Uncovering the Story Behind the Data: Supporting Effective Data Analysis and Use

April 13–15, 2021
Presenters

Heather Reynolds, IDEA Data Center
Tony Ruggiero, IDEA Data Center
Verna Chinen, Hawaii State Department of Education
Amy Ruhaak, Hawaii State Department of Education
Agenda

• Rationale for a data analysis and use process as part of a data-driven culture
• Custom solutions for specific needs
• State example: Hawaii
Intended Outcomes

- Understand the rationale for a structured data analysis and use process
- Become familiar with an example of a data analysis and use process
- Learn about a state’s experience with a data analysis and use process
Data Analysis and Use Supports Building a Data Culture
Why Is a Data Analysis and Use Process Helpful?
Why Is a Data Analysis and Use Process Helpful? (cont.)

• Builds capacity of staff to conduct a thorough exploration and meaning-making of the data
• Creates common practice and language among users
• Supports implementation across all levels of the system: state, regional, local
What Is Data-Driven Culture?

Definition

• “A data-driven culture is a workplace environment that employs a consistent, repeatable approach to tactical and strategic decisionmaking through emphatic and empirical data proof.”*

• Put simply, an organization with a data-driven culture bases decisions on data, not gut instinct or anecdotal information

What Is Data-Driven?

Definition

“To be data-driven requires an overarching data culture that couples a number of elements, including high-quality data, broad access and data literacy and appropriate data-driven decisionmaking processes.”

Building Blocks of Data-Driven Culture

- Single source of truth
- Data dictionary
- Broad data access
- Data literacy
- Decisionmaking

Poll: How Do Your State Staff Model Characteristics of a Data Culture?

A. Incorporate data discussion in all your team meetings
   *(Results= 14% of respondents)*

B. Share data regularly with stakeholders and provide opportunities to discuss
   *(Results= 8% of respondents)*

C. Make decisions based on data
   *(Results= 28% of respondents)*

D. Provide support for and build capacity for data literacy, use, and analysis
   *(Results= 14% of respondents)*

E. Have documented processes for collecting and validating data
   *(Results= 36% of respondents)*
Identifying Data Sources: Addressing Data Needs

Considerations

• What are your program or policy questions?
• What data do you need?
• What is the data source?
• Is the data of high-quality?
• How many years of data do you need?
Creating a Customized Solution
The Challenge

- Improving data literacy
- Building a foundation for a data culture
- Increasing data use
- Deepening root cause analysis
- Providing a process for data use that can be replicated easily
- Developing a structure to support facilitators in asking the right questions to improve engagement of participants
The Building Blocks

• *Data Meeting Toolkit*
• Root cause analysis process
• Data analysis and use plan
The **Data Meeting Toolkit** is a suite of tools that groups can use to guide conversation around data and support databased decisionmaking.

The toolkit provides resources to support success before, during, and after data meetings, including:

- A description of essential data meeting roles and responsibilities, including key stakeholders
- A protocol of steps before, during, and after meetings to guide selection, analysis, and decisionmaking using data
- Examples of how to use the toolkit to address a range of data meeting needs
- Guidelines and editable templates for planning, facilitating, and documenting data meetings
- Additional resources to support data use
Root Cause Analysis

• Requires spending time to identify the causes of the problem
  – Often multiple causes
  – Requires digging deeply to get to the root(s)

• Encourages systemic thinking

• Can eliminate wasted effort on patches that will not dissolve the roots

• Encourages reflection on current practices

• Provides rationale for strategy selection
Share Data Analysis and Use Process
Hawaii Example
Hawaii’s Experience

- Hawaii State Department of Education (HIDOE) wanted to support users in conducting a deep exploration and root cause analysis of their own data.
- HIDOE invited IDC to observe current practices and provide suggestions for deepening the process.
- IDC recommended a structured process to support data analysis and use.
- HIDOE decided to begin by having state staff use the process to examine SEA data.
### HIDOE’s Story

**Outcome B: Acquisition and use of knowledge and skills (including early language communication)**

<table>
<thead>
<tr>
<th>Outcome data</th>
<th>2018–19</th>
<th>2016–17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not improve functioning</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>Improved functioning but not sufficient to move to nearer to functioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>comparable to same age peers</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>Moved closer to a level nearer to the same age but did not reach it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statewide total</td>
<td>52%</td>
<td>48%</td>
</tr>
</tbody>
</table>

91% of all preschool age children receive speech and language service

HIDOE eCSSS
Lessons Learned

Stages of Narrative Development Statewide Data

<table>
<thead>
<tr>
<th>Stage</th>
<th>Baseline</th>
<th>Midterm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>28%</td>
<td>32%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>14%</td>
<td>27%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>12%</td>
<td>21%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>0%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Percentage of Students
Following the Process

- Concern
- Contributing factors (Review of data)
- Collecting data (Additional data needed)
- Analysis of root causes (Integrating data)
- Solutions & priorities (Identifying need for services)
Hawaii’s data indicate a persistent achievement gap between students with and without disabilities, particularly in reading.

Evidence-based professional learning strategies

Evidence-based oral language and literacy strategies

Coach and teacher capacity building

Access to professional learning

Use of EBPs

Fidelity to practice

Team-based support

Improved oral language and foundational literacy skills of PreK-4 students with disabilities

Improved frequency and quality of home literacy activities

Evidence-based practices (EBPs)
### Conceptual Model

<table>
<thead>
<tr>
<th>Literacy Coaching Team (CT) [SLPs and resource teacher]</th>
<th>Acquisition of evidence-based professional learning strategies through university courses</th>
<th>Improved coaching skills in oral language and foundational literacy</th>
<th>Improved quality of coaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special education teachers</td>
<td>Acquisition of evidence-based literacy and oral language strategies taught with job embedded coaching through HI DOE PD courses</td>
<td>Improved teaching skills in oral language and foundational literacy</td>
<td>Improved quality of teaching</td>
</tr>
<tr>
<td>Students with disabilities PreK-4</td>
<td>Opportunities for frequent practice and feedback of oral language and literacy skills based on EBPs</td>
<td>Improved oral language and literacy of students with disabilities</td>
<td>Improved reading outcomes</td>
</tr>
<tr>
<td>Families</td>
<td>Enhanced home literacy and language use with their children through monthly activities</td>
<td>Increased home literacy activities and environment</td>
<td></td>
</tr>
</tbody>
</table>

Speech Language Pathologists (SLPs), Professional development (PD)
Questions
Conclusion

• Having a standard data analysis and use process creates common language and practices across departments and between state and local educators and stakeholders

• In-depth data analysis is a critical feature of building a data culture and supporting continuous improvement
Contact Us

• Heather Reynolds, heatherreymonds@westat.com
• Tony Ruggiero, tony.ruggiero@aemcorp.com
• Verna Chinen, Verna.Chinen@k12.hi.us
• Amy Ruhaak, Amy.Ruhaak@k12.hi.us
For More Information

Visit the IDC website
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The contents of this presentation were developed under a grant from the U.S. Department of Education, #H373Y190001. However, the contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the federal government.

**Project Officers:** Richelle Davis and Rebecca Smith