USING STUDENT ACHIEVEMENT DATA TO SUPPORT INSTRUCTIONAL DECISION MAKING

SHARNELL JACKSON
DATA-DRIVEN INNOVATIONS CONSULTING
Welcome
Practice Guide Structure

- Recommendations
- Action Steps
- Potential Roadblocks & Solutions
- Vetted References
Development Process

- Input from expert panel of professors, researchers in nonprofit organizations, and practitioners
- Research reviewed by What Works Clearinghouse
- Examined hundreds of articles (2,853 ➔ 495 ➔ 64 ➔ 24 ➔ 6)
- Recommendations
- Peer review
## Practice Guides: Levels of Evidence

<table>
<thead>
<tr>
<th>Strong</th>
<th>Moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strong causal evidence <strong>AND</strong> strong generalizable evidence</td>
<td>• Either strong causal evidence <strong>OR</strong> strong generalizable evidence</td>
<td>• Supported by expert opinion, based on evidence that does not rise to the moderate level</td>
</tr>
</tbody>
</table>

Our recommendations have a low level of evidence, but there is extensive support from descriptive studies, case studies, and surveys.
Notes on the guide

- Scope of this guide is limited to typical assessment data, but readers should consider how to integrate data from multiple sources.

- Consider all five recommendations as a research-based framework for effective data use that requires coordinated, systemic mindset efforts across all levels of the education system.

- Research cannot measure what has not been implemented broadly or deeply.

- Research must mirror the practice then the body of rigorous research will grow.
Using Data: Continuous Improvement Framework

Leadership

Technology Use

Data Coaches

Establishing a Data Culture

Data Teams
How well can the teacher access and act on data to inform instructional decisions?
What is data-driven decision making?

The process by which an individual collects, examines, and interprets empirical evidence for the purpose of making a decision.
What are data?

- Pieces of information
- Data are meaningless by themselves and given meaning through the context in which they occur in instruction
- Context transforms data into information that is actionable to a decision-maker
- Educational data may be demographic, financial, personnel, annual, interim, or classroom-level
Fundamentals about data: The Data Continuum

- **Data** – exist in a raw state without meaning

- **Information** – data given meaning in context

- **Knowledge** – collection of information deemed useful to guide action
Why focus on data use?

- Technological advances, a proliferation of assessment data, and human capacity issues
  - Data and reports are increasingly accessible
  - Need to promote appropriate use
- Growing recognition of the need to personalize instruction to address achievement gaps and meet accountability targets to help all children learn
- Policy and compliance requirements
Our best teachers today are using real time data in ways that would have been unimaginable just five years ago. They need to know how well their students are performing. They want to know exactly what they need to do to teach and how to teach it. (Duncan, 2009)

Data and data analyses are powerful tools that must be used to improve schools. (Easton, 2009)
Continuous improvement process

- Target research to examine the impact
- Use data to identify a problem
- Provide continuous monitoring
- Identify possible solutions

Data Use Cycle

Collect and prepare a variety of data about student learning

Interpret data and develop hypotheses about how to improve student learning

Modify instruction to test hypotheses and increase student learning
Where does data come from now?

How quickly can a teacher use the data to personalize instruction?
No single assessment provides all the information teachers need to make informed instructional decisions.

All four areas must be considered.

- Demographic Data
- Perception Data
- Student Learning Data
- School Processes Data
Collect and prepare a variety of data about student learning by:

- focusing on specific questions about student achievement
- prioritizing which types of data to gather to inform instructional decisions
- using multiple sources of data: no single assessment provides all the information teachers need to make informed instructional decisions
- collecting and preparing classroom performance data for examination
Multiple Measures of Data to Drive Personalized Learning Needs

