



BEST PRACTICES
FOR BETTER SCHOOLS™

Early Childhood Education

Using Student Achievement Data to Support Instructional Decision Making



National Association of Elementary School Principals



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About NAESP

The mission of the National Association of Elementary School Principals (NAESP) is to lead in the advocacy and support for elementary and middle-level principals and other education leaders in their commitment for all children.

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About BEST PRACTICES FOR BETTER SCHOOLS™

Best Practices for Better Schools™, an online publications series developed by the National Association of Elementary School Principals, is intended to strengthen the effectiveness of elementary and middle-level principals by providing information and insight about research-based practices and by offering guidance for implementing them in schools. This series of publications is intended to inform discussion, strategies, and implementation, not to imply endorsement of any specific approach by NAESP.

About This White Paper

The content of this issue of Best Practices for Better Schools™ is excerpted with permission from [Doing What Works](#) (DWW), a website sponsored by the U.S. Department of Education. The goal of DWW is to create an online library of resources to help principals and other educators implement research-based instructional practice. DWW is led by the Department's [Office of Planning, Evaluation & Policy Development](#) (OPEPD), which relies on the [Institute of Education Sciences](#) (and occasionally other entities that adhere to standards similar to those of IES) to evaluate and recommend practices that are supported by rigorous research. Much of the DWW content is based on information from IES' [What Works Clearinghouse](#) (WWC), which evaluates research on practices and interventions to let the education community know what is likely to work.

NAESP was the only national education association awarded a grant to widely disseminate highlights of best-practice content from the [DWW website](#). Readers are encouraged to visit the website to view all of the resources related to this best practice and to share this online resource with colleagues, teachers, and other educators. No additional permission is required.

NAESP cares about the environment. This white paper is available from NAESP as an online document only. NAESP members and other readers are encouraged to share this document with colleagues.

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Using Student Achievement Data to Support Instructional Decision Making

PRINCIPALS KNOW that student achievement data offers invaluable support for making good decisions about instruction. But how that data are used is critical. This white paper outlines five recommendations to help principals put student achievement data to the best possible use:

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

Summaries of these practices follow.

Make data part of an ongoing cycle of instructional improvement.

To help all students achieve, teachers need to systematically and routinely use data to guide instructional decisions and meet students' learning needs. Data use is an ongoing cycle of collecting multiple data sources, interpreting data to formulate hypotheses about strategies to raise student achievement and implementing instructional changes to test hypotheses.

Collaboration among teachers in each step of

the data-based inquiry process can maximize the benefits of data use by helping teachers share effective practices, adopt collective expectations for students' performance, gain a deeper understanding of students' needs, and develop effective strategies to better serve students.

ACTIONS

Collect and prepare a variety of data about student learning.

To gain a deeper understanding of students' learning needs, teachers need to collect data from multiple sources, such as annual state assessments, interim district and school assessments, classroom performance data, and other relevant data. A districtwide data system allows teachers to aggregate data by classroom, content areas, or assignment type to identify patterns in performance.

Interpret data and develop hypotheses about how to improve student learning.

Interpreting data allows teachers to identify the strengths and weaknesses of an entire class as well as individual students. As they examine the data, teachers can develop hypotheses about factors that affect students' learning and ways to improve instruction to help all students achieve. It is important for teachers to slow down and ask why during this phase of the cycle of instructional improvement.

Teachers can use students' data analysis to identify factors that may motivate student performance and then adjust their instruction to better meet students' needs.

Modify instruction to test hypotheses and increase student learning.

After forming hypotheses about students' learning needs, teachers can examine current instruction and test the hypotheses by implementing instructional changes they believe are likely to raise student achievement. Drawing from the data, teachers need to determine whether to continue the instructional improvement in its current form, modify or extend the approach, or try a different approach.

