Practitioner Data Use Workshop for Special Educators

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What is a Regional Educational Laboratory?

- Network of 10 RELs across the country
- Help states and districts use research and data to inform policy and practice with the goal of improving student outcomes
- Funded by USED Institute of Education Sciences

ies.ed.gov/ncee/edlabs/
Goals for Today

During the workshop, participants will:

• Become familiar with an inquiry framework for interpreting data for instructional change.

• Engage in protocols to analyze data and generate possible root causes.

• Connect analysis to action plans and monitoring results.

• Consider how to support data inquiry routines in their own settings.
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:30-9:15</td>
<td>Welcome, Data Literacy and Inquiry Routines</td>
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<tr>
<td>9:15-10:20</td>
<td>Step 1: Seek Information</td>
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<tr>
<td>10:20-10:35</td>
<td>BREAK</td>
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<tr>
<td>10:35-11:55</td>
<td>Step 2: Access and Gather Data</td>
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<td></td>
<td>Step 3: Analyze and Interpret Data</td>
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<tr>
<td>11:55-12:40</td>
<td>LUNCH</td>
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<td>12:40-2:00</td>
<td>Step 4: Act</td>
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<td>2:00-2:20</td>
<td>Step 5: Evaluate</td>
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<td>2:30-2:30</td>
<td>BREAK</td>
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<tr>
<td>2:30-3:30</td>
<td>ESE Presentation: Using EdWin Analytics</td>
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</tbody>
</table>
Who is in the Room?

• Stand up if you represent:
  
  – District or Central Office Administration
  – School Administration
  – Classroom Teachers
  – Instructional Specialists or Coaches
  – Related Service Providers (Speech / Language Pathology, Occupational Therapists)
  – Other?
Turn & Talk

Introduce yourself to others at your table.

• What data do you encounter in your job?
• In what format do the data appear?
• How do you use the data?
Data Use and Special Education

Identification and placement decisions
- Psycho-educational assessments
- Initial screening assessments
- Readiness and transition planning

Instruction
- Diagnostic-prescriptive teaching
- Ongoing progress monitoring
- Modifications, accommodations, and differentiation

School and district improvement
- Multi-tiered systems of support (e.g., Response to Intervention, Positive Behavioral Interventions & Supports)
Moving from ‘Proving’ to ‘Improving’

• There are two different dispositions toward using data that affect our beliefs and actions.

**Proving**
Using data to show **specific gains or losses in student learning**
Numeric scores or rankings
More concerned with proving effectiveness of practice

**Improving**
Using data to **better understand student ideas & thinking**
Student work, observations
More concerned with improving and rethinking practice, generating new questions

(Charalambous & Silver, 2008; McLaughlin & Zarrow, 2001; Nelson, Slavit, & Deuel, 2012)
Our Focus for Today

- Our focus for today is using data within a collaborative process and predicable routine in order to improve student learning outcomes.
Turn & Talk

What is a routine?
Does your team or school have a data routine?
How is it working?
Inquiry-based Routines

• Repetitive, recognizable patterns of interdependent actions

• Inquiry supports a team’s collective pursuit of knowledge, insights, and understandings around a particular question or challenge

• Routines can **enable** or **constrain** inquiry
Routines that Support Learning

When a routine allows for adaptation and creation of new knowledge, it can contribute to ongoing organizational improvement and learning and transform beliefs and practice.

~ Argote, 1999; Garvin, 1993
Why a Routine?

1) Sustains team focus on an instructional issue long enough to develop and test solutions in the classroom
   • observe and discuss causal connections
   • question current practices

2) Frames iterative cycles of action and reflection
   • explore underlying assumptions and beliefs
   • revise their conceptions of effective teaching and learning

(Achinstein, 2002; Edmondson, 2002; Stokes, 2001; Timperley, 2008)
Turn & Talk: Reactions to the Research

- What is your reaction to the research on collaborative inquiry and data use?

- Where do you have opportunities to do this in your work?

