Data: We All Have It! Now What?

DATA LITERACY: Bridging the Gap

Arkansas Department of Education
Little Rock, Arkansas
• Explain how teacher evaluation data informs professional learning.
• Practice analyzing teacher evaluation data
  • For self-reflection
  • Formative Feedback
  • Inform Instructional Practice
• Discuss the challenges and opportunities of using teacher evaluation data to inform professional learning.
PROFESSIONAL LEARNING NORMS

Engagement

Respect

Participation
Teacher Evaluation Data

Self-Reflection

Professional Learning

Formative Feedback

Professional Learning

Informing Instructional Practice

Professional Learning
COMMON CORE STANDARDS

Provide much-needed clarity for academic standards. Define rigor and content kids should be working to master.

EDUCATOR EVALUATIONS

Our best lever to change instructional practice at scale. Gives teachers and leaders clear expectations, feedback and support.

SHARED GOAL

Better instruction for students
DATA LITERACY TO IMPACT STUDENT GROWTH

WHAT IS BEING TAUGHT?
Is the teacher teaching the most important content?

HOW IS IT BEING TAUGHT?
Is the teacher presenting that content well?

ARE STUDENTS LEARNING?
Information for more accurate evaluation ratings.

Recommended for today’s evaluations
WHAT IS DATA LITERACY?

“Data Literacy is the ability to interpret and use multiple data sources effectively to improve teaching and learning.”

-Nancy Love
Using Data to Improve Learning for All: A Collaborative Approach
Based on this quote, what are some different types of data that educators use? Do we utilize these in making decisions?

“It is critical to see achievement as more than test scores
• to help students develop and use effective learning strategies
• to foster high retention rates in school
• to promote student commitment to reinvesting in their practice of learning
• to include such outcomes as respect of others, managing self, and developing critical evaluation skills.”

Schwandt, 2002, Nussbaum, 2010
“The value of data emerges only when analysis provides insights that direct decisions for students.”

White, S. 2005

Why do educators use data?
“A Comprehensive Accountability Framework has School Site Councils reviewing data, faculty meetings reviewing data and sharing best instructional practices, and support staff fully understanding their role with regard to student learning, including secretaries and custodial staff.

It is all about leadership to be able to take so many stakeholders to that place where student learning is dissected and followed up with resources and effective instruction because ultimately, everything that we do in a school district is focused on student learning.”

Schekman, 2010, Pajaro Valley Unified School District in Watsonville, CA

What type of support do educators need to use and to understand data?
DATA LITERACY---
UNDERSTANDING THE STORY...

• Data can uncover problems that might otherwise remain invisible.
• Data can convince people of the need for change.
• Data can confirm or discredit assumptions about student and school practices.
• Data can get to the root cause of problems, pinpoint areas where change is most needed, and guide resource allocation.
DATA RICH
INFORMATION POOR

Having access to data does not necessarily mean using data...

Using data does not necessarily mean using data effectively.
THE INVERTED DATA PYRAMID: NOT RECOMMENDED

Summative District or State Assessments

Other Data
RECOMMENDED DATA PYRAMID

- **Annually**
  - Summative District and State Assessments (aggregated, disaggregated, strand, item, and student work)

- **2–4 times a year**
  - Data about people, practices, perceptions (e.g., demographic, enrollment, survey, interview, observation data, curriculum maps)

- **Quarterly or end of the unit**
  - Benchmark Common Assessments (e.g., end-of-unit, common grade-level tests reported at item level)

- **1–4 times a month**
  - Formative Common Assessments (e.g., math problem of the week, writing samples, science journals, other student work)

- **Daily–Weekly**
  - Formative Classroom Assessments for Learning (e.g., student self-assessments, descriptive feedback, selected response, written response, personal communications, performance assessments)
You don’t need an advanced degree in statistics and a room full of computers to start asking data-based questions about your school, and using what you learn to guide reform.

