Using Data for Improved Student Outcomes

CISNC Impact Conference

Access Materials:
bit.ly/DataStudentOutcomes
Introductions

● Angela Jackson, NCDPI

Who’s in the Room?
Remember

1. Resources for the session can be found in the app.
2. Tweet about this session using #Allinforkids.
3. Click the Presenter(s) pic or icon to take you to their twitter profile (if applicable).
4. Complete the session survey in the app at the end.
Student Success/Impact

- How do you describe Student Success?
- How can you/your program make an Impact?
Purpose and Goals of the Session

**Purpose**: To gain deeper understanding of how to use data to improve outcomes

**Goals**
- Learn why to use data for programmatic improvements
- Learn the types of data
- Learn to use the continuous improvement cycle
- Learn data analysis techniques
- Learn some common problem-solving and decision-making processes
Agenda

● Introduction
● What is student success?
● Purpose and goals
● Why use data for program improvements
● Types of Data
● PDSA: Continuous Improvement Cycle
● Data Analysis Processes
● Using Data Analysis Findings
Problems, Problems...

Think about the programs that you implement...

- List some of the problems that you are trying to solve with the programs
- Discuss your list with those at your table
Why is Data Important

Purpose of Using Data in Education
Why is Data Important

- Replace hunches with facts
- Enable us to tackle root causes instead of symptoms
- Enable us to determine if we are accurately tracking effects
- Assist in understanding the impact of various efforts
- Allow us to describe the “impact” of our program
Reasons for Reluctance to Use Data

- Lack of proper training
- Lack of access to data in a usable form in a timely manner
- Lack of time
- Feast or famine
- Fear of evaluation
- Fear of exposure
- Confusing a technical problem with a cultural one
Purpose Using of Data

The Education Trust:
● Bring educators and community members together
● Focus attention and community action on real – not assumed – problems

Johnson:
● Report and understand data related to the achievement gap seen in low income, rural and minority populations
Purpose: Bernhardt

- Understand current and future needs and how well current processes meet needs
- Identify ways in which the school and community are changing
- Identify the root causes of problems
- Determine future needs
- Meet federal and state requirements
- Provide students with feedback
- Measure program success and effectiveness
- Determine stakeholders’ perceptions of the learning environment
How to Think about Data

- Start with the problem and how to solve it
- Then, have the mindset, “Let’s prove it!”
- Identify the data you have available to you
- What other types of data would help solve your problem
- Analysis of data should always lead to more questions (not just answers)
- Question Everything!
Types of Data

For Programmatic Improvement
Types of Data

Activity

● List all the types of data you have available to you in your role that can be used for program improvements on the chart paper.
Types of Data (measures of data)

Examples of Demographic Data

Examples of School Process Data

Examples of Student Learning Data
Types of Data – Levels of Evaluation

OVER TIME

School Processes
Data that describes School Programs and Processes Master Schedule

Student Learning
EOGs, EOCs, NC Final Exams, Goal Summary Forms, EVAAS, Benchmark Assessments, Diagnostic Assessments

Perceptions
Perceptions of Learning Environment, Value and Beliefs, Attitudes, Observations

Demographics
Enrollment, Attendance, Dropout Rate, Ethnicity, Gender, Grade Level
Types of Data: Implementation & Student Outcome

**Implementation**

Examples:
- Self assessments
- Assessing with a program rubric
- Visitation Logs
- Professional development records, coaching records, etc.
- Master schedule
- Interviews

**Student Outcome**

Examples:
- End of Grade Tests
- GPA
- Attendance
- Graduation Rate
- Grades
Types of Data

Activity (Continued)

- Go back to the chart paper with the data that you listed
- Use the dots to identify the types of data
  - Student Learning: Green
  - School Processes: Red
  - Demographics: Blue
  - Perceptions: Yellow
- What do you notice?
- Circle all “Implementation Data”
- What do you notice now?
Cycle of Improvement

Plan, Do, Study (Check), Act: PDSA

- **Plan**: Identify the problem, root causes; Research possible solutions; Identify solution and implementation program; Identify types of data to monitor the solution/program
- **Do**: implement the program; begin collecting and analyzing data
- **Study/Check**: Analyze the results thus far; Is progress being made? Research other possible implementation ideas
- **Act**: Implement any changes; Collect and analyze data
Continuous Improvement with Data

- Program Adjustments
- Intervention systems
- Intensifying interventions
- Provide support for struggling providers

