Using Student Achievement Data to Support Instructional Decision Making

Recommendation 1
Make data part of an ongoing cycle of instructional improvement.

Recommendation 2
Teach students to examine their own data and set learning goals.

Recommendation 3
Establish a clear vision for schoolwide data use.

Recommendation 4
Provide supports that foster a data-driven culture within the school.

Recommendation 5
Develop and maintain a districtwide data system.

This document provides a summary of recommendations from the WWC Using Student Achievement Data to Support Instructional Decision Making Practice Guide (Hamilton et al., 2009). *Provide supports that foster a data-driven culture within the school* is a school-level recommendation that works in conjunction with the other recommendations in this series.

Recommendation 4

Provide supports that foster a data-driven culture within the school.

Schools and districts can promote data use by creating and maintaining a supportive culture for staff. To do so, school and district leaders should ensure that staff understand their roles in using data, have the skills to use data effectively, and receive leadership support. Schools and districts should invest in professional development, collaborative time, and possibly additional resources like technology and specialized personnel.

Strategy 1

Designate a school-based facilitator who meets with teacher teams to discuss data.

SC Principal Standards: PADEPP Standard 2 (Instructional leadership); Standard 3 (Effective management); Standard 4 (Climate); Standard 8 (Staff development)

Leaders can enhance data-driven instruction by assigning data facilitators to support teachers in using data systematically. Depending on the resources available, data facilitators may be full-time coaches, district staff serving multiple schools, or dedicated school-level staff assisting all teachers in data-related tasks. The data facilitator role requires data analysis expertise and the ability to train and encourage other educators in the data use process. Data facilitators support data analysis and interpretation while also building the capacity of the data teams to analyze data independently, reducing over-reliance on facilitators and fostering overall data literacy within the school.

Data facilitators should meet at least monthly with teacher teams to model data interpretation, provide data reports and visualizations, link data use to the school's goals, and train and support staff to use data to improve instructional practice and student achievement. As teachers become more data literate, the need for intensive support from facilitators will decrease, contributing to a sustainable culture of data use across the school.

Example

Recognizing the need to improve the school's use of student data, a middle school principal designated a math specialist as the school's data facilitator. Drawing from the Practitioner Data Use Toolkit (Bocala et al., 2014) and the Toolkit for a Workshop on Building a Culture of Data Use (Gerzon & Guckenburg, 2015) the facilitator plays a pivotal role in guiding teachers to integrate data into their instructional practices. Both toolkits, grounded in research-based best practices, provide frameworks, tools, and protocols for building a sustainable, schoolwide culture of data literacy. In monthly grade-level meetings, the facilitator uses visualizations and guided inquiry processes to help teachers analyze student data, identify instructional challenges, and develop targeted interventions. During a recent seventh-grade meeting, the facilitator modeled the inquiry cycle from the Practitioner Data Use Toolkit, helping teachers dissect assessment results and hypothesize root causes for gaps in multi-step problem solving. Simultaneously, the facilitator applied the Toolkit for a Workshop on Building a Culture of Data Use to set clear expectations for data practices and foster collaborative dialogue around instructional improvement.

As the facilitator's efforts take root, the toolkits provide the foundation for differentiated approaches tailored to staff roles and needs. The Practitioner Data Use Toolkit supports classroom teachers in mastering data analysis and applying insights directly to lesson planning, while the Toolkit for a Workshop on Building a Culture of Data Use equips department heads and leadership teams with strategies for sustaining systemic, data-driven practices. This structured approach ensures that professional development meets staff where they are, evolving over time to reflect growing capacity and confidence.

Strategy 2

Dedicate structured time for staff collaboration.

SC Principal Standards: PADEPP Standard 2 (Instructional leadership); Standard 3 (Effective management); Standard 4 (Climate); Standard 8 (Staff development)

Encouraging teachers to collaboratively analyze and interpret data fosters a school culture where data use is central to improving student achievement. Setting aside structured time multiple times a week, when possible, allows teachers to examine achievement patterns across grade levels, departments, or schools and make data-driven adjustments to their instruction. This time also serves as an opportunity for professional development on effective data use and to build data literacy. Collaborative meetings are typically conducted in small, grade-level or subject-area teams, sometimes with a data facilitator or other support staff.

