

## FROM THE SCHOOL PSYCHOLOGIST FROM THE SCHOOL PSYCHOLOGIST

# Data-Based Decision Making

*To use data effectively, school leaders must know which questions to ask to find the data they need.*

**By Anastasia Kalamaros Skalski and Montina Romero**

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*Created in collaboration with the National Association of School Psychologists (NASP) to facilitate partnerships between principals and school psychologists and remove barriers to learning. Additional resources are available at [www.nasponline.org/resources/principals](http://www.nasponline.org/resources/principals).*

**P** rincipal Harris stared at the unopened envelope that contained his middle school's state assessments results. This year was his last chance to save the school from being closed. The reforms he had put in place over the last three years had been sweeping. His school had embraced response to intervention (RTI) and other improvement initiatives. Progress monitoring data showed that his struggling students had made gains and that the gap had narrowed between White and minority students, as well as students with and without disabilities. But would the state data show enough improvement to save his school and his job?

The last decade brought a new era of school reform that increased the importance of data collection and analysis. Generally, using evidence and supporting data to determine the effectiveness of teaching practices and programs is positive. As with most good things, however, overindulgence has resulted in ill effects that are troubling to everyone involved. Educators are overwhelmed by the mountains of data they receive and often do not know how to use data to inform and improve instruction and classroom practices. And because data are too often used only to evaluate instruction, teacher effectiveness, or student achievement, teachers—and administrators—have learned to be defensive and wary of data collection and the required assessment tools.

Shifting to a more open and engaged attitude is often especially uncomfortable and difficult for teachers because of accountability expectations at the state and federal level. Principals must model using data to inform instruction and create a culture that makes it safe for teachers to acknowledge that some teaching practices or strategies may be ineffective. In addition, teachers need structured times to meet to discuss data and determine which data are relevant.

### Not All Data Are Created Equal

In most schools, the question of whether enough data are available is not the issue. Instead, most schools must determine whether they have the right data to inform decision making and improve practice. When principals are trying to decide what data they should share with their staff members, they must first ask these questions:

- What are the needs of my staff members and students?
- How can we use data to address those needs?

### FORMATIVE DATA

Adjusting instruction and interventions and better understanding the specific skill gaps and rate of progress of each student requires teachers to use data “formatively”—or to inform and change practice. Formative data is gathered regularly in the process of teaching and learning, such as:

- Task analytic data that looks at the skills that a student needs to perform higher level tasks and evaluates where the skill gaps are so that teachers can give the student specific instruction
- Universal screening and progress monitoring data from cur-

riculum-based measurement systems, such as AIMSweb .com, that evaluate a student's basic numeracy, literacy, and behavior skills.

### SUMMATIVE DATA

Data that are collected to prove whether instruction or interventions have had good, little, or no effect in narrowing the achievement gap are used “summatively” to measure a student's cumulative performance at certain points in time. Decisionmakers rely heavily on standardized norm-referenced assessments that provide a snapshot of how individuals or groups are performing compared with a large sample of their peers. For example, many states administer assessments in the spring to determine where students are performing compared with district and state curriculum standards. Those assessments do not typically provide information that is sensitive to growth over time, but instead reflect more of a one-shot approach to evaluation.

Not all summative data are useful and many are redundant. Principals must work with their staff members to determine which data will give them the most insight into the issues of practice they are trying to address. They should assess all of the sources of data being collected, determine whether any duplication exists, identify what the data are and why they are being collected, and eliminate any data-collection practices that are duplicative or not informative.

Providing the right type of data to answer the question of need is essential. All data must be relevant to teachers; presented in a simple, condensed, understandable protocol; and reviewed on a regular basis.

### Promote Data-Driven Conversations

Staff members need regular, dedicated times to review, analyze, and discuss data; clear understanding about the value and purpose of reviewing data; and dedication to the reflective practice and inquiry needed to make this study worthwhile. Two prominent professional development models provide frameworks for such conversations.

**Professional learning communities (PLCs).** The fundamental consideration driving the work of a PLC is to ensure that students are not only taught but also learning (DuFour, 2004). Three questions drive the work of a PLC:

- What do we want each student to learn?
- How will we know when each student has learned it?
- How will we respond when a student experiences difficulty in learning?

PLC participants commonly use data to help them answer those questions. Community members review summative data to identify problems of practice and use formative data to determine how to respond to those problems.

**Collaborative learning cycle.** Wellman and Lipton (2004) developed a three-step framework that they call the “collaborative learning cycle” that addresses problems in educators' work with and response to data. Groups form to solve specific problems of practice and examine such questions as, What instructional methods are the most effective at narrowing the achievement gap in reading and in math?

