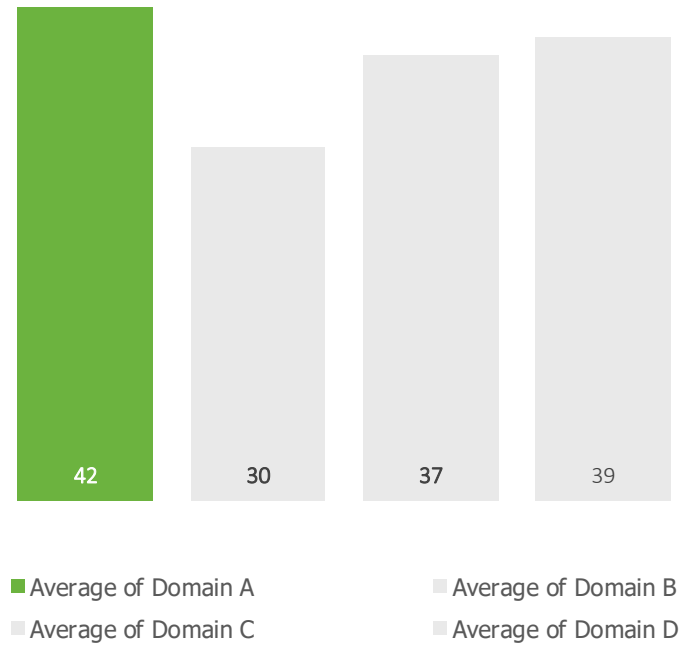
Pass rate: 61%
Domain range: 1-50
Overall Score Range: 1-200
Minimum Passing Score: 150



