Data Use
Professional Development
Series

301
The contents of this slideshow were developed under a Race to the Top grant from the U.S. Department of Education. However, those contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the Federal Government.

Rhode Island educators have permission to reproduce and share the material herein, in whole or in part, with other Rhode Island educators for educational and non-commercial purposes.

© 2013 the Rhode Island Department of Education and Amplify Education, Inc.
Welcome!
Data Use PD by the numbers

2012-2013 Wireless Generation Becomes Amplify
• 30 Cohorts (600+ RI educators)
• 136 schools (public and charter)
• August, 2012 = 63 days of training
• September, 2012 = 25 days of training
• 5 Full Time Data Analysis Coaches
• 4 Part Time Data Analysis Coaches

2013-2014 Amplify
• 32 Cohorts (almost 700 RI educators)
• 152 schools (public and charter)
• August, 2013 = 87 days of training
• September, 2013 = 3 days of training
• 6 Full Time Data Analysis Coaches
• 1 Part Time Data Analysis Coach
# Agenda

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome/Overview</td>
<td>Welcome/Overview</td>
<td>Welcome/Overview</td>
</tr>
<tr>
<td>Cycles of Inquiry</td>
<td>Cycle of Inquiry: Practice 1</td>
<td>Collaboration and Transparent Data Cultures</td>
</tr>
<tr>
<td>Data Use PD Implementation</td>
<td>High and Low Stakes Decision</td>
<td>SDLT roles and low stakes Data Conversations</td>
</tr>
<tr>
<td>Break</td>
<td>Making</td>
<td>Break</td>
</tr>
<tr>
<td>Identifying Patterns of Need</td>
<td>Data Inventory</td>
<td>Data Conversations: Authentic Practice</td>
</tr>
<tr>
<td>Connecting Initiatives</td>
<td>Break</td>
<td>Lunch</td>
</tr>
<tr>
<td>Lunch</td>
<td>Vision Statement</td>
<td>COI: Integration with Current Practices</td>
</tr>
<tr>
<td>Implementation Planning</td>
<td>Implementation Case Studies</td>
<td>Root Cause Analysis</td>
</tr>
<tr>
<td>Data Conversations</td>
<td>Integrating Initiatives</td>
<td>Break</td>
</tr>
<tr>
<td>Questioning Techniques</td>
<td>Lunch</td>
<td>Implementation Planning</td>
</tr>
<tr>
<td>Break</td>
<td>Cycle of Inquiry: Practice 2</td>
<td>Wrap-Up/Evaluations</td>
</tr>
<tr>
<td>Data and Differentiation</td>
<td>Root Cause Analysis</td>
<td></td>
</tr>
<tr>
<td>Wrap-Up/Evaluations</td>
<td>Break</td>
<td>Data Conversations Practice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Implementation Planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wrap-Up/Evaluations</td>
</tr>
</tbody>
</table>
Norms for our time together

Professionalism:
  - Reasonable Bio/Tech Breaks
  - Mutual Respect for Time and Others

Participation:
  - Active Listening
  - Shared Talk Time
  - Willingness to Engage with Openness and Honesty

Problem Solving:
  - Solution Oriented

Other:
Day 1 Objectives

By the end of Day 1, SDLTs will be able to:

- Define the role of an SDLT member.
- Describe the Cycle of Inquiry and how it relates to current school processes.
- Articulate the stages of the Short Cycle of Inquiry.
- Articulate the purposes of Data Conversations.
- Reframe questions using Positive Presumptions.
The Big Picture

• When teachers use data to make instructional decisions, what processes do they use?
• What are the gaps in understanding or knowledge that currently exist at your school?
• What are the areas we can strengthen that will help take your school’s data use to the next level?
RTI Problem-Solving Process

1. Problem Identification
2. Problem Analysis
3. Plan Development
4. Plan Implementation
5. Plan Evaluation

- Modify
- Intensify
- Revise
- With Expanding Support
Cycles of Inquiry
Data Use PD Implementation

Data Analysis Coach Roles and Responsibilities

- Facilitation of Data Use Workshops
  - Adapt and deliver content to meet the needs of the participants
  - Promote a safe and engaging learning environment
  - Help participants meet learning objectives
- Provide individual coaching to schools
  - Confer with school and/or principal before each site visit
  - Assist schools in reflective practice
  - Collaboratively problem solve school Data Use challenges
  - Build capacity for effective Data Use within schools
Data Use PD Implementation

