Welcome!

Before we get started...

- Display Name: First & Last

- Program is recorded
  - Turn camera off to not be in recording

- Questions
  - Use chat function throughout session
  - Raise hand feature

Agenda

- ✓ Role of Data
- ✓ Sources of Data
- ✓ Collecting and Preparing Data
- ✓ Insights and Analysis
- ✓ Actions and Consequences

Questions?

- We invite you to ask questions throughout the training
  - Share in chat
  - Raise hand feature

Introductions

Russel Potter, Ph.D.
- Data Director for the Office of Indian Education

In the chat, please share:
- Your name
- Role
- School District
- What you're hoping to get out of today's training

Share in the chat

What role does data play in your work?

"Data are just summaries of thousands of stories – tell a few of those stories to help make the data meaningful."

Chip and Dan Heath: NYT Bestselling Authors of
Switch: How to Change Things When Change is Hard

Role of Data

- Data-driven decision-making: using **facts**, **metrics**, and **data** to guide decisions that align with your goals, objectives, and initiatives

  - **Data** – raw, unprocessed information
    - A list of student test scores
    - A count of attendees at an event
    - A stack of survey responses

  - **Facts** – processed, evaluated, and contextualized data
    - Represents objective, verifiable, and indisputable information
    - The average test score was 78%

  - **Metrics** – facts that provide quantifiable measures
    - Used to evaluate progress toward goals
    - Student graduation rate increased 5% over last year

From Data to Decisions

- **Start with your goals**
  - Reduce chronic absenteeism
  - Improve the academic outcomes of all students
  - Increase community engagement in the school

- **Know where you're at**
  - Find your current evidence
    - Chronic absenteeism has risen
    - District-wide proficiency rate is 29%
  - **Look for the story**

> "You can have data without information, but you cannot have information without data." —Daniel Keys Moran

From Data to Decisions

- **Start with your goals**

- **Know where you're at**

- **What do you need to know?** ?
  - Why are students absent?
  - Which students are behind? Ahead? On track?
  - Does the community trust the school?

- **Get more data** 🔍
  - Develop a collection plan
  - Include a plan to clean, query, and inspect

> "Data is like garbage. You'd better know what you are going to do with it before you collect it."
> - Mark Twain

"Every day, three times per second, we produce the equivalent of the amount of data that the Library of Congress has in its entire print collection, right? But most of it is like cat videos on YouTube or 13-year-olds exchanging text messages about the next Twilight movie."

– Nate Silver, founder and editor in chief of FiveThirtyEight.

Share in the chat

What data sources do you currently use for your grant?

Sources of Data

- Data is everywhere

- Narrow your focus:
  new data should match what you already have

- Tie everything to the stated goals

  - Chronic Absenteeism

  - Student Performance

  - Parental Engagement

Connecting Data Sources and Outcomes / Impact

- Three different outcomes / intended impact

    - Chronic Absenteeism

    - Student Performance

    - Community Engagement

- Decide which outcome/impact makes the most sense for each source of data

    - **Note**: multiple interpretations of data sources

- Whole group review and discussion of results

Types of data

Qualitative

- Also called categorical
- Sortable, but not measured
- Can't be expressed by numbers

- Examples
  - Surveys
  - Demographics
  - Observation notes
  - Interview responses
  - Letter Grades

Quantitative

- Countable
- Math-able
- Visualizations

- Examples
  - Test scores
  - Attendance rates
  - Enrollment numbers
  - Budgetary
  - Ratios

Making Connections

✓

Identify an issue
of interest

☁

Do a thing

⚠

See if the issue
has changed

Chain of Causation

- Scores at school A were low
  - Math Proficiency: 14%
  - ELA Proficiency: 16%

- We hosted a parent and community outreach night
  - 300 parents attended
  - 800 hot dogs eaten
  - 135 surveys

- Scores are better
  - Math Proficiency: 20%
  - ELA Proficiency: 24%

- Scores at school A were low
  - Math Proficiency: 14%
  - ELA Proficiency: 16%

- We did NOT host a community engagement event

- Scores are better
  - Math Proficiency: 16%
  - ELA Proficiency: 19%

Design considerations

01 When possible, use two (or more) similar populations

02 Treat one population different

03 Measure differences in outcomes at both

Tie everything back to student achievement

- Everything matters, not everything is possible
- Look for the connections
- **Tell the story** – how does the qualitative component speak to the results?

- What's the data that supports this?
  - From a design point –make sure you are responding to the data, not the conclusion it's intended to support.

Are expected outcomes realistic?

- Put the timing of the treatment in context
  - One community event is unlikely to impact immediately
  - Breakfast on the day of a test might impact that day's results

- Goal – should drive the cycle
  - Reduce CA – maybe that's iterative: we need daily/weekly improvement
  - Improve AASA scores – that's annual
    - Tweaks restart the process
    - Interim measures should be planned into the sequence

- If you have an idea, commit to a realistic time-cycle.
  - Year 1 – community outreach and engagement: develop a plan over the following 2 years
  - Year 2 – enact some kind of treatment/intervention as determined from the Y1 plan
  - Year 3 – grow the plan and continue to measure impact

Insights and Analysis – Qualitative

Find the story the data tells

- Parents are more involved in their students' learning
  - Volunteers have increased, report participation satisfaction
  - Parents report being able to help their kids with homework
- The Fall Festival helped parents and teachers make connections
  - Students show their parents around the school
  - Teachers report better communication with families
- More parents said they were familiar with what their child is learning.
  - Survey results show parents are more likely to…

Insights and Analysis - Quantitative

Explain the difference with summary numbers

- **Put results in context**
  - Math scores went up 6 points
    - Put that in context – is that a good outcome? How good? Is that more than expected? Did anything else happen to influence the outcome?
  - Math scores went up 6 points after we hosted the community night.
    - The proficiency scores on the math assessment went up 5 points **more** after the community event, than they did at the school without an event.

- **Focus on differences**
  - Math scores were low everywhere.
  - The school with the community program improved *at a rate 4 points greater* than at the school without the community program.
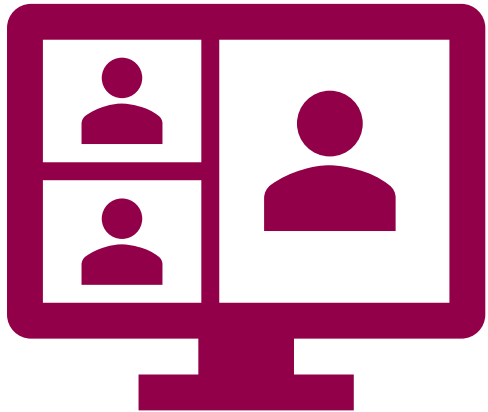
Actions and Consequences

→ Use the data to *make a decision*

  → Increase the use of community programs at all schools

→ Use the data to *make a plan*

  → Continue to improve, and use data along the way

Breakout Discussions

- What are you taking away from this training?

- How will you apply what you've learned in your grant work?

- What else do you need to know?

Questions?

Thank you for joining us today!

Feedback Survey

Arizona Department of Education