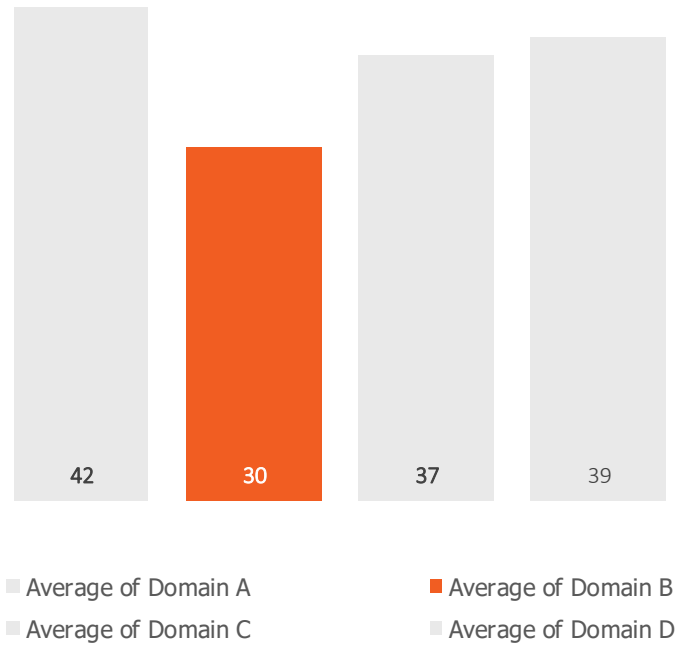
Next Level Visuals

Best

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

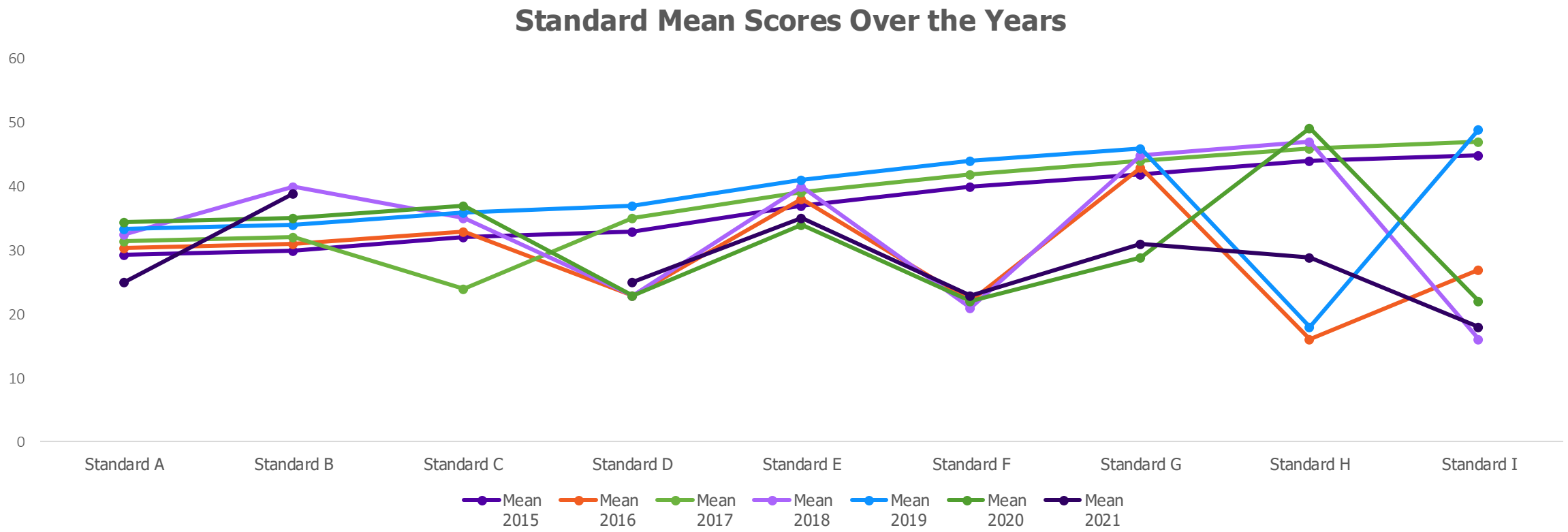


Candidates score the lowest in
Domain B based on average scores by domain



Examine Trends

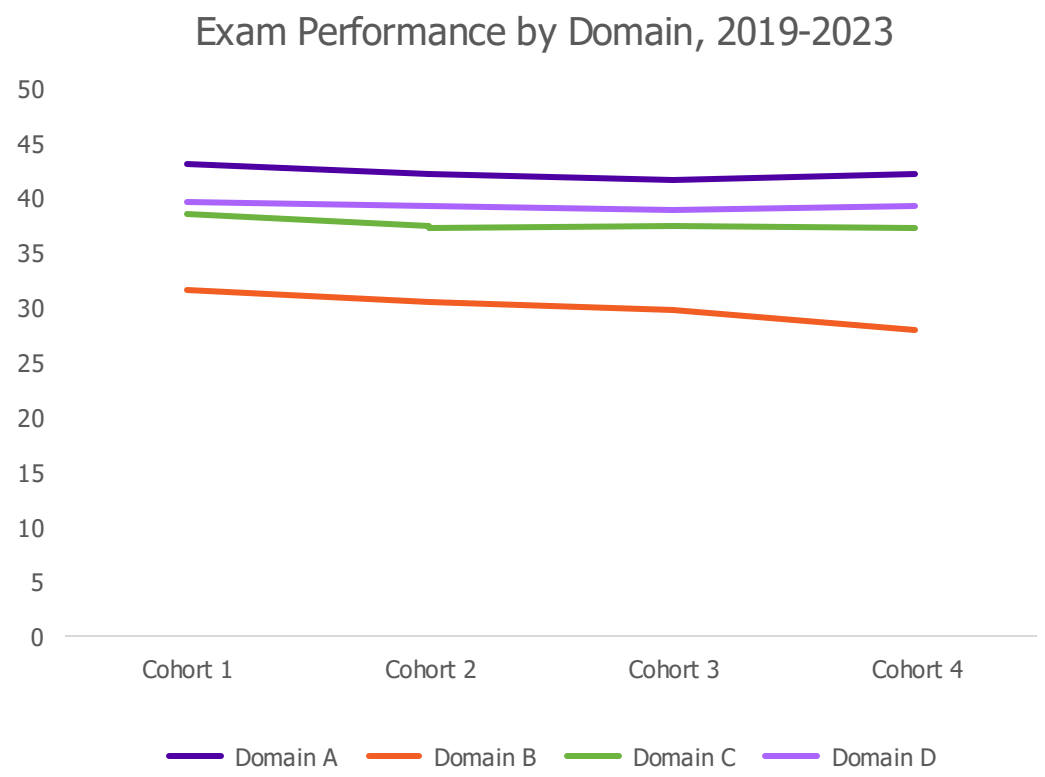
Example: What NOT to Do