- Classwork, Quizzes, Portfolios
- Benchmark Assessments
- IEPs, Attendance, Behavior
- Interim Assessments
- Diagnostic Assessments
- Formative Assessments
- Common Schoolwide Assessments
<table>
<thead>
<tr>
<th>FREQUENCY</th>
<th>CATEGORY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANNUALLY</strong></td>
<td>Summative National, State, District, School</td>
<td>Aggregated, disaggregated, strand, and items</td>
</tr>
<tr>
<td></td>
<td>LEVELS</td>
<td></td>
</tr>
<tr>
<td>SEMI-ANNUALLY</td>
<td>Data About People, Practices, Perceptions</td>
<td>Demographic, enrollment, attendance, behavior, surveys. Interviews, observations, curriculum maps, parent meetings, phone calls, and cumulative folders</td>
</tr>
<tr>
<td>QUARTERLY</td>
<td>Benchmark School-wide Common Assessments</td>
<td>End of unit, common grade and subject-level tests reported at the item level analysis, units, modules, portfolios</td>
</tr>
<tr>
<td>MONTHLY</td>
<td>Formative School-wide Common Assessments</td>
<td>Math problems, writing samples, science journals and lab work, class projects, blogs, wikis, and other student work</td>
</tr>
<tr>
<td>WEEKLY</td>
<td>Formative Classroom Assessments for Learning</td>
<td>Student self assessments, descriptive feedback, selected response, written response, personal communications, performance assessments, class work, homework, and running records</td>
</tr>
</tbody>
</table>
School Data Use

- “One of the potentially powerful resources for informing instructional and school improvement school-wide data is enormously underutilized.”

- “The distinguishing characteristics of school-wide data are that they are frequently and systematically collected across a grade level or content area about an important student outcome and quickly aggregated and examined for patterns that can help inform next steps.”

Characteristics of testable hypotheses

- Identify a promising intervention or instructional modification and an effect that you expect to see
- Ensure that the effect can be measured
- Identify the comparison data
### Identifying Student Learning Problems

#### Levels of Data | Types of Data (Who? What? Based on what evidence?)
--- | ---
Aggregated results | **Sixty-five percent** of all sixth grade students passed the physical science assessment.
Disaggregated results | There is a persistent achievement gap between White and Latino students in science; **this year’s gap was 28%**
Strand results | N/A (the assessment focused on one strand area)
Item results | Students performed poorly on the **10 items** assessing buoyancy, with an **average of 22 percent proficient**; six of these items asked students to predict which objects would either float or sink.

#### Students’ work | Showed evidence of **misconceptions** with the concept of buoyancy and how the composition of an object relates to its buoyancy.
Modify instructional changes to raise student achievement by...

- Using the formative assessment process as feedback to close achievement gaps and inform instruction
- Allocating more time for struggling students to close gaps
- Reordering the curriculum to shore up essential skills
- Designating particular students to receive additional support
- Attempting new ways of teaching complex concepts
- Better aligning performance expectations among performance standards, outcomes, and classrooms
- Better aligning curricular emphasis among grade levels based on data and item analysis
Principles for Personalizing Learning

Collect multiple forms of formative assessment data about student learning to **verify causes** that will determine next instructional problems and steps.

Interpret the data to **develop questions** “Ask why” about how to improve student learning problems, modify instruction to test solutions and interventions.

Align the data with personalized students’ needs to be able to **map out a course of instruction** appropriate to each students diverse needs and cognitive development.
Data Analysis Process

1. Focused questions
2. Interpret data and identify gaps
3. Analyze root cause for gaps
4. Rules for root cause analysis process
5. Root cause analysis process
6. Developing testable hypotheses
7. Determine effect of instructional intervention
Recommendation 1: Roadblocks and potential solutions (1)

- Too much data
  - Ask focused questions, based on evidence
  - “Triangulate” data (bring the sources together)

- Content areas don’t have readily available data
  - Work across classes and content areas
  - Use multiple sources of local data and information
  - Develop school-wide interim or common assessment data to monitor progress
Teach Students to Examine Their Own Data and Set Learning Goals

1. Explain expectations and assessment criteria.
2. Provide feedback that is timely, specific, well formatted, and constructive.
3. Provide tools that help students learn from feedback to increase individualization.
4. Use students’ data analyses to guide instructional changes and learning options.
Expectations and assessment criteria for student self-assessment

- Articulate content knowledge or skills you expect students to achieve; convey goals for assignments or performance
- Explicitly describe the criteria that will be used to assess performance toward those goals
- Introduce rubrics at the beginning of an assignment
- Help students understand the state standards and essential concepts they are expected to meet
Provide feedback for students that is…