SDLT Roles and Responsibilities

• Strategize how to best enhance data-informed decision making while building upon current data practices in your school
• Develop a plan for increasing the frequency and effectiveness of data use in your school
• Introduce the Cycle of Inquiry to faculty and support them in applying it to their everyday practice
• Implement Turnkey Activities with faculty
• Collaborate with peers in applying data use practices and data analysis skills
• Prepare faculty for Data Analysis Coach site visits
• Engage in ongoing communication with Data Analysis Coach
• Create a Sustainability Plan for your school
Turnkey Materials

Bringing this work back to your school

- Getting Started
- Analyze
- Strategize
- Act
- Data Conversations
Collecting Reflection Data
Who is already doing this work at your school?
Summary

• Frequent low-stakes Cycles of Inquiry are at the core of the work.

• The Cycle of Inquiry focuses on using data in low stakes ways to adjust core instruction.

• SDLT members play an integral role in implementing Data Use PD in schools.

• The work will expand by building on assets already in place.
Patterns of Need:

Common results in the data for a group of students specific enough to allow you to target instruction where it is needed.

The need may be skill-based or content-based. It does not necessarily mean an area of weakness; there could be a need for enrichment or extension if the pattern indicates student strength in a particular area.
Identifying Patterns of Need
Summary

• Identifying Patterns of Need for clusters of students provides opportunities to ask big questions and examine our core teaching practice.

• Understanding the connections between initiatives creates synergies.
Lunch
Data Conversations

Three types of Data Conversations:

- Gathering Information
- Guiding Improvement
- Finding Solutions
Data Conversations
The students in Mrs. Smith’s class are showing proficiency levels greater than the state, district, and school averages in reading.

The same cannot be said in math however, where her proficiency levels are behind the state, district, and school averages.

As Principal, which type of Data Conversation would you engage in with Mrs. Smith?
## Presuming Positive Intent

<table>
<thead>
<tr>
<th>Finding Solutions</th>
<th>VS.</th>
<th>Gathering Information</th>
<th>Guiding Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it easier for you to teach that way because your students are more focused than mine?</td>
<td>What strategies do you use to keep your students so focused?</td>
<td>Is Johnny failing your class too?</td>
<td>I want to learn more about Johnny’s performance in different content areas; how is he doing in your class?</td>
</tr>
</tbody>
</table>
Positive Presumptions

• Involve thinking through what you really want to know, and what assumptions you are making before you ask a question.
• Presume a positive result has already taken place; so you ask a question with this assumption already in mind.
• Presuming positive intent is not the same as “being positive”.
# Reframing

<table>
<thead>
<tr>
<th>Negative Presumptions</th>
<th>Positive Presumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you going to help Frank with that math problem?</td>
<td></td>
</tr>
<tr>
<td>Did you use quiz results to form these groups?</td>
<td></td>
</tr>
<tr>
<td>You failed this test. What happened, you didn’t study?</td>
<td></td>
</tr>
<tr>
<td>Have you developed differentiated lesson plans for your students?</td>
<td></td>
</tr>
</tbody>
</table>

VS.
Summary

• Presuming Positive Intent makes Data Conversations more productive.

• Data is not an end all result, but the beginning of a Conversation.
Mr. Cole is a merry old soul. His math students enjoy coming to class. His attendance rate is 98% where the rest of the school is 94%. Whenever an adult walks into his class, they see great student engagement.

The math teachers in Mr. Cole’s school have developed common assessments. Mr. Cole’s last few sets of test scores have been below average for his grade level, which is surprising to his principal since his students seem so interested in the class.