Examine Trends

Better

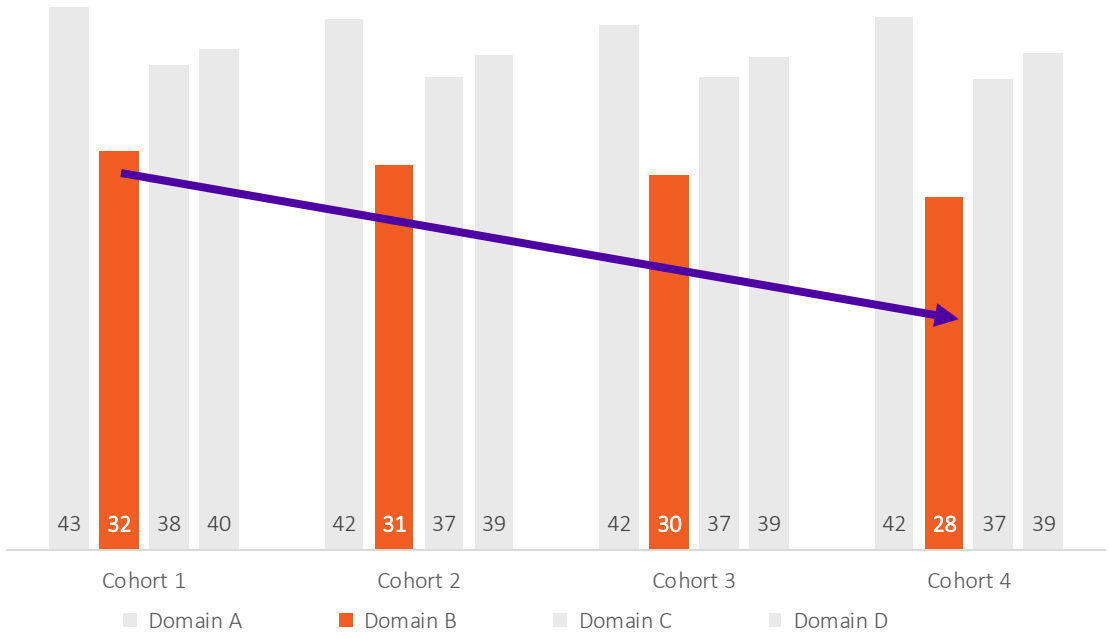
Year	Mean Scores By Domain				Overall Exam Score (Mean)
	Domain A	Domain B	Domain C	Domain D	
2019-2020	43	32	38	40	**153**
2020-2021	42	31	37	39	**149**
2021-2022	42	30	37	39	**148**
2022-2023	42	28	37	39	**147**
Overall Mean	**42**	**30**	**38**	**39**	**150**