WHAT PRINCIPALS SAY

Principals can see how these actions are implemented in schools by viewing these web-based interviews with teachers and specialists:

[What Do You See in These Data?](#)

[Prepare, Inquire, Act](#)

[Helping Struggling Students by Using the SAT Process](#)

[Intervening Early Using Data From Multiple Assessments](#)

[Start With the Data](#)

[Supporting Data Use Through Teacher Collaboration Time \(Part 1\)](#)

[Supporting Data Use Through Teacher Collaboration Time \(Part 2\)](#)

[Using the Three-Week Assessment Cycle](#)

TOOLS

[A variety of tools and templates](#), including [an instructional integrity checklist](#) and [collaborative conference protocol](#), are available through Doing What Works to help principals and teachers implement this best practice in their school. Each tool is a downloadable document that principals can adapt to serve their particular needs.

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

Teachers should provide explicit instruction to elementary and secondary students on regularly using achievement data to monitor their own performance and establish learning goals. Teachers can use students' data analysis to identify factors that may motivate student performance and then adjust their instruction to better meet students' needs.

ACTIONS

Explain expectations and assessment criteria.

Students can better interpret their achievement data and set learning goals when they have a clear understanding of performance expectations and assessment criteria. Teachers need to explicitly articulate the content knowledge and skills students are expected to achieve throughout the school year; the goals for individual lessons, assignments, and performance tests; and the criteria used to assess performance toward those goals.

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

Teachers can provide students with feedback that helps them understand their strengths and weaknesses and identifies specific areas for improvement. Effective tools and strategies include student-developed assessment rubrics and peer reviews.

Provide tools that help students learn from feedback.

Students need time and tools to help them analyze the data, diagnose their own errors, and learn from feedback. Tools such as teacher- and student-generated graphs and reflective questions guide students' data analysis and help them make data-based decisions to improve their performance. Students can keep learning logs in individual folders (hard copy portfolios or e-versions)

with a variety of formats for self-monitoring and tracking progress.

Use students' data to guide instructional changes.

Teachers need to collect and review students' learning goals and analyses to identify content areas and skills that need to be reinforced and factors that may motivate student learning. For example, teachers can organize small-group instruction around the subsets of goals students prioritized for themselves, or can reteach concepts that a majority of students identified as their weaknesses.

WHAT PRINCIPALS SAY

Principals can see how these actions are implemented in schools by viewing these web-based interviews with teachers and specialists:

[Helping Students Gain Ownership Over Their Learning](#)

[Engaging Students in Data Use Through Student Portfolios](#)

[Clear Expectations for Students](#)

[Data Boards Help Students Set Learning Goals \(Part 1\)](#)

[Data Boards Help Students Set Learning Goals \(Part 2\)](#)

[Taking Ownership](#)

[Go Back and Reflect](#)

TOOLS

[A variety of tools and templates](#), including [student goal-setting worksheets](#), [student surveys](#) and [research plans](#), are available through Doing What Works to help principals and teachers implement this best practice in their school. Each tool is a downloadable document that principals can adapt to serve their particular needs.

Establish a clear vision for schoolwide data use.

A strong culture of data use is critical to ensuring routine, consistent, and effective data-based decision making. Principals can form a data team to serve as advisors on data use throughout the school. The data team can represent a range of stakeholders such as an administrator, two to three teachers across different grade levels or content areas, one to two classroom support professionals (such as a coach or special education teacher), and a district-level staff member who works with data.

A data team comprising an assortment of stakeholders can solicit input from, and work with, the entire school community. A data team might write the school plan describing how the school will use data to support schoolwide goals, and defining key concepts critical to teaching and learning (e.g., achievement, data, evidence, collaboration). However, a data team does not hold staff accountable for using data, supervise the data-related activities, or provide expert advice. Rather, the team can provide leadership through modeling the use of data.

ACTIONS

Establish a schoolwide data team that sets the tone for ongoing data use.