After receiving the most recent test scores, the following Data Conversations take place:

1. Guiding Improvement Conversation between the Principal and Mr. Cole
2. Information Gathering Conversation between Mr. Cole and one of his students
3. Finding Solutions Conversation between Mr. Cole and other math teachers
Data Conversations

Logging Data Conversations

Date: <br>Met with: <br>☐ Administrator <br>☐ Teacher <br>☐ Student <br>☐ Parent <br>☐ Other: <br>What type of conversation did you have? <br>☐ Gathering information <br>☐ Guiding improvement <br>☐ Finding solutions <br>What step of the Cycle of Inquiry were you in? <br>☐ Analyze <br>☐ Strategize <br>☐ Act <br>What is one question you asked during the conversation? <br>What strategies are you considering to help your students achieve proficiency with 2-digit addition? <br>What was one result of the conversation? <br>The teacher will have students work in small groups with base 10 blocks to solve 2-digit addition problems.

Date: <br>Met with: <br>☐ Administrator <br>☐ Teacher <br>☐ Student <br>☐ Parent <br>☐ Other: <br>What type of conversation did you have? <br>☐ Gathering information <br>☐ Guiding improvement <br>☐ Finding solutions <br>What step of the Cycle of Inquiry were you in? <br>☐ Analyze <br>☐ Strategize <br>☐ Act <br>What is one question you asked during the conversation? <br>What was one result of the conversation? 

Date: <br>Met with: <br>☐ Administrator <br>☐ Teacher <br>☐ Student <br>☐ Parent <br>☐ Other: <br>What type of conversation did you have? <br>☐ Gathering information <br>☐ Guiding improvement <br>☐ Finding solutions <br>What step of the Cycle of Inquiry were you in? <br>☐ Analyze <br>☐ Strategize <br>☐ Act <br>What is one question you asked during the conversation? <br>What was one result of the conversation?
Data and Action Planning
The Differentiated Classroom: Responding to the Needs of All Learners
- Carol Ann Tomlinson

Mind and Society
- Lev Vygotsky

Effective Classroom Practices Report
- National Center on Accessing the General Curriculum

“Differentiated Instruction for English Language Learners as ‘Variations on a Theme”
- Middle School Journal
Differentiation

“The idea of differentiating instruction is an approach to teaching that advocates active planning for an attention to student differences in classrooms, in the context of high quality curriculums.

Differentiation is not the same as individualization in that it doesn’t suggest IEPs for each student. It suggests that there are Patterns of Need in each classroom and if we look for those patterns we can develop approaches that will open up the classroom a bit.”

Carol Ann Tomlinson, The Differentiated Classroom: Responding to the Needs of All Learners
Differentiation

“Zones of Proximal Development: Readiness to Learn. The zone is the area between the student’s independent level and the next highest level the child is ready to tackle with the help of more competent teachers, and in which learning takes place.”

Vygotsky, Lev, *Mind and Society*
Differentiation

“To differentiate instruction is to recognize students’ varying background knowledge, readiness, language, preferences in learning and interests; and to act responsively.

Any time we make an instructional adjustment based on a student need, we are differentiating.”

Hall, T., Strangman, N., & Meyer, A., *Differentiated Instruction and Implications for UDL Implementation*
“Differentiation should be achieved through small variations to a base activity, or the process may become too daunting and time-consuming for teachers. Differentiation can then become part of everyday practice rather than an occasional event.”

Laura Baecher, Marcus Artigliere, David Patterson, and Adrian Spatzer, “Differentiated Instruction for English Language Learners as ‘Variations on a Theme’”
Whole Class Instruction

Strategies for Differentiating:

• Scaffolded questions
• Varying explanation of concepts/skills/content
• Start with highest level activity
Agenda

Day 2

Welcome/Overview
Cycle of Inquiry: Practice 1
High and Low Stakes Decision Making
Data Inventory

Break
Vision Statement
Implementation Case Studies
Integrating Initiatives

Lunch
Cycle of Inquiry: Practice 2
Root Cause Analysis

Break
Data Conversations Practice
Implementation Planning
Wrap-Up/Evaluations
Summary

• Cycles of Inquiry that begin with identifying Patterns of Need are at the core of our practice.

• Frequent, low-stakes Data Conversations are essential to building transparent data cultures.

