An Overview of the IES Practice Guide: *Using Student Achievement Data to Support Instructional Decision Making*

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Questions to Consider

- What kinds of questions do you have for which you want answers?
- What kinds of data can answer those questions?
- Do you have all the data you need or do you need to collect more and different data?
- What new data might you need?

More Questions to Consider

- What kinds of analyses do you need?
- How do you intend to use the analyses to inform practice?
- Do you have technology to support data use?
  - This is likely to differ depending on the size of the district.

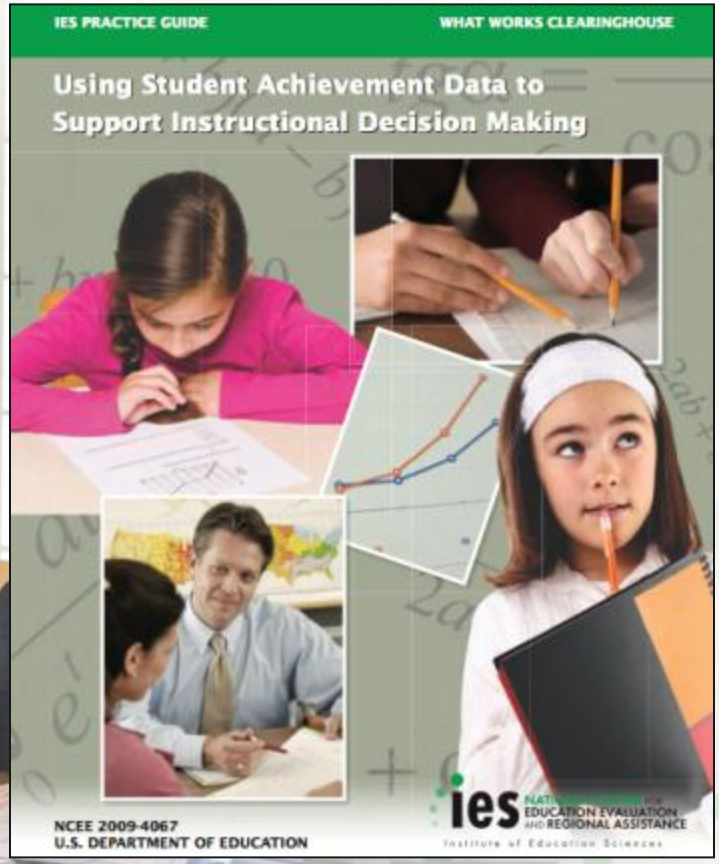
Capacity Questions

- Do you have some technology solutions that will support the use of data? What kinds of systems?
- Do your educators understand how to use data?
- Do you have anyone in the educational system who knows how to use data?
- Do your administrators feel that data use is important?
- What are your unique challenges?

More Capacity Questions

- Do you have data teams?
- Do you have a data facilitator, coach, or mentor?
- Have your educators received any training in data-driven decision making?

The IES Practice Guide



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What is Data-Driven Decision Making?

The process by which an individual collects, examines, and interprets empirical evidence to make 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 usable to a decision maker
- Educational data include demographics, financial, personnel, annual, interim, and classroom level for analysis

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 is Data-Driven Decision Making Important?

- Mandates from the federal administrators
- Philosophical shift
- The realities of our schools and classrooms
- To help all children learn

Data-Driven Decision Making is Not New!

- **The old –** data for accountability and compliance

- **The new –** data for continuous school improvement

Setting the Context for Data-Driven Decision Making

- The development of data systems to make DDDM possible and more effective
- The proliferation of data
- The human capacity issue