The data team's role is to clarify the school's data use vision, model using data to make instructional decisions, and encourage other staff to use data to improve instruction.

Define critical teaching and learning concepts.

The data team can start by developing a shared vocabulary for critical education concepts, particularly data use. The data team may want to define critical concepts such as learning, data, evidence, achievement, or collaboration.



A data team can hold monthly meetings to monitor a school's progress in executing the data use plan and ensure that the school is using data effectively and consistently.

Develop a written plan that articulates activities, roles, and responsibilities.

While developing a written plan that ties data use to a school's goals, the data team can ensure the goals are attainable, measurable, and relevant. The written plan needs to be actionable and include critical elements such as specific data use activities, staff roles and responsibilities, and timelines. This could be a component incorporated into the school's strategic plan for student achievement, or any other existing plans for various funding sources such as Title I, literacy, etc.

Provide ongoing data leadership.

In its leadership role, the data team usually provides resources, support, and encouragement to school staff. Team members can also participate in grade- and subject-level meetings to facilitate staff collaboration in data use. The data team can hold monthly meetings to monitor the school's progress in executing the data use plan and ensure that the school is using data effectively and consistently.

WHAT PRINCIPALS SAY

Principals can see how these actions are implemented in schools by viewing these web-based interviews with teachers and specialists:

[Collaborative Structures for Data Use](#)

[Establishing a Common Understanding](#)

[You Can't Hide From Data](#)

[Earning Trust](#)

[Carrying Out the Vision](#)

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

Providing leadership through data facilitators or other instructional leaders, and ongoing professional development, helps teachers, principals, and other school staff

members obtain a thorough understanding of their roles and responsibilities in using data. Leadership, professional development, and time for collaboration do not establish the culture of data use; rather, they provide the supports needed to build a culture that fosters data use to guide instructional decision making.

ACTIONS

Designate a school-based facilitator who meets and collaborates with teacher teams in discussing data and solving problems.

A data facilitator can provide leadership for data analysis, train and encourage school staff to use data consistently and systematically, and serve as the leader of the data team. However, data interpretation and analysis is not solely the responsibility of data facilitators; teachers need to improve their data literacy knowledge and engage in effective ongoing assessment of student learning, collective analysis, and problem solving.

Dedicate structured time for staff collaboration.

During a dedicated and structured time, teachers and school staff can collaboratively analyze and interpret students' achievement data and identify instructional changes. To help facilitate the collaborative meetings during the structured time, participants usually focus their discussions on a specific and timely topic, follow the cycle of inquiry, and are prepared to enact a data-based action plan to carry out instructional modifications.

Provide targeted professional development regularly.

Professional development can help familiarize staff with components of the data system, data culture, and data use, with a particular focus on how teachers can apply



Professional development can help familiarize staff with components of the data system, data culture, and data use.

data to their daily work to improve instructional planning, teaching, and learning.

WHAT PRINCIPALS SAY

Principals can see how these actions are implemented in schools by viewing these web-based interviews with teachers and specialists:

[Supporting Teachers in Understanding and Using Data](#)

[Supporting a Culture of Data Use](#)

[Data Afternoons](#)

[Visualizing Data in the Progress Pad](#)

[It's Not Something That's Static](#)

[Breaking It Down](#)

TOOLS

The following tools and templates are designed to help principals and teachers implement these best practices in their school. Each tool is a downloadable document that principals can adapt to serve their particular needs.

[Professional Development and Training Expectations](#): Sample material list outlining professional development topics and participation.

[Classroom Instructional Plan](#): Planning template for instructional changes.

Develop and maintain a districtwide data system.

To meet the needs of a wide range of audiences, a district data system advisory council comprising a variety of stakeholders should be involved in determining the district's requirements and selecting and implementing the new system. Districts and schools need to secure financial and human resources to develop data protection safeguards and ensure that data are timely,

relevant, and useful to educators.

ACTIONS

Involve a variety of stakeholders in selecting a data system.