Write one example on chart paper per group.
Conceptualizing a data inquiry cycle
The inquiry cycle

1. Seek information
2. Access and gather data
3. Analyze and interpret data
4. Act
5. Evaluate

### Handout: Personal data plan template

#### Personal data plan template

<table>
<thead>
<tr>
<th>Data use cycle</th>
<th>Question</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Seek information</td>
<td>Which standards or content areas do we want to focus on?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Why are these standards or content areas important to focus on?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Related to these standards or content areas, what questions about student learning can be answered by looking at data?</td>
<td></td>
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</tbody>
</table>
Step 1: Guiding questions

- What is our focus area?
- What questions can we ask about student learning that can be answered by looking at data related to this focus area?
Finding a focus question

• What are your high-priority standards or content?

• What do you want to know about students’ learning of that content?

• How are our students with disabilities performing on early literacy assessments?

• How well do our students with disabilities understand algebraic concepts and procedures?

• How well do our students with disabilities write analytically?
Discuss your instructional focus and fill out Step 1: Seek Information on your personal data plan template.
Please write any questions on sticky notes and hand them to a facilitator.

**BREAK**

Back at 10:35 AM
Step 2: Guiding questions

- **What data do we have and what data can we get?**
- **What data are available at different levels (classroom, school, district, and state)?**
- **What do our data sources show, and what are their limitations?**
Drilling down

**Aggregated data:** Student learning data results compiled at the largest level

**Disaggregated data:** Separated into groups by race/ethnicity, language, economic level, and/or education status

**Strand data:** Separated into groups of data sets by content areas

**Item-level data:** Reported by student performance on individual test items

**Student work:** Artifacts that show evidence of student thinking

Handout: Review the data's focus and limitations

<table>
<thead>
<tr>
<th>Data source (What this data source describes)</th>
<th>Types of data included (What this data source conveys)</th>
<th>Types of data not included (What this data source does not convey)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Example:</em> This data source shows the proficiency levels that the School’s grade 6 students achieved on the state’s annual reading test in comparison with grade 6 students across the state for the past three years (spring of 2011, 2012, and 2013).</td>
<td>Shows four proficiency levels. Shows the total number of grade 6 students who took the test in 2011, 2012, and 2013. Notes revisions in the reading test between the 2010 and 2011 administrations. Shows scores aggregated for all reading topics and for all grade 6 students in the school.</td>
<td>Does not show subgroups (for example, gender, English language learner status, and disability status.) Does not show range of scores within each proficiency level. Does not show proficiency within reading topics (for example, literary texts, informational texts). Does not show proficiency by class/teacher.</td>
</tr>
</tbody>
</table>
Discuss what data sources you have and what data sources you need to collect, then fill out **Step 2: Access/Gather Data** on your personal data plan template.
Step 3: Guiding questions

- What do we observe in the data? What patterns do we notice?
- What can we infer about our students’ strengths and challenges?
- Which challenge shall we address?
Two Recommendations for Step 3

1) Make the data visual by translating tables with numbers into charts and graphs, or highlighting areas of focus.

2) Give educators a framework that helps them understand why they need to describe the data first, before drawing conclusions.
Tips for creating data displays

Provide complete title, labels to axes, and key

- Name of assessment
- Date
- Content area
- Grades tested
- Number of students (n=___)

Make chart simple and easy to read

- Minimize distracting elements (no grid lines)
- Appropriate fonts & color
- Provide data point values where helpful
- Consistent scales when comparisons are needed

Two Recommendations for Step 3

1) Make the data visual by translating tables with numbers into charts and graphs, or highlighting areas of focus.

2) Give educators a framework that helps them understand why they need to describe the data first, before drawing conclusions.
<table>
<thead>
<tr>
<th>Observable data &amp; experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>I select data from what I observe</td>
</tr>
<tr>
<td>I make inferences based on the data I selected</td>
</tr>
<tr>
<td>I make assumptions based on the meanings I added</td>
</tr>
<tr>
<td>I draw conclusions</td>
</tr>
<tr>
<td>I adopt beliefs</td>
</tr>
<tr>
<td>I take actions based on my beliefs</td>
</tr>
</tbody>
</table>

**Ladder of Inference**

- Seek information
- Gather data
- Interpret data
- Act
- Evaluate
Data-driven dialogue

PHASE 1: Predict
- Surfacing experiences, possibilities, expectations
  - With what assumptions are we entering?
  - What are some predictions we are making?
  - What are some questions we are asking?
  - What are some possibilities for learning that this experience presents us with?