• Differentiation can be done effectively during whole class instruction as part of a data-informed Cycle of Inquiry that begins with identifying a Pattern of Need.
You are here
We are here together
Welcome back!
Reflection
Agenda

Day 1
- Welcome/Overview
- Cycles of Inquiry
- Data Use PD Implementation
- Break
- Identifying Patterns of Need
- Connecting Initiatives
- Lunch
- Implementation Planning
- Data Conversations
- Questioning Techniques
- Break
- Data and Differentiation
- Wrap-Up/Evaluations

Day 2
- Welcome/Overview
- Cycle of Inquiry: Practice 1
- High and Low Stakes Decision Making
- Data Inventory
- Break
- Vision Statement
- Implementation Case Studies
- Integrating Initiatives
- Lunch
- Cycle of Inquiry: Practice 2
- Root Cause Analysis
- Break
- Data Conversations Practice
- Implementation Planning
- Wrap-Up/Evaluations

Day 3
- Welcome/Overview
- Collaboration and Transparent Data Cultures
- SDLT roles and low stakes Data Conversations
- Break
- Data Conversations: Authentic Practice
- Lunch
- COI: Integration with Current Practices
- Root Cause Analysis
- Break
- Implementation Planning
- Wrap-Up/Evaluations
Norms for our time together

Professionalism:
- Reasonable Bio/Tech Breaks
- Mutual Respect for Time and Others

Participation:
- Active Listening
- Shared Talk Time
- Willingness to Engage with Openness and Honesty

Problem Solving:
- Solution Oriented

Other:
Day 2 Objectives

By the end of Day 2, SDLTs will be able to:

- Categorize various data sources.
- Distinguish between High and Low Stakes decisions.
- Apply the Short Cycle of Inquiry using authentic data.
- Analyze the variety of ways in which Data Use can be implemented in schools.
Cycles of Inquiry

- Strategize
  - Reflective Practice
    - Identify Pattern of Need
    - Implement Strategy & Assess
    - Create Action Plan
    - Brainstorm Strategies
    - Select High-Impact Strategy
  - Data Conversations
    - Assess
- Act
  - Reflective Practice
    - Reflect and Share Results
    - Validate
    - Determine Root Cause
  - Data Conversations
- Analyze
  - Reflective Practice
  - Data Conversations
High Stakes

What kind of decision will be made?

Low Stakes

Validate

Data Conversations and/or Other Data Sources

Strategize

Determine Root Cause

Act
What is data?
Data Quality Standards

What does good data look like?

Good data is…:

• Accurate – Information is correct
• Complete – All records that should be included are there
• Unique – No duplication: one student, one record
• Timely – Information is collected as close to the time of use as possible
• Consistent – Information in multiple data systems all reflect the same thing
What data do we use?
What data do we have?
# Data Inventory

## Data Inventory Template

### Student Achievement Data

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Grade Range</th>
<th>Content Area</th>
<th>When data collected / received</th>
<th>Who has access/ Where it is stored</th>
<th>Purpose</th>
<th>How are data currently used?</th>
<th>How data could be used more effectively</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: NECAP</td>
<td>3, 4, 5, 6, 7, 8, 11</td>
<td>Reading, Math</td>
<td></td>
<td></td>
<td></td>
<td>□ Inform Instruction □ Screen/Identify □ Outcomes/ Accountability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>□ Inform Instruction □ Screen/Identify □ Outcomes/ Accountability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>□ Inform Instruction □ Screen/Identify □ Outcomes/ Accountability</td>
<td></td>
</tr>
</tbody>
</table>
Qualitative or Quantitative

How can qualitative data be used to drive instruction?
Summary

• Using data to make rapid low stakes decisions about instruction can lead to quick wins for educators.

• Examining the potential risk in relation to the stakes of decisions is important for developing the habit of mind of rapid, frequent data use.

• A Data Inventory is a living document that guides the “Big Picture” of data access and use.

• Data informed decision making requires good data that is accurate and complete. Assuring data quality is a continuous process.
Data Use

Collaboration
Current State  Tension  Ideal Vision
Implementation Case Studies

In what ways do SDLTs implement data use in schools?
SDLT divides up responsibilities and develops a plan

SDLT Introduces Cycle of Inquiry and Turnkey activities

SDLT members coach teachers in applying the Cycle of Inquiry and using Data Analysis skills

SDLT continues to implement Turnkey materials and coach teachers

Sustainability Plan

Implementation Timeline

Days 1-3

Day 4

Day 5

Day 6

Day 7

Days 9 & 10
“Habits, values, and attitudes, even dysfunctional ones, are part of one’s identity. To change the way people see and do things is to challenge how they define themselves.”