Quotes to Set the Stage

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)**

Practice Guide Structure

- Recommendations
- Action Steps
- Roadblocks
- Vetted References

Development Process

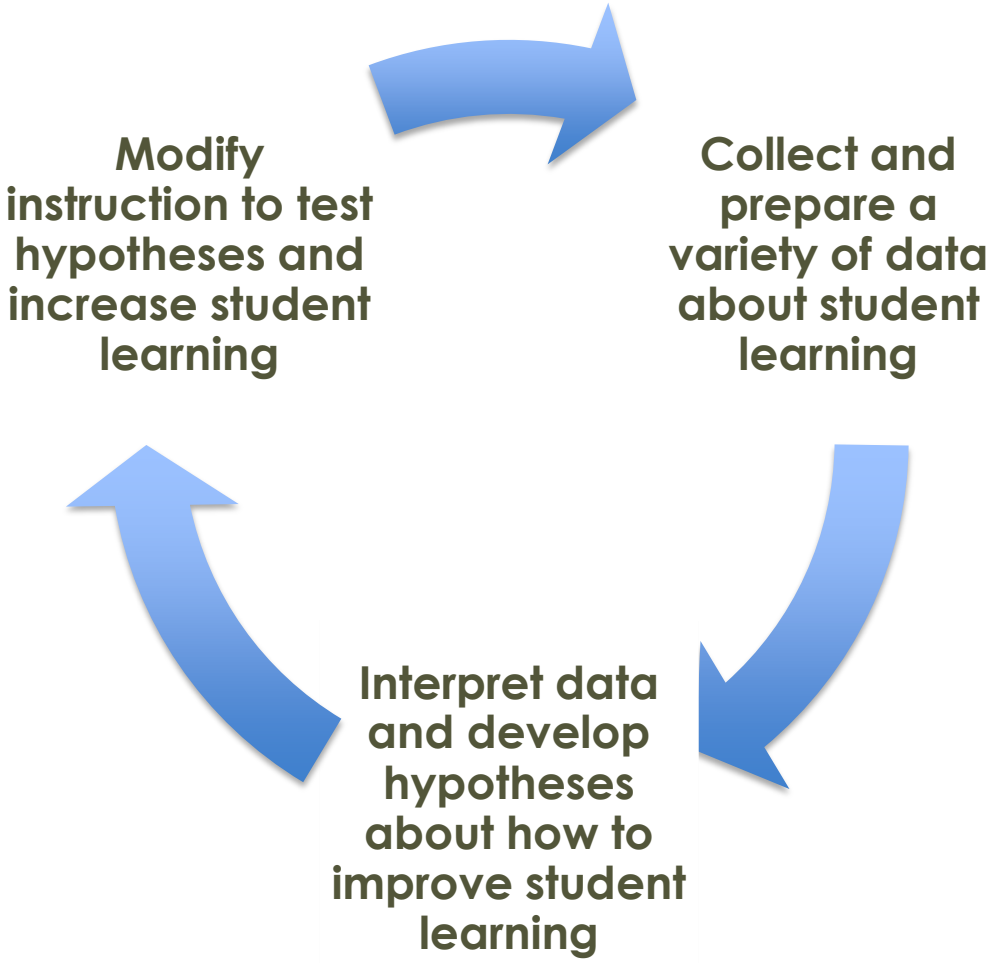
- Input from expert panel of professors and researchers in nonprofit organizations, and a practitioner
- Research reviewed by What Works Clearinghouse
- Examined hundreds of articles
  - (2,853 > 495 > 64 > 24)
- Recommendations
- Peer review

Recommendations and Next Steps From the Practice Guide

1. Make data part of an ongoing cycle of instructional improvement.
2. Teach students to examine their own data and set learning goals.
3. Establish a clear vision for schoolwide data use.
4. Provide supports that foster a data-driven culture within the school.
5. Develop and maintain a districtwide data system.

Recommendation 1:

Make Data Part of an Ongoing Cycle of Instructional Improvement



Recommendation 1:

Road Blocks and Potential Solutions

- **Too much data**
  - Ask focused questions based on evidence
  - "Triangulate" data (bring the sources together)
- **Content areas not with readily available data**
  - Work across classes and content areas
  - Develop schoolwide interim or common assessment data to monitor progress
  - Use multiple sources of local data and information

Recommendation 1:

Road Blocks and Potential Solutions

- **A focus on the "bubble" kids**
  - Provide resources to all students according to strengths and weaknesses
  - Single test results possible errors in measurement
- **Course assignment based solely on scores**
  - Use tests for valid purposes, not other ways
  - Use multiple measures, not only one score

Recommendation 1: Questions

Think About Applying Your Data to the Inquiry Cycle

- What kinds of questions can you address with the inquiry cycle?
- What are your roadblocks?
- How might you overcome the roadblocks?

Recommendation 2:
Teach Students to Examine Their Own Data and Set Learning Goals

Explain expectations and assessment criteria.

Provide feedback that is timely, specific, well formatted, and constructive.

Provide tools that help students learn from feedback to increase individualization.