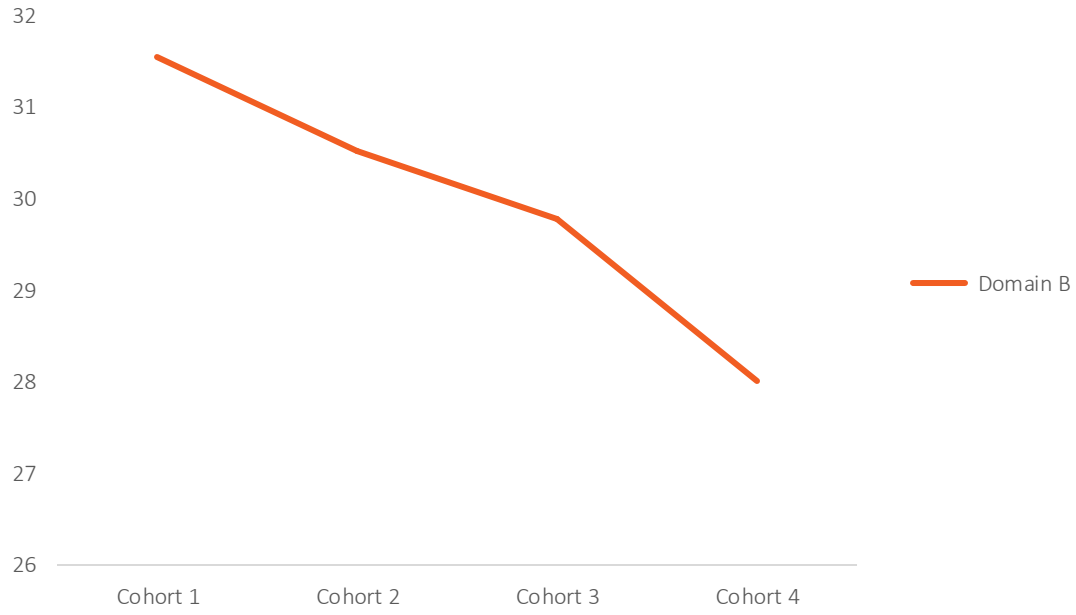
Next Level Visuals

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

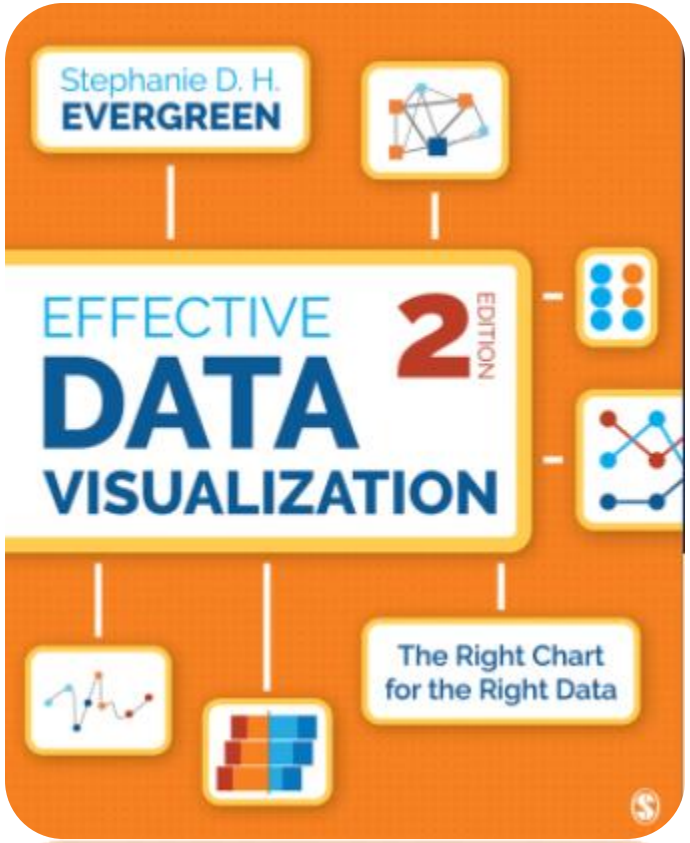
Creating Effective Visualizations

- 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

To Help You Visualize Your Data



Surprise!

DATA NEWS NETWORK

Bran[illegible]am

- [illegible]attle of the Bands
- Math Superheroes
- Children's Books
- It's All About the Data
- EBP Cheers
- Songs of the Summit: AI Edition

It's Data News Network

BranchED

Opening Headlines
- A high-energy overview of the "biggest stories" from the Institute

Field Reporter
- "On-location" interviews with participants about their journey

The Data Weather Report
- Outlook on the Data Forecast

The Data Desk
- A data-focused breakdown on what you learned

PSA Segment
- How to lead a great data conversation

Entertainment Segment
- Spotlight the creative or humorous moments that emerged

Closing Editorial
- Reflective closing statements about the data journey