- Monitor implementation data
- Monitor PD Data
- Identify Struggling Students

- Analyze available data
- Data Disaggregation
- Data Displays
- Data Analysis
- Problem Solving
- Plan for implementation

- Implement program
- Collect implementation data
- Analyze data
Data Analysis Techniques

Program Improvement
Data Analysis

**Definition:**
Analysis of data is a process of **inspecting**, **cleansing**, **transforming**, and **modeling data** with the goal of:

- discovering useful information
- problem-solving
- suggesting conclusions
- supporting decision-making
Data Analysis: Factors to Consider

- Disaggregate: Break it down
  - Subtests, grade levels, demographics
  - Compare with similar group or norm group
  - Compare against a standard
- Aggregate: Put it together or look longitudinally
- Use multiple data points - Triangulate:
  - Multiple measures
  - Multiple sources
  - Multiple levels (across measures and time)
- Challenge assumptions
- Review existing research and theory
Think of data analysis and data disaggregation as "peeling an onion." Every layer is more data... So, the more you peel, the more you get!
Data Disaggregation: Peeling the Data

- District
- K-12 Feeder Patterns
- Initiatives
- Area/Regions/Zones
- School Levels
- Grade Levels
- Programs and tracks
- Teams
- Classroom/Teacher
- Subgroups of students
- Students
Data Analysis: Triangulation

Use multiple sources (norm-referenced, criterion-referenced, performance-based assessments)

OR

use multiple measures (demographics, perception, achievement, school process)

OR

use multiple time intervals (weekly, quarterly, annually)

for a TRUE picture of student performance
Other Data Analysis Techniques

• Create Data Displays
  o Graph your data
  o Color-code table data
• Identify struggling students
• Look for trends and patterns in the data displays
  o Record the data trends and patterns
  o Create a narrative to represent the data
• Share and Discuss the data with all stakeholders
  o Use general questions for data analysis (next slide)
  o Data Chats using a protocol
General Questions for Analysis Activities

- What do these data seem to tell us?
- What do they not tell us?
- What else would we need to know?
- What good news is there here for us to celebrate?
- What needs for program improvement might arise from these data?
Data Analysis and Decision-Making Processes

For Programmatic Improvement
Problem Solving
Tools/Techniques

Use for problem-solving and decision-making once you have analyzed data

- Cause and Effect Diagrams (Fishbone)
- Check Sheet
- Affinity Diagram
- Force Field Diagram
- SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats)
Using Data Analysis Findings

For Programmatic Improvement Plan Development
Using Data Analysis to Develop & Monitor Programs

● Utilize available data to develop SMART Goals to improve problems (areas of challenge; root causes, etc...)
  o Specific
  o Measureable
  o Attainable
  o Relevant
  o Time Based

● Examples:
  o By June 2018, targeted students’ attendance rate will improve by 10% when compared to the previous school year
  o By June 2018, targeted students’ will decrease the number of discipline referral by 10 compared to the previous school year
Using Data Analysis to Develop & Monitor Programs

- Utilize your data analysis findings and problem solving to develop robust strategies/tasks for your each goal in your plan
- Strategies/Tasks: Programmatic Changes and Support for Struggling Students
  - Address all areas of challenge with specific strategies to improve
  - Continue areas of strengths (that support the goal)
  - Address all subgroups and struggling students (tiered interventions)
  - Include a variety of schoolwide interventions both during school and before/after school to support students
- Create professional development to enable staff to meet the strategies/tasks in the SIP
Using Data Analysis to Develop & Monitor Programs

- Create implementation timelines for the goals and strategies/task within the goals
  - What data is needed to monitor implementation

- Benchmarks: Indicate the data that will be used to monitor progress (Progress Monitoring) of goals throughout the year
  - What data will be needed
  - What teams will monitor
  - How often you will monitoring take place

- What are the outcomes expected
  - What data will be needed
Using Data Analysis to Develop & Monitor Programs

- Based on the data sources you selected, can you identify (from your current plan or how you would adjust plan)
  - Strategies/tasks for each goal
  - Professional development activities
  - Implementation timelines
  - Data for monitoring
  - Expected outcomes
Please Provide Session Feedback in the App Now

1. Select the “schedule” button of the conference app and find this session.
2. Click on the “provide feedback for this session” button in green right below the session name.
3. Answer the questions and submit.

Thank you we value your input!
Data Analysis and Progress Monitoring

Thank you for your engagement!

Data analysis and progress monitoring can be challenging and time consuming, but empowering in the end!
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