Use students' data analyses to guide instructional changes and learning options.

Expectations and Assessment Criteria Toward Student Self-Assessment

- To interpret their own achievement data, students need to understand how their performance fits within the context of classroom-level or schoolwide expectations.
- Teachers should articulate the content knowledge and skills they expect students to achieve throughout the school year, conveying goals for individual lessons and assignments, as well as goals for the unit and end-of-year performance.
- Teachers should explicitly describe the criteria that will be used to assess performance toward those goals.

Student Feedback

- ***Timely*** - Feedback should be rapid so that students still remember the task and the skills on which they were being assessed.
- ***Appropriately formatted*** - When providing feedback, teachers should select a mode of delivery (e.g., rubric-based, handwritten, or typed) that best meets students' needs based on their grade level, the subject area, and the assignment.
- ***Specific and constructive*** - Regardless of the format, feedback should provide concrete information and suggestions for improvement.

Possible Solutions

- Individualized learning plans
- Electronic portfolios
- Instructional management systems

Recommendation 2:

Road Blocks and Potential Solutions

- **Students internalize feedback, opportunity for improvement**
  - Define learning goals that are focused and specific
  - Don't make statements linking performance to ability
- **Different teachers, different approaches**
  - Provide help to teachers in providing useful feedback
  - Collaborate using common assessments and performance data to set measureable goals with students

Recommendation 2:

Road Blocks and Potential Solutions

- **Teachers are concerned that they do not have enough instructional time to explain rubrics or help students analyze feedback**
  - Should be a regular part of teaching activities
  - Integrate it into the curriculum, instruction, and assessment cycle on a regular basis
  - Time spent explaining tools and strategies for analyzing feedback is essential to helping students understand their own achievement

Recommendation 2: Questions

Does This Recommendation Make Sense?

- Can teachers implement this recommendation with their students?
- What kinds of resources and supports might be needed?

Recommendation 3:

Establish a Clear Vision for Schoolwide Data Use

Data Team Roles and Responsibilities

- 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 process to identify/monitor student learning problems, verify causes, generate solutions, monitor, and achieve results
- Consulting research to investigate problems, causes, best practices
- Developing data-supported action plans

Data Team Roles and Responsibilities

- Communicating about the findings of plan
- Overseeing implementation of plan/classroom improvement
- Sharing successes and challenges
- Engaging stakeholders to gain input, involvement, and commitment
- Coordinating with other school or district initiatives
- Developing knowledge and skill in data literacy, collaborative inquiry, content knowledge, proficiency, leadership, and facilitation

Communication, Collaboration, Sharing

- 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?

Ensure Action Plan Objectives

- ***Attainable,*** in that they are realistic given existing performance levels
- ***Measureable***, in that they clearly express the parameters of achievement and can be supported by data
- ***Relevant,*** in that 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.
- Create incentives to motivate staff to analyze data.
- Participate in grade- and subject-level meetings to ensure structured collaboration time is used effectively.

Recommendation 3:

Road Blocks and Potential Solutions

- **Staff do not have time to plan data use**
  - Integrate data use into one's 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

Recommendation 3:

Road Blocks and Potential Solutions

- **Those who understand data are overwhelmed as the go-to people in schools**
  - Define roles and responsibilities with job descriptions
  - Turnkey model of training and structured collaborative time
  - Phase in data use throughout the school with support
- **No research and development staff participation**
  - Consistent message from district and principal on data use
  - Building distributed leadership capacity to ensure data use is accurately presented to data team members in schools

Recommendation 3: Questions

Think About Your District or School Vision

- Is there an explicit vision?
- From whom does it come?
- How is the vision manifested?
- Are there conflicting visions?

Recommendation 4:

Provide Supports that Foster a Data-Driven Culture Within the School

Data Facilitators

- Model data use and interpretation, linking examples to the school's vision for data use and its learning goals.
- Model how to transform daily classroom practices based on data-driven diagnoses of student learning issues.
- Assist staff with data interpretation by preparing data reports and related materials.
- Train and support staff on using data to improve instructional practices and student achievement.

Collaborative Team Meetings

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, using data to state hypotheses about their teaching and learning practices and then testing those hypotheses.

Action agenda – At the end of each meeting, 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.