- **Timely** — Feedback should be rapid so that students still remember the task and the skills on which they were being assessed

- ** Appropriately formatted** — Select a mode of delivery that best meets students’ needs based on their grade level, subject area, and assignment

- **Specific and constructive** — Regardless of the format, feedback should provide concrete information and suggestions for improvement
Provide tools to help students learn from feedback

- Provide the reflective time and tools to help students analyze feedback and ask questions
- Help students interpret feedback and strategize ways to improve their performance
Areas of Strength and Areas of Growth

Topic: Writing a Five-Paragraph Essay
Based on: Rubric-based feedback from my last two essays
Name: John R. Student

Areas of Strength

Organization and Content
• Stating the main idea in first paragraph
• Restating main idea in conclusion
• Choosing a topic I know well

Grammar and Usage
• Indenting paragraphs
• Correctly capitalizing sentences and proper nouns

Areas of Growth

Organization and Content
• Need to state main idea of each body paragraph
• Need to provide examples in each body paragraph

Grammar and Usage
• Using quotations correctly
• Avoiding sentence fragments (example: “Because he wanted to.”)
Use students’ data analyses to guide instructional changes

- Review error worksheets to identify concepts that need to be retaught
- Organize small-group instruction around subsets of goals that students prioritized themselves
- Tally concepts that students identify as their weaknesses and provide a full review on the most frequently mentioned weaknesses
Example of a student’s worksheet for learning from mistakes

<table>
<thead>
<tr>
<th>Problem Number</th>
<th>My Answer</th>
<th>Correct Answer (from post-test review)</th>
<th>Steps for Solving (fill in)</th>
<th>Reason Missed</th>
<th>Need to review this concept?</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>$x = \sqrt{21}$</td>
<td>$x = 3$</td>
<td></td>
<td>Order of operations</td>
<td>Yes</td>
</tr>
<tr>
<td>18</td>
<td>$x = 3/32$</td>
<td>$x = -3/2$</td>
<td></td>
<td>Dividing by a fraction</td>
<td>Yes</td>
</tr>
<tr>
<td>27</td>
<td>$x = 4$</td>
<td>$x = 4$ or $-4$</td>
<td></td>
<td>Square roots</td>
<td>No</td>
</tr>
</tbody>
</table>
Recommendation 2: Roadblocks and potential solutions (1)

• Students view feedback as reflection on their abilities rather than opportunity for improvement
  - Define learning goals that are focused and specific
  - Don’t make statements linking performance to ability

• Different teachers, different approaches
  - Professional development for teachers in providing useful feedback
  - Collaborate using common assessments and performance data to set measurable goals with students
What do you do?  
… or what might you do?

- How does your school involves students examining their own data and set learning goals and at what grade level?

- “How might you involve students?”
The Muddy City Challenge!

1. Enough streets must be paved so that it is possible for everyone to travel from their house to anyone else’s house only along paved roads, and

2. The paving should cost as little as possible.

3. The number of paving stones between each house represents the cost of paving that route.

4. Find the best route that connects all the houses, but uses as few counters (paving stones) as possible.

Computational Thinking

Scientific reasoning and problem solving:

- Persistence in logic, reasoning, and problem solving
- Use of 21st century technologies to solve problems and create innovative solutions
Establish a Clear Vision for School-wide Assessment and Data Use

• **Establish** school-wide professional learning communities around data use to set the tone for ongoing data use.

• **Define** critical teaching and learning concepts related to data use.

• **Develop** action plan goals which are attainable, measurable, and relevant.

• **Provide** guidance on using data to support the school’s vision and goals.
School improvement not programs but proven practices. The Five essential supports are as follows:

- **Visionary instructional leadership**,  
- **Parent involvement** and community ties,  
- **Professional capacity** of the faculty in merging multiple measures of common formative assessment with instruction (and how well they work together),  
- **Student-centered** learning climate, and  
- **Coherent instructional inquiry** process.
Data team roles and responsibilities (1)

- Collecting and analyzing a variety of school data
- Developing or adapting common assessments
- Committing to norms of collaboration and examining data from equity perspective
- Using processes to identify and monitor student learning problems, verify causes, generate solutions, monitor, and achieve results
- Consulting research to investigate problems, causes, and best practices
- Developing data-supported action planning
Data team roles and responsibilities (2)

- Communicating about the findings of action plans
- Overseeing implementation of action plans and classroom instructional improvement
- Sharing successes and challenges
- Engaging stakeholders to gain input, involvement, support, and commitment
- Coordinating with other school or district initiatives
- Developing knowledge and skill in data literacy, collaborative inquiry, content knowledge, proficiency, leadership, and facilitation
Who should be on the team?