- Victoria Bernhardt
On Your Own:
“Collect Your Thoughts”

<table>
<thead>
<tr>
<th>My Role(s)</th>
<th>Types of data the campus I serve collects/uses</th>
<th>What the campus does with the data</th>
<th>The campus collects data (when)...</th>
</tr>
</thead>
<tbody>
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</table>
Talk It Up:
“Share Your Thoughts”
DATA RICH
INFORMATION POOR

Having access to data does not necessarily mean using data...

Using data does not necessarily mean using data effectively.
“I’ll pause for a moment so you can let this information sink in.”
Take 3 minutes to reflect on where in the data continuum you are most comfortable and tend “to rest”.
Expectations for Teachers and School Leaders

• Taking responsibility for the achievement of all students

• Shifting from, “Have my students learned?” to “How do I fill in the gaps for what EACH student doesn’t understand?”

• Employing assessment literacy and data literacy skills

• Working collaboratively with colleagues
Evaluation Data Use Cycle

Self-Reflection and Goal Setting

Formative Evaluations

Summative Evaluation

Professional Learning

Professional Learning

Professional Learning
Invitational Inquiry

Based on information from The Data Coach’s Guide to Improving Learning for All Students, Love, Stiles, Mundy, DiRanna, 2008.
What Does the Data Tell You?
Taking It to the Next Level

If I'd known they wanted me to use all this info— I would never have asked for it!
Data Story in Action
Teacher Evaluation Data → Self-Reflection → Professional Learning
USING EVALUATION DATA FOR REFLECTION AND GOAL SETTING
<table>
<thead>
<tr>
<th>Domain 1</th>
<th>Score (1, 2, 3, 4)</th>
<th>Domain 2</th>
<th>Rating Scale Used</th>
<th>Calculation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of Content and Pedagogy</td>
<td>2</td>
<td>Process</td>
<td>4 = Distinguished</td>
<td>Component scores in each domain are averaged for Domain Average.</td>
</tr>
<tr>
<td>Demonstrating Knowledge of Students</td>
<td>2</td>
<td>3 = Proficient</td>
<td>2.51 - 3.50 = Proficient</td>
<td></td>
</tr>
<tr>
<td>Setting Instructional Outcomes</td>
<td>2</td>
<td>2 = Basic</td>
<td>1.51 - 2.50 = Basic</td>
<td></td>
</tr>
<tr>
<td>Demonstrating Knowledge of Resources</td>
<td>3</td>
<td>1 = Unsatisfactory</td>
<td>1.00 - 1.50 = Unsatisfactory</td>
<td></td>
</tr>
<tr>
<td>Designing Coherent Instruction</td>
<td>2</td>
<td>Basic</td>
<td>2 = Basic</td>
<td></td>
</tr>
<tr>
<td>Designing Student Assessments</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain 1 Average</td>
<td>2.17</td>
<td>Domain 2 Average</td>
<td>2.60</td>
<td></td>
</tr>
<tr>
<td>Domain 1 Rating</td>
<td>Basic</td>
<td>Domain 2 Rating</td>
<td>Proficient</td>
<td></td>
</tr>
</tbody>
</table>
EVALUATION DATA INFORMS LEARNING

Teacher Evaluation Data

Self-Reflection

Professional Learning

Formative Feedback

Teacher Evaluation Data

Professional Learning
• Teachers learn best when feedback is
  – Tied to specific teaching standards
  – Specific, detailed and evidenced based
  – Timely and frequent
  – Constructive, with effective use of questioning
Qualitative data collection includes scripted notes of the evaluator.

Patterns of activities, words, and other events observed and then recorded offer insights about the classroom environment.

Data may focus on a single aspect (or a few aspects) of instruction.

Focus may be on wide range of circumstances in the classroom.
Qualitative Data Collection Examples

- Selective verbatim—Record words of the students and/or teacher
- Verbal flow—Detail the frequency of who spoke
- Interaction analysis—Record details about the types of statements made by teacher and/or students
- Anecdotal notes—Register what is occurring in the classroom

Caution: Keep bias in check!
Scripting

• Record the words that are being said.
  – Teacher to student
  – Student to teacher
  – Student to student

• Capture words that best convey the sense of what is being said.

• Record actions that take place.

• Record interaction patterns.
Data collection includes frequencies, distributions, and other counts or tallies of information.