Suggested professional development and training opportunities	Principals	Teachers	Other Staff	Information Technology Staff
Avoid common data analysis and interpretation mistakes	X	X	X	
Data system use – avoid common mistakes	X	X	X	
Data system use – maintenance and trouble shooting			X	X
Data system use – reporting capabilities	X	X	X	
Data transparency and safety	X	X	X	X
Encourage staff leadership	X			
Foster a culture of data-based decision making	X	X		
Identify needs for staff professional development opportunities	X	X		
Interpret data in an educational context	X	X	X	
Organize time for collaborative data discussions	X	X	X	
Understand and use the cycle of instructional improvement	X	X	X	
Use data to answer questions about student achievement	X	X	X	
Data system use – enter data			X	X
Use data to modify teaching and learning practices	X	X	X	

Recommendation 4:

Road Blocks and Potential Solutions

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

Recommendation 4:

Road Blocks and Potential Solutions

- **Resources are shifted to other priorities**
  - Interpretation and data use integrated into all subjects and grades with PD, materials, and support services
  - Dedicated resources and structured time to improve data literacy will support and enforce a culture of data use

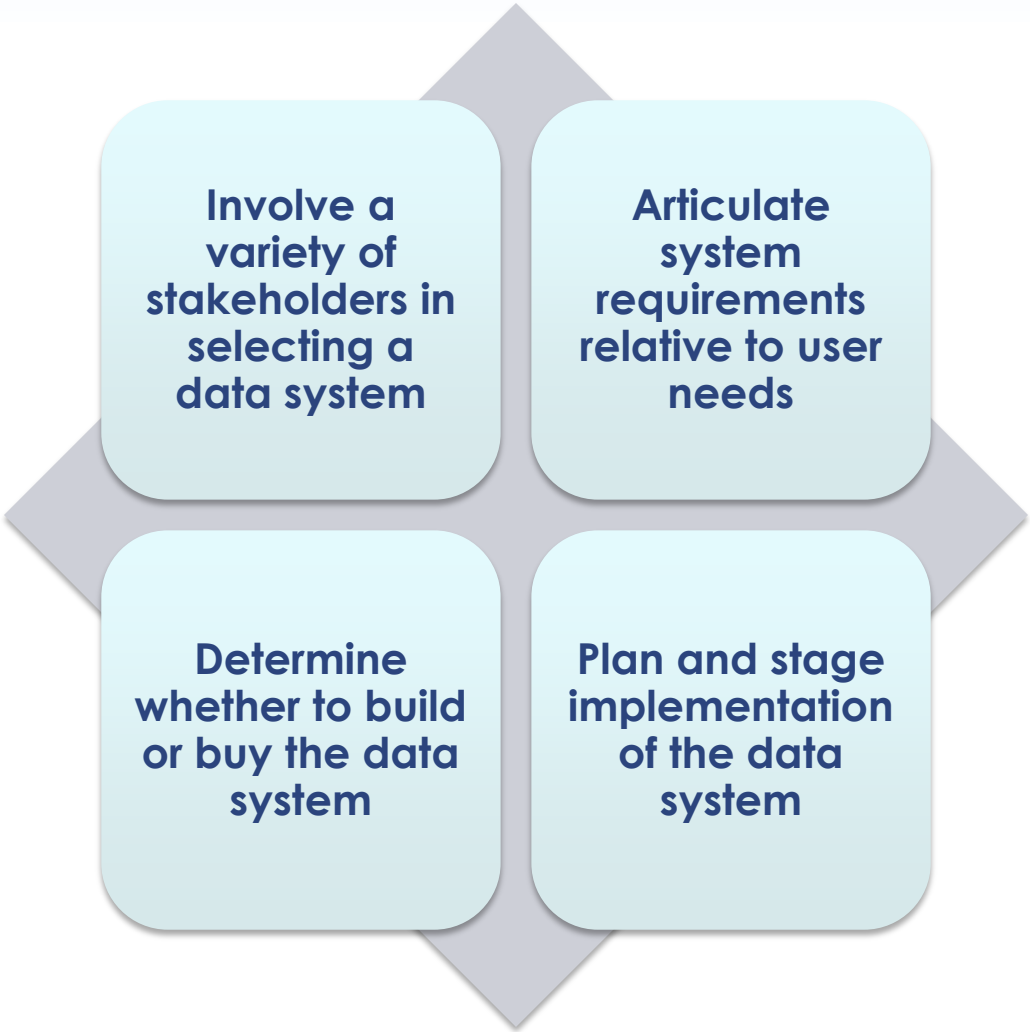
Recommendation 4: Questions

Consider the Establishment of a Data Culture

- Do you have a data culture?
- What resources do you have?
- What resources do you need?
- If no, what is needed to establish one?
- Whose responsibility is it to establish and sustain a data culture?