- a senior member of the school’s administration
- two or three teachers representing various subjects and grade levels
- one or two classroom support professionals
- if possible, a district-level staff member who works with research, evaluation, or assessment
Define critical teaching and learning concepts

- Achievement
- Collaboration
- Data
- Evidence
- Learning
- Progress
Communication, structured collaboration, and sharing instructional strategies is key!

- What effective data practices have you been using?
- What is the disconnect between data and results?
- What is needed to make the connection between data and results in classrooms?
Develop a written action plan that clearly defines activities, roles, and responsibilities

The action plan that clearly articulates school-level goals for improving student achievement to ensure they are:

- **Attainable** — they are realistic given existing performance levels

- **Measurable** — they clearly express the parameters of achievement and can be supported by data

- **Relevant** — they take into account the specific culture and constraints of the school
Ongoing data leadership

- Provide resources and support for data analysis and interpretation, such as information about professional development sessions and access to necessary technologies.

- Encourage educators to use data in their daily work by modeling data-use strategies.

- Celebrate successes to motivate staff to analyze data.

- Participate in grade- and subject-level meetings to ensure structured collaboration time is used effectively.
Recommendation 3: Roadblocks and potential solutions (1)

- Staff do not have time to plan data use
  - Integrate data use into the school improvement plan and daily classroom instructional practices

- Lack of human capacity
  - Look at staff strengths and leadership skills
  - Help build capacity of a few (turnkey model)
  - Encourage participation through incentives and distributing leadership
Provide supports that foster a data-driven culture

- Designate a school-based facilitator to discuss data
- Dedicate structured time for staff collaboration
- Provide regular targeted professional development
Teacher Professional Development

- Of more than 1,300 studies identified as potentially addressing the effect of teacher professional development on student achievement in three content areas, nine meet the What Works Clearinghouse evidence standards, attesting to the paucity of rigorous studies that directly examine this link.

- The report finds that teachers who receive substantial professional development--an average of 49 hours in nine studies--can boost their students’ achievement by about 21 percentile points.

Increasing Academic Rigor and Growth!

- Provide collaborative professional development and intelligent adaptive learning tools for teachers to interpret data to inform and improve instruction.

- Adopt a systematic process and tools for using data and designate a school-based facilitator to provide ongoing professional learning, resources, and support for data analysis and interpretations.
What do we need?
Train and support educators to use data

- Recognize that professional learning and tools for data-driven decision making helps educators transform data into actionable instructional processes through research-based DATA LITERACY SKILLS AND KNOWLEDGE!

- Recognize that a continuous school-wide perspective on embedding data use into everyday instructional practices is not a one-time event.
Designate a school-based facilitator to discuss data with teacher teams and...

- **Model** data use and interpretation, tying examples to the school’s vision for data use and its learning goals.

- **Plan** how to transform daily classroom practices based on data-driven diagnoses of student learning issues.

- **Assist** educators with data interpretation by preparing data reports and related materials.

- **Train** and support educators on using data to improve instructional practices and student achievement.
Preparation — Prior to meetings, the data team should set an agenda that focuses on using the most updated data relative to a specific and timely topic.

Analysis — During meetings, teachers should follow the cycle of inquiry systematic process, using data to state hypotheses about their teaching and learning practices and then testing those hypotheses.