Words are not used during quantitative data collection.

Observation tools include checklists, tallies, and/or classroom seating charts.

The following three slides are samples of quantitative data collection.
Classroom Seating Chart
Traditional

Teacher

Time

Student name

1:12

1:18

1:22

1:26

1:30
EFFECTIVE PROFESSIONAL LEARNING

Focused  Active  Collaborative

Ongoing, Embedded, Differentiated
Examples of Norms for Data Discussions

• No judgments
• No blaming
• Focus on what data tells us about current practice
• Focus on problem solving and the future
• Focus on results for students
• Consider all possibilities
• Maintain confidentiality
SOURCES OF POSSIBLE CAUSES

Instruction
Assessment
Teacher Preparation
Curriculum
Equity
Critical Supports
From Observation to Action

• Inference: Students do not know how to graph data.
  – Why?: Students have limited opportunities to learn how to graph.
  – Why?: The instructional materials do not include graphing.
  – Why?: The instructional materials are outdated and do not align with the standards.

• Inference: I wonder why our English Language Learners performed lower on the state math assessment than the general education students did.
  – Why?: They don’t know basic math concepts and processes.
  – Why?: They have a language problem.
  – Why?: They get pulled out of math class for language tutoring.
  – Why?: We hold the assumption that all English Language Learners need remediation and are not ready to learn math.
Use the Question Template to Facilitate Data Analysis

<table>
<thead>
<tr>
<th>What might be the data implications for instructional decisions?</th>
<th>What might be the data implications for curricular decisions?</th>
<th>What might be the data implications for student learning?</th>
<th>What might be the data implications for (classroom or school) processes?</th>
<th>What might be the data implications for (classroom or school) culture?</th>
<th>What might be the data implications for professional development?</th>
<th>What might be the data implications for school leadership?</th>
</tr>
</thead>
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</table>
What Should You Do When Data Are Mixed

A. Collect more data
B. Consider the (data) source
C. Dig deeper into the data—what aspect of performance is really reflected in the numbers?
D. Provide professional learning to address identified areas for improvement even if some of the data indicate that the teacher does not need it.
E. All of the above
F. None of the above
G. Other
## Linking Evaluation and Professional Learning

It’s Not Just About... | It’s Really About...
---|---
Including student data in the evaluation system | Analyzing the results in relation to specific teaching and leadership practices
Conducting frequent, reliable observations | Meaningful, actionable feedback and conversations about how to grow
Rating teachers with a summative rating label | Linking evaluation results to career paths, opportunities, and systems of support
TESS AND LEADS: CONSIDERATIONS FOR DECISIONS

- State Statute (Act 1209 of 2011 and Act 709 of 2013)
- ESEA Flexibility
How Ratings Are Determined

Professional Practice

Performance Rating:
Observations; Artifacts/Evidence; Professional Growth Plan

Overall Rating

Student Performance

Student Growth
• State assessments used as growth measures
  – Growth calculation (SOAR)
• TEAC decision to use literacy scores for non-tested teachers
  – CCSS for ELA, science, social studies, technical subjects
  – Still areas where no assessment will be available even with PARCC
• School wide support specialists and administrators will have a school SOAR for growth
Looking at student growth is important because it measures educational progress that is independent of the student’s proficiency. Since SOAR only looks at academic peers, those students that scored the same in the previous year, the SOAR value is a measure of educational progress regardless of the student’s starting proficiency.
OVERVIEW

• SOAR is NOT the current Accountability Model Calculation (Growth to Standard)
• SOAR does NOT measure a Student’s Progress to Proficiency
• SOAR is based on a Student Growth Percentile Model
• SOAR focuses on a Student’s Academic Growth from the Previous Year to the Current Year relative to Other Students who start at the Same Place
SOAR tells. . .

• How a student’s achievement compares to statewide academic peers
• A teacher’s impact on a group of students
• A measure of educational progress independent of a student’s proficiency level

SOAR doesn’t. . .