-Leadership on the Line
Initiative Integration

- Data Use
- Common Core
- Evaluations / SLOs
• Constructing a realistic vision for the work requires considering current reality, as well as new initiatives and how they will all work together.

• Implementation of the work looks different at different schools.

• Major change involves loss.
Lunch
High Stakes

Validate

Data Conversations

and/or

Other Data Sources

What kind of decision will be made?

Low Stakes

Determine Root Cause

Strategize

Act
Root Cause Analysis

Expanding Options
What else could it be?

Narrowing Down
Which are highly unlikely?

Working Hypothesis/Data for Validating
Which cause is worth further exploration? How will you know?
Root Cause Analysis
Strategize

Select High-Impact Strategy

Brainstorm Strategies

Identify Pattern of Need

Validate

Determine Root Cause

Act

Analyze

Reflect and Share Results

Assess

Implement Strategy

Create Action Plan

Data Conversations
Summary

• The need for validation of inferences increases with the stakes of the decision.

• More Root Cause Analysis should be used when decisions are higher stakes.
Data Conversations
Agenda

Day 3

Welcome/Overview
Collaboration and Transparent Data Cultures
SDLT roles and low stakes Data Conversations

Break
Data Conversations: Authentic Practice

Lunch
Cycle of Inquiry: Integration with Current Practices
Root Cause Analysis

Break
Implementation Planning
Wrap-Up/Evaluations
Summary

• Encouraging educators to make frequent low stakes adjustments to core instruction can help them develop the habit of mind of using data all the time, and can lead to quick wins.

• Higher stakes decisions require more validation, data, Data Conversations, and sometimes formal Root Cause Analysis.
Data Use Professional Development Series
301 Day 3
Welcome Back!
Reflection
Agenda

Day 1
Welcome/Overview
Cycles of Inquiry
Data Use PD Implementation
Break
Identifying Patterns of Need
Connecting Initiatives
Lunch
Implementation Planning
Data Conversations
Questioning Techniques
Break
Data and Differentiation
Wrap-Up/Evaluations

Day 2
Welcome/Overview
Cycle of Inquiry: Practice 1
High and Low Stakes Decision Making
Data Inventory
Break
Vision Statement
Implementation Case Studies
Integrating Initiatives
Lunch
Cycle of Inquiry: Practice 2
Root Cause Analysis
Break
Data Conversations Practice
Implementation Planning
Wrap-Up/Evaluations

Day 3
Welcome/Overview
Collaboration and Transparent Data Cultures
SDLT roles and low stakes Data Conversations
Break
Data Conversations: Authentic Practice
Lunch
COI: Integration with Current Practices
Root Cause Analysis
Break
Implementation Planning
Wrap-Up/Evaluations
Norms for our time together

Professionalism:
   Reasonable Bio/Tech Breaks
   Mutual Respect for Time and Others

Participation:
   Active Listening
   Shared Talk Time
   Willingness to Engage with Openness and Honesty

Problem Solving:
   Solution Oriented

Other:
Day 3 Objectives

By the end of Day 3, SDLTs will be able to:

- Explain how Collaborative Structures support Data Use.
- Explain how Cycles of Inquiry apply to your role.
- Describe the purpose of conducting a root cause analysis.
- Articulate the purpose of Data Use as an initiative at your school and how it may be integrated with other initiatives.
- Analyze current school practices and plan next steps for Data Use implementation.
Collaborative Structures
Summary

• Analyzing data collaboratively yields better inferences, broader solutions, and comfort with transparency,

• It is beneficial to share best practices among SDLTs in our cohort
Data Conversations

Three types of Data Conversations:

- Gathering Information
- Guiding Improvement
- Finding Solutions
Summary

• Good Data Conversations empower stakeholders.
• Challenges that arise within Data Conversations can be successfully addressed using questioning techniques.
Lunch
Root Cause Analysis
Summary

- This work will look and feel differently at different schools, and for different stakeholders.
Implementation Planning
Summary

- Integrating initiatives and aligning with school and district goals is essential to success.
Agenda

Day 4

Sharing Implementation Results
Constructing well-formed Data Analysis Questions
Correlation, Causation, and Triangulation using Multiple Data Types
Reflection