Action agenda — After meetings, educators should be prepared to enact a data-driven action plan that examines and modifies their instruction to increase student achievement in the area of focus for the meeting.
<table>
<thead>
<tr>
<th>Schools</th>
<th>Time and Planning Strategies</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>School A</td>
<td>Once every month, the school day begins two hours later – teachers meet during this time to engage in activities by extending school year.</td>
<td>a. School staff review district standards and realign the assessment they use accordingly.</td>
</tr>
<tr>
<td>School B</td>
<td>School staff is released early from school once per week for at least 45 minutes. This time is added to other days throughout the week.</td>
<td>b. Schools use allotted time to align curriculum across grades with the state standards.</td>
</tr>
<tr>
<td>School C</td>
<td>Same-grade teachers meet informally during weekly planning periods and formally every six weeks. Students in grades sent to specials.</td>
<td>c. Staff discuss students’ progress according to the developmental continuums written by staff.</td>
</tr>
<tr>
<td>School D</td>
<td>Teachers request time to meet with each other during school hours; substitutes are hired to support this. In addition, teachers meet after school.</td>
<td>d. Staff members share knowledge gained from professional development activities that addressed curriculum and assessment.</td>
</tr>
<tr>
<td>Suggested professional development and training opportunities</td>
<td>Principals</td>
<td>Teachers</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>----------</td>
</tr>
<tr>
<td>Avoid common data analysis and interpretation mistakes</td>
<td>X</td>
<td>x</td>
</tr>
<tr>
<td>Data system use – avoid common mistakes</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Data system use – maintenance and troubleshooting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data system use – reporting capabilities</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Data transparency and safety</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Encourage staff leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foster a culture of data-based decision making</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Identify needs for staff professional development</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Interpret data in an educational context</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Organize time for collaborative data discussions</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Understand and use the cycle of instructional improvement</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Use data to answer questions about student learning</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Data system use – entering data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use data to modify teaching and learning practices</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Recommendation 4: Roadblocks and potential solutions (1)

- Hard to find professional development tailored to needs of the school
  - Work with the PD providers so they understand your needs and capacity
  - Use the train-the-trainers model for sustainability
  - Identify internal staff who can provide and support PD
Technologies to Support Merging Assessment with Instruction

- Technology systems
- Computing devices
- Adaptive technologies
- Digital content and media
Responsibilities could include:

• developing roles and structures to oversee the district’s commitment to data quality and use

• providing guidance about the requirements and design of the data system

• overseeing system development

• serving as liaison between the council and its respective stakeholder groups
<table>
<thead>
<tr>
<th>Staff Title</th>
<th>Example of Uses of Data System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators and principals</td>
<td>Compare rates of discipline referrals among different groups of students; discuss student progress and classroom pedagogy with faculty.</td>
</tr>
<tr>
<td>Counselors</td>
<td>Place students into correct classes based on prior performance and current schedule constraints; discuss student progress and needs with other building educators.</td>
</tr>
<tr>
<td>Information technology staff</td>
<td>Assess the interoperability of data systems, identify project scope; build strong project plans; establish standards; manage differentiated access by stakeholders; provide support, maintenance over time; identify challenges that might prevent or hinder systems from working together for timely access to information.</td>
</tr>
<tr>
<td>Support staff</td>
<td>Use attendance and assessment data to identify students for targeted interventions; work with faculty and administration on data use strategies and changing practice.</td>
</tr>
<tr>
<td>Teachers</td>
<td>Identify student and class strengths and weaknesses; interact with other staff about student progress.</td>
</tr>
<tr>
<td>Parents</td>
<td>Track immediate student outcomes and compare student performance over time.</td>
</tr>
<tr>
<td>Students</td>
<td>Review scores on recent assessments and track progress on outcomes.</td>
</tr>
</tbody>
</table>
Clearly articulate system requirements relative to user needs

- Access to system and data security
- Bandwidth requirements
- Consistent student and teacher IDs
- Consolidation of legacy systems
- Cost (initial and maintenance)
- Routines and safeguards

- Data storage
- Data quality/accuracy and timeliness
- Hosting
- Interoperability
- Professional development for both end users and IT staff
- Reporting
- BYOD
Plan and stage implementation of the data system

- Plan should address aspects critical to the system’s success
- Include staged implementation, professional development sessions, and strategies to identify and solve problems
- Should be guided by the council leaders, who should track the implementation process closely
- Include professional development and training opportunities tailored to staff needs
Recommendation 5: Roadblocks and potential solutions (2)

• No specifics on how to use technology in the implementation plan
  – Address teaching and learning goals for data system requirements to better understand how it will be used
  – Bring educational goals to the forefront

• Data systems are a financial luxury
  – Not true! The use of student data to meet educational improvement goals requires a data system that supports teaching, learning, and continuous school improvement.
How do you get there...