The advisory council members can solicit feedback from their respective groups and meet frequently to discuss user concerns and ways to improve the system.

Clearly articulate system requirements relative to user needs.

By working with representatives of school data teams, the district advisory council can align their suggested system requirements to school-level needs. To ensure that the system remains effective as user needs evolve, requirements need to be reviewed and revised at least annually.

Plan and stage the implementation of the data system.

To guide data system implementation, the advisory council and district leaders can develop a written plan outlining the staged implementation process, professional development sessions, strategies to identify and solve problems, and anticipated needs for maintenance and enhancements. During early implementation, arranging staged rollouts or pilot tests allows staff to adjust to the new system and provides time to modify the system in response to user feedback.

WHAT PRINCIPALS SAY

Principals can see how these actions are implemented in schools by viewing these web-based interviews with teachers and specialists:

[What Makes a High-Quality Districtwide Data System](#)

[Immediate Feedback](#)

[District Supports for Data Use](#)

TOOLS

The following tools and templates are designed to help principals and teachers implement these best practices in their school. Each tool is a downloadable document that principals can adapt to serve their particular needs.

[Stakeholder Perspectives on Data System](#)

[Use:](#) Sample overview of how stakeholders participate and access a districtwide data system.

[Protocols to Support Data Use:](#) Four meeting protocols to guide staff as they collaborate to systematically use data.

Conclusion

Good data make for good decisions. How student achievement data are collected and implemented will determine how well that data support the instructional decision making by principals and teachers. The guidelines are clear: data must be made part of the ongoing cycle of instructional improvement; students must be taught to examine their own data and set their own learning goals; principals must establish a clear vision for schoolwide data use; schools need to foster a data-driven culture; and school districts must develop and maintain districtwide data systems.

SITE PROFILES

[Thompson Elementary School \(TX\):](#) A supportive culture of trust is the centerpiece of Thompson's data cycle.

[MacArthur Ninth Grade School \(TX\):](#)

MacArthur's three- and six-week assessments regularly check students' skill mastery.

[River Ridge Elementary School \(KY\):](#) River Ridge staff and its Student Assistance Team collaborate on data-based intervention plans.

[Shotwell Middle School \(TX\):](#) Shotwell's principal and administrative team have high expectations for staff data use.

[Jacob Hiatt Magnet School \(MA\):](#) Even the youngest students at Jacob Hiatt are involved in data review and analysis.

Related Links

[Doing What Works: Preschool Language and Literacy:](#) Review the unabridged content related to this best practice.

[3-D Data-Driven Decision Making Center:](#) An initiative to help K-12 technology leaders build a data culture.

[Achieving With Data: How High-Performing School Systems Use Data to Improve Instruction for Elementary Students \(PDF\)](#)

[Assessment for Learning: Classroom Assessment to Improve Student Achievement and Well-Being \(PDF\)](#)

[Data-Driven Decision Making: Vision to Know and Do \(PDF\)](#)

[Data Quality Campaign:](#) A national collaborative effort to improve availability of education data.

[Data Use Drives School and District Improvement \(PDF\)](#)

[Issue Brief: Using Data—The Math's Not the Hard Part \(PDF\)](#)

[The Ohio Success Website:](#) Information on Ohio's achievement and graduation tests

[Rennie Center for Education Research and Policy: Data-Driven Teaching—Tools and Trends](#)

[State Education Technology Directors Association \(SETDA\): Data-Driven Decision Making](#)

[Student Self-Evaluation: What Research Says and What Practice Shows](#)

U.S. Department of Education:

[Implementing Data-Informed Decision Making in Schools](#)

[Use of Education Data at the Local Level: From Accountability to Instructional Improvement](#)

[Use of Education Data at the Local Level: From Accountability to Instructional Improvement \(PDF\)](#)

[School Performance: A Brief Guide to Building Systems for Data-Driven Instruction](#)