The data meetings should include the following elements:

- **Preparation**. Set an agenda that focuses on a specific, timely, and malleable topic or improvement need.
- **Analysis**. Use data to engage in inquiry cycles and generate hypotheses that educators can test.
- **Take action**. At the end of each data meeting, ensure that team members are prepared to modify their instruction and collect data to monitor implementation and progress towards improvement goals

Example

A middle school principal established a dedicated hour twice a week for teachers to collaborate on analyzing student data, guided by the principles of the Practitioner Data Use Toolkit (Bocala et al., 2014). This toolkit, developed to support data-driven decision making in schools, provides a structured framework for inquiry and actionable steps to improve student outcomes.

Each grade-level team gathers with a clear agenda set in advance, focusing on specific areas for improvement based on recent assessments or behavior data. During a recent sixth-grade team meeting, teachers examined data from a math unit test that revealed a pattern of students struggling with multi-step problem solving.

Guided by the agenda and the inquiry cycle framework outlined in the Practitioner Data Use Toolkit, teachers started by seeking information to refine their focus and generating guiding questions about the observed challenges. They analyzed item-level data to identify trends, hypothesizing that students might benefit from more structured practice with problem-solving strategies. Using a collaborative protocol featured in the toolkit, the team identified potential root causes, including insufficient scaffolding in lessons and the need for clearer modeling of problem-solving steps.

Next, teachers outlined SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals, as recommended in the toolkit, to guide their instructional adjustments. They discussed strategies such as incorporating scaffolded exercises, peer learning activities, and explicit step-by-step modeling. Each teacher committed to implementing one of these strategies in their classes and agreed to track student progress on similar problems over the next two weeks.

Before concluding, the team planned to reconvene with updated data to evaluate the impact of these strategies, following the toolkit's emphasis on iterative evaluation. This structured collaboration not only promoted data-driven instructional changes but also strengthened teachers' confidence in analyzing and acting on data to enhance student learning.

Strategy 3

Provide targeted professional development regularly.

SC Principal Standards: PADEPP Standard 2 (Instructional leadership); Standard 3 (Effective management); Standard 4 (Climate); Standard 8 (Staff development)

To support effective data use, schools and districts should provide ongoing professional development for administrators, principals, teachers, and support staff, building data literacy and data use skills aligned with school goals. These data use skills range from data entry and analysis to leadership, and vary by professional roles, content area and curriculum, experience with data analysis, and comfort with supporting technology. Professional development should focus on practical application of data and how it can support instruction, assessment, and planning. Staff may also need training and support in the use of the data system, although technology focused training should be small doses to prevent staff becoming overwhelmed. Table 1 provides an overview of potential professional development needs for staff based on their role.

Educators may require ongoing technical assistance and training, especially when data systems are updated or enhanced. Professional development can include online learning modules for cost-effective, flexible training that accommodates different technology comfort levels. Continuous professional development builds a strong data culture across the school, ensuring that all staff—from teachers to administrators—are equipped to use data to improve student achievement.

Table 1. Suggested professional development and training (Hamilton et al., 2009)

Topic	Principals	Teachers	Other Staff*	IT Staff
Avoiding common data analysis and interpretation mistakes	X	X	X	
Data system use—avoiding common mistakes	X	X	X	
Data system use—entering data			X	X
Data system use—maintenance and troubleshooting				X
Data system use—reporting capabilities	X	X	X	
Data transparency and safety	X	X	X	X
Encouraging staff leadership	X			
Fostering a culture of data-based decision making	X	X		
Identifying needs for staff professional development opportunities	X	X		
Interpreting data in an educational context	X	X	X	
Organizing time for collaborative data discussions	X	X	X	
Understanding and using the cycle of instructional improvement	X	X	X	
Using data to answer questions about student achievement	X	X	X	
Using data to modify teaching and learning practices	X	X	X	

*Other staff can include data facilitators, classroom support specialists, administrative assistants, and counselors.