- In order to improve your academic standings, you need to create a culture that is centered around a systematic process by:
  - Developing an understanding of the data use inquiry cycle
  - Creating a culture that is student-centered to drive instruction
  - Facilitating blended learning environments in which students take ownership of their own academic achievement
  - Assisting teachers in adopting a systematic process for using data in order to bring evidence to bear on their instructional decisions aligned to performance standards, and outcomes.
Help your students to meet their individual learning needs by:

- **Building the human capacity of teachers** to use formative assessment effectively to drive instructional decisions

- **Using multiple data sources** to verify causes, identify strengths, weaknesses, interventions and inform instruction

- **Customize instruction to personalize learning** by enabling students of all abilities to enjoy learning at their own pace, path, place, and time to unlock learning potential, accelerate achievement, and close gaps
Data Use and Personalization

- Teachers have a responsibility to ensure that all of their students master important content.

- Teachers have to make specific and continually evolving plans to connect each learner through data analysis, interpretation, and key content.

- Differences profoundly impact how students learn and the nature of scaffolding they will need at various points in the learning process.

- Teachers should continually ask, “What does this student need at this moment in order to be able to progress with this key content, and what do I need to do to make that happen?”
Accelerating Data-Driven Personalized Learning

- Collect Multiple Assessment Sources
- Interpreting Data to Improve Student Learning
- Assigning Personalized Content
- Providing Instantaneous Feedback
- Identifying Instructional Interventions
- Monitoring Daily Progress
What do we need?
Train and support educators to use data (1)

- **Provide professional development courses** for pre-service and in-service educators for interpreting data to improve instruction.

- **Adopt a systematic process for using data** and designate a school-based facilitator to provide ongoing professional learning, resources, and support for data analysis and interpretations.
What do we need?
Train and support educators to use data (2)

- Recognize that professional learning about data-driven decision making helps educators transform data into actionable instructional processes through research-based PEDAGOGICAL DATA LITERACY SKILLS AND KNOWLEDGE!

- Recognize that a continuous school-wide perspective on embedding data use into everyday instructional practices is not a one-time event.
Think about…

- What are YOUR goals for using data?
- What are YOUR roadblocks?
- What are YOUR potential solutions?
- What are YOUR action plan goals?
- What help do you need and from whom?
Significant Challenges

- Demand for **personalized learning** not adequately supported by current assessments and curriculum.

- **Blended learning and digital media** literacy importance as a key skill in every discipline and profession.

- Institutional barriers challenges moving forward in a constructive ways with **emerging technologies and BYOD**.

- K-12 must tackle the increased blending of formal and informal **competency-based online learning**.
Significant Challenges

- Learning incorporating real life experiences is not occurring enough.

- Activities related to learning and education take place outside the classroom and not part of traditional learning metrics.

- Staying the course and overcoming setbacks (grit) not related to IQ predicts success over intelligence “Angela Duckworth Penn State Univ.
We live in a time with unprecedented attention being given to data-driven decision making.

- Policies and compliance
- Proliferation of technology-based tools
- Proliferation of data and assessments
- The need for human capacity to catch up
- The need for personalized student learning

Data is not going to go away, and educators must learn to use them effectively.
Our experiences tell us that effective data use can make a difference.

The practice guide provides a data-use inquiry cycle process as a framework for data analysis to guide instruction, which is fundamental as a starting point.
Learning Principles

- “An understanding is a learner realization about the power of an idea.”

- “Understandings cannot be given; they have to be engineered so that learners see for themselves the power of an idea for making sense of things.”

“Data-driven decision making is more than numbers. It is about transforming the quantitative and qualitative data into actionable knowledge.”

This book is for classroom teachers, school and district administrators, pre-service teachers candidates and other educators tasked with using data to inform their work and practice.
Thank You!

Sharnell Jackson

sjackson@datadriveninnovations.com