• Adjust for student characteristics
• Tell the cause(s) for student growth
• Make predictions for student or teacher performance
SOAR
Student Ordered Assessment Rank
Start with one grade, one test, last year

About 35,000 students in Arkansas take each assessment in each grade
Find all students who have the same score on last year’s assessment

Everyone who made 320

Everyone who made 647

Everyone who made 844

Everyone who made 915
Determine this year’s score for each student in the group
(the group is ONLY those who made the same score last year)

Everyone who made 647 last year

Different scores this year

320 343 367 390 414

635 658 710 725

811 838 853 880 897 915
Apply a growth percentile for each student

Everyone who made 647 last year

Different scores this year

This percentile is the SOAR value
That’s It! Repeat for each group.

Everyone who made 320 last year

Everyone who made 915 last year

Everyone who made 647 last year

Everyone who made 844 last year

Every student gets a SOAR value for each assessment.
Each student for a teacher has a SOAR growth value from their assessments
A teacher’s students are lined up by SOAR to find the median (middle)

13  17  21  34  42  55  62  71  77  77  93

This teacher’s SOAR is 55
Lofty Middle School Teacher Performance

![Graph showing teacher performance metrics](image-url)
<table>
<thead>
<tr>
<th>EFFECTS</th>
<th>RESULTS</th>
<th>DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lucky</strong></td>
<td>High results,</td>
<td>Low understanding of antecedents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replication of success unlikely</td>
</tr>
<tr>
<td><strong>Leading</strong></td>
<td>High results,</td>
<td>High understanding of antecedents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replication of success likely</td>
</tr>
<tr>
<td><strong>Losing Ground</strong></td>
<td>Low results</td>
<td>Low understanding of antecedents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replication of failure likely</td>
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<td></td>
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</tbody>
</table>

**ANTECEDENTS** - **ADULT ACTIONS/INTERVENTIONS**

**CAUSE DATA**
Lofty Middle School Teacher Performance
Determining Overall Rating

**Step 1: Professional Practice**
Rating determined based on Teacher Performance (observation, PGP, artifacts/evidence)

**Step 2: Student Performance**
Review Student Growth Score to determine if meeting threshold

IF YES, rating stays as determined by Step 1

If NO, rating cannot be distinguished; if below SOAR for 2 years, rating lowered a level

Final Overall Rating Established
Lofty Middle School Teacher Performance
“Safety Regulations”
Guiding the Use of Data

Data are like fire. They can be very powerful and helpful, but people can get burned.

• Don’t
  – use data to punish
  – use data to blame students or circumstances
  – jump to conclusions
  – use data as an excuse for quick fixes
“Safety Regulations”
Guiding the Use of Data

• Do
  - Revise education goals and standards
  - Evaluate teaching effectiveness
  - Evaluate the quality of the curriculum
  - Identify students’ educational needs
  - Focus on systemic improvements that benefit students!
Principles of Effective Planning Using Evaluation Data

• Teacher evaluation data help ensure better allocation of resources, including teacher time.
• Human judgment is an inevitable—and critical—piece.
• To fill in the gaps around the data, those closest to the work of teaching and learning should be included in the planning.
• Necessary conditions for teacher learning must exist.
• Professional learning is high stakes.
Evaluation Data Definitions

• Evaluation data provide evidence of individual teacher practice and performance collected throughout the evaluation cycle.

• Characteristics of evaluation data are as follows:
  – May be quantitative (numbers) or qualitative (narrative statements).
  – May include inputs (teacher actions and behaviors) and outcomes (student learning).
  – Can be aggregated to the school, district, and state levels for further analysis.
Data Uses for Educators...

• Data Used to Inform
  ✓ Planning
  ✓ Practice
  ✓ Progress

• Data Used to Impact Results
USING DATA FOR CHANGE...

Data can

• Help schools evaluate program effectiveness and keep the focus on student learning results
• Provide feedback to teachers and administrators
• Prevent over reliance on standardized test scores
• Help build a culture of inquiry and continuous improvement
“The essence of data-driven decision making is not about perfection and finding the decision that is popular. It is about finding the decision that is most likely to improve student achievement, produce the best results for the most students, and promote the long-term goal of excellence and equity.”

Reeves, 2011
Sarah’s Data Story
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