PHASE 2: Go Visual!

PHASE 3: Observe
- Analyzing the data
  - What important points seem to “pop out”?
  - What are some patterns or trends that are emerging?
  - What seems to be surprising or unexpected?
  - What are some things we have not explored?

PHASE 4: Infer/Question
- Generating possible explanations
  - What inferences and explanations can we draw?
  - What questions are we asking?
  - What additional data might we explore to verify our explanations?
  - What tentative conclusions might we draw?
Select a student learning challenge

Examples:

• Based on **assessments of early reading** (for example, Diagnostic Reading Assessment), students with disabilities are scoring only 20% on **letter-naming fluency**.

• Based on 7th-grade **standardized math assessment** results and current benchmark assessments, 32% of students with disabilities **meet the proficiency standard**, compared with 77% of students without disabilities.
Using your data, discuss your conclusions from the data-driven dialogue, then fill out Step 3: Analyze/Interpret Data on your personal data plan template.
Please write any questions on sticky notes and hand them to a facilitator.

LUNCH

Back at 12:40 PM
Step 4: Guiding questions

- **What goals do we have for our students’ learning?**
- **What are the root causes that might have led to the patterns seen in student performance?**
- **What changes or action steps will address the goals we set for our students’ learning?**
Now that you have identified a student learning challenge, consider what you would want to see if students were doing well.

**Example:** By May 2015, all 4th grade students with learning disabilities will have improved their reading fluency rates by 10 words correct per minute, based on the Read Naturally Program.
Draft a SMART student learning goal that addresses the need you identified during data-driven dialogue.

Exchange your goal with another participant or team and provide feedback.
Handout: Fishbone diagram
Fishbone cause & effect analysis, round 1

What student learning challenge or conclusions from data analysis are we examining?

What categories at our school are related to this? (for example, curriculum, assessment)

What are potential causes? Are there patterns or trends in the causes?
Handout: Fishbone diagram

**Category:** Teacher supports

**Possible root cause:** Regular ed teachers, special educator, and occupational therapist do not have regular check in times to collaborate on interventions for students with sensory processing issues.
Fishbone cause & effect analysis, round 2

1. What student learning challenge or conclusions from data analysis are we examining?
2. What categories at our school are related to this? (for example, curriculum, assessment)
3. What are potential causes? Are there patterns or trends in the causes?
4. What action steps might address the patterns in the causes?
**Handout: Fishbone diagram**

**Category:** Teacher supports

**Possible root cause:** Regular ed teachers, special educator, and occupational therapist do not have regular check in times to collaborate on interventions for students with sensory processing issues.

**Action step:** Have the OT join the grade level common planning meetings once a month.
Discuss possible root causes and corresponding action steps using the Fishbone diagram.

Prioritize your top action steps, then fill out **Step 4: Act** on your personal data plan template.
Step 5: Guiding questions

- **How effectively has the initial issue been resolved?**
- **What new concerns have arisen?**
- **Should we continue with our action plan or choose a new area of focus?**
Considerations:

• Evidence of next steps in the action plan
• Documentation of how to monitor progress
  – What data will be collected?
  – When will that data be brought back for discussion?
• Ways for the teachers or team to **check in** on action steps and **reflect** on progress

**What evidence do we have about what is working?**
**What are we learning?**
**What resources do we need?**
Discuss how you might monitor or evaluate your action steps, then fill out the *first question only* in Step 5: Evaluate on your personal data plan template.
Discussion: Taking Next Steps

• What were your key takeaways from this workshop?

• What will you apply from what you have learned?

On an index card, write 2-3 ideas for how to use what you have learned in your work.
REL-NEI Resources

• Download the *Practitioner Data Use in Schools: Workshop Toolkit* (includes facilitator guide, handouts, and slides)

• Participate in the self-paced online workshop: *Understanding Data Use to Improve Instruction*

Questions?

Raise your hand or write your question on a sticky note and hand it to a facilitator.
Goals for today—revisited

During the workshop, participants will:

• Become familiar with an **inquiry framework** for interpreting data for instructional change.
• Engage in **protocols to analyze data** and generate possible root causes.
• Connect analysis to **action plans** and monitoring results.
• Consider how to **support data inquiry routines** in their own settings.
Thank you!

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References & Resources


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