Example.

A middle school principal recognized the need for staff to deepen their data literacy and organized a series of targeted professional development workshops throughout the school year, guided by the Toolkit for a Workshop on Building a Culture of Data Use (Gerzon & Guckenburg, 2015). These workshops were tailored to different staff roles and levels of experience with data, reflecting the toolkit's emphasis on differentiated professional development and building a shared culture of data use.

Classroom teachers participated in monthly sessions aligned with the toolkit's framework for making meaning from data, focusing on using student achievement data to inform instructional planning. In these sessions, teachers engaged in hands-on exercises such as analyzing disaggregated assessment results and identifying root causes of challenges using tools like a fishbone diagram. The sessions were structured around the toolkit's inquiry cycle, which emphasizes steps such as seeking information, analyzing data collaboratively, and taking action through informed instructional changes.

Meanwhile, department heads attended sessions designed to equip them with leadership skills outlined in the toolkit's leading a culture of data use element. These workshops focused on strategies for facilitating team data discussions, establishing clear expectations for data use, and modeling the inquiry process during team meetings. Guided by examples from the toolkit's vignettes, department heads learned to set data-informed goals and support their teams in implementing actionable strategies.

To address varying levels of comfort with technology, the school leveraged the toolkit's guidance on ensuring access to data systems by providing optional online modules that introduced staff to the school's new data management system. These modules allowed staff to explore the system's features at their own pace, complemented by refresher sessions after system updates. These resources underscored the importance of accessible, usable data systems to sustain a culture of data use.

By integrating the toolkit's five essential elements—leadership, professional development, access to data, collaboration, and clear expectations—the professional development series fostered a schoolwide culture where data use became a routine part of instructional improvement. Staff at all levels gained the skills and confidence needed to effectively analyze and act on data, ensuring continuous improvement in teaching and learning.

Potential Roadblock 1

It is difficult to locate professional development that is specific to the needs of the school.

Suggested Approach. With the assistance of the data team and data facilitators, schools should determine their needs and discuss these with internal or external trainers and professional development providers. If training and professional development cannot be tailored to the needs of the school or district, schools should consider using a "train-the-trainers" model. Schools should identify trainers, such as professional development staff within the district office, who can receive broad training on a particular product or issue related to data-based decision making for the school's data system. These staff can then adapt the training to fit the needs of the school or district and train other educators and staff members as necessary.

Potential Roadblock 2

Resources dedicated to creating staff capacity to use data often are shifted to other school priorities.

Suggested Approach. Recognize that data-based decision making is not an isolated issue, but rather one that benefits all subject areas and grades. Principals and district-level administrators should secure and distribute the financial resources necessary to match educators' needs for interpreting and interacting with data. Dedicating resources to data literacy will help support and enforce a culture of data use, enabling educators to better help their students meet defined learning goals across all content areas.

Additional Resources

Toolkit for a Workshop on Building a Culture of Data Use (Gerzon & Guckenburg, 2015)

- The Toolkit for a Workshop on Building a Culture of Data Use helps school and district teams apply research to practice as they establish and support a culture of data use in their educational setting. The field-tested workshop toolkit guides teams through a set of structured activities to develop an understanding of data use research in schools and to analyze examples from practice. The conceptual framework of the toolkit draws on five research-based elements known to support an effective culture of data use. Supporting materials—a facilitator's guide and agenda, a slide deck, and participant handouts—provide workshop facilitators with all the necessary materials to lead this process in their own setting.

The Practitioner Data Use Workshop Toolkit (Bocala et al., 2014)

- The Practitioner Data Use Workshop Toolkit is designed to help practitioners systematically and accurately use data to inform their teaching practice. The toolkit includes an agenda, slide deck, participant workbook, and facilitator's guide. It covers the following topics: developing data literacy, engaging in a cycle of inquiry, accessing and analyzing available data, identifying and creating student goals, and using data to make action plans about instructional decisions.

References

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