Recommendation 5:

Develop and Maintain an Educational Data System



Stakeholder Perspectives on Data System Use

Staff Title	Example of Uses of Data Systems
Counselors	Place students into correct classes based on prior performance and current schedule constraints; discuss student progress and needs with other building educators.
Information Technology Staff	Assess the interoperability of data systems; identify project scope; build strong project plans; establish standards; manage differentiated access by stakeholders; provide support, maintenance, and enhancements over time; identify challenges that might prevent or hinder systems from working together for timely access to info.
Support Staff	Use attendance and assessment data to identify students for targeted interventions; work with faculty and administration on data use strategies and changing practice.
Teachers	Identify student and class strengths and weaknesses; interact with other staff about student progress.
Parents	Track immediate student outcomes and compare student performance over time.
Students	Review scores on recent assessments and track progress on outcomes.
Administrators and Principals	Compare rates of discipline referrals among different groups of students; discuss student progress and classroom pedagogy with faculty.

Stakeholder Data System Responsibilities

- Developing roles and structures to oversee the commitment to data quality and use
- Providing guidance about the requirements and design of the data system
- Overseeing system development
- Serving as liaison to respective stakeholder groups

Recommendation 5:

Road Blocks and Potential Solutions

- **Technology is hard to use**
  - Training and support for a variety of levels
  - Resources for building knowledge of the technology, management, support, capacity, and sustainability
  - Continuous help focused on educational needs — use it or lose it
  - Ensure support for use of data for continuous improvement.

Recommendation 5:

Road Blocks and Potential Solutions

- **No specifics on how to use the 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!** The use of student data to meet educational improvement goals must have a data system with equal priority that supports teaching, learning, and continuous school improvement

Recommendation 5: Questions

Consider Your Technology Solutions

- Do you have a data system?
- Do you have other technologies to support data use?
- Are the technology applications aligned with the objectives of the district?
- Accessibility - Who are the end users? A select group or all educators?
- How do you maintain data quality?
- How does the local systems interface with the SLDS?
- What role does the SLDS play?

IES Practice Guide from the What Works Clearinghouse

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). ***Using student achievement data to support instructional decision making*** (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

http://ies.ed.gov/ncee/publications/practiceguides

Doing What Works Website for Additional Resources on DDDM: http://dww.ed.gov/Data-Driven-Instructional-Decision-Making/topic/index.cfm?T_ID=30

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What Do We Need?
Train Educators to Use Data

- To know what is available in terms of support for decision making – formal courses, informal training.
- Recognize that data-driven decision making is helping decision makers to transform data into actionable plans.
- Recognize it takes time and a continuous improvement perspective to enculturate data use into everyday decision making, not a one-time event.

This is Not Easy!!!

- **DDDM is labor intensive, hard work, and time consuming**
  - Where will the time and resources come from?
  - How do we use data systematically to ask questions and obtain insight about student progress in a logical way to monitor continuous improvement?
- **Costly**
- **Often frustrating**

But the Payoff May Be Great!

- **Help your educational systems improve by:**
  - Building the human capacity of teachers to use data effectively to drive instructional decisions
  - Using multiple data sources to identify strengths, weaknesses, and inform continuous improvement
  - Customizing the use of data to inform decisions at different levels of the system

Summing Up!

- We have a great opportunity to use data to drive educational decision making.
- Data are not going to go away.
- We must learn to use them effectively.

Summing Up!

- The research evidence needs to catch up, but 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.

The CHOPS of Data-Driven Decision Making

The OPPORTUNITIES seen in data use:

- Helping the system improve
- Improving the teaching and learning process
- Meeting accountability mandates

What else?

The CHOPS of Data-Driven Decision Making

The CHALLENGES to data use:

- Time, time, and time
- Technology
- Human capacity
- Clear vision
- Sufficient resources
- Money
- Need or importance of data
- Time, time, and time

What else?

Think About…..

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

Questions/Answers