In the first step in the cycle, collaborative groups ask questions and



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## Additional Resources

**National Center for Response to Intervention**  
www.rti4success.org

***Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement.*** R. DuFour & R. Eaker. 1998. Bloomington, IN: Solution Tree Press

**RTI Action Network**  
www.rtinetwork.org

**OSEP Technical Assistance Center on Positive Behavior Interventions and Supports**  
www.pbis.org

make predictions about the data. Group members are also prompted to examine how their assumptions might affect their interpretation of the data. The second step requires participants to look for trends, patterns, surprises, and other interesting findings. The third step involves developing theories about what caused the data, determining solutions for these causes, and creating action plans for those solutions. Through this process, educators learn to engage in thoughtful discussions that put a “face” on the data by giving it real meaning that translates into more-effective practice.

### Identify and Engage the Data Experts

Data can be very intimidating. Even principals who are trained in data-based decision making can benefit from the help of a professional with expertise in data collection and analysis. A brief survey that asks staff members about their training and background can help principals determine who has expertise in this area, such as the school psychologist, science and math teachers, special educators, other related services professionals, or business office personnel. Including these professionals on school improvement and accountability teams can greatly improve the effectiveness of team decision making.

### Using Data to Inform Teaching

By the time students reach secondary school, the foundational skills they need to perform the higher-level literacy, numeracy, and reasoning tasks

required by secondary school curricula should already be in place. Too frequently, however, this is not the case and students struggle because of skill gaps, lack basic skills, or have difficulty generalizing foundational skills to higher-reasoning tasks. Secondary schools also face scheduling challenges and structures that make collaboration among teachers difficult.

Principals support data sharing among teachers so that all students’ needs are met by:

- Improving data sharing between grade levels. Teachers benefit from access to previous interventions and progress data. For example, RTI practices include creating “intervention folders” that transition with the student so that teachers can see how students responded to previous interventions. Ideally, these data are available from kindergarten through graduation and travel with students who transfer.
- Ensuring that data are linked to instructional change. Teachers need to know which strategies work as determined by students’ responses to interventions. In addition, review of and feedback on data must be timely and ongoing.
- Providing professional development and support for teachers. Staff members may need to learn how to correctly review data and implement related interventions. The school psychologist can offer inservice

## Principal Perspective: Working Smarter, Not Harder

As a middle school principal, I find it challenging to provide staff development, maintain high expectations, and keep morale high without overwhelming teachers, students, and parents. What could I do to help me and my staff work smarter, not harder?

Creating smaller learning communities was a start. A main focus was to give teachers a common meeting time to discuss student data. Creating a schoolwide schedule that allows all core content teachers to have a common planning time is key, as are setting the expectation that all teachers will attend a meeting each week, creating meaningful agendas, and facilitating structured dialogue about the impact of student data and information. Considering all of the demanding aspects of teaching, having a structured schedule for discussing data is valuable.

Once meeting days and times are established, teachers must look at the appropriate student data. We begin the year by looking at state assessment data so that everyone can hit the ground running. There is a wealth of information that can be gleaned from disaggregating strands of these data. Once state assessment data have been utilized appropriately, looking at other assessment information is important. Groups discuss and evaluate the class-

room assessment results, formative and summative. This collaboration is ideal to determine what material the students have mastered and what needs to be retaught or expanded on.

Once we have accurately identified what students need, determining the most efficient and effective way to help them learn becomes the instructional priority. If educators don't use the information from the student data to change instructional practices, student learning won't adequately increase.

The idea of working smarter, not harder lies in getting the data to tell us what students know and what they don't know. What are their strengths, and what are their weaknesses? If we are not looking that deeply into our student data, we are wasting precious time teaching things that students already know or might not need to know. Using student data to drive our instruction helps us focus on the individual needs of our students, which promotes higher student learning and growth. Accurate and relevant student data summations give teachers a classroom roadmap that helps all involved end up at the desired destination without running into dead ends that waste precious instructional time.

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training or one-on-one support.

- Keeping data reports understandable to parents and staff members. Data must be communicated in a way that parents and staff members can understand so that the school community can engage in a meaningful conversation that results in collaborative and effective problem solving. Holding parent meetings and trainings to help parents understand and interpret student data can be empowering

and a great strategy to increase family-school collaboration.

- Maintaining balanced and fair teacher accountability. Many variables account for student achievement, and it can be challenging to ensure teacher accountability without punishing teachers for things that are not in their control. Using both summative and formative data provides this balance and gives teachers and parents a more rounded view of how each student is progressing and responding to interventions.

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### Ten Steps to Improving Use and Value of Data

1. Develop a culture that embraces data.
2. Collect data that provide a complete picture of the school's climate for learning, including school variables that examine teacher-student and peer-peer relationships, student and family engagement, school safety, and how the physical environment supports learning.
3. Collect data that determine the present performance level of every student in the core curriculum and determine how students are performing in other areas that could affect their learning or school engagement.
4. Collect student performance data that provide a complete picture of the whole child, including his or her academic, behavioral, social-emotional, and physical development.
5. Convene professional learning communities or data dialogue teams to discuss and solve problems of practice.
6. Have the teams review relevant student performance data and determine a course of action for solving problems that affect student and school performance.
7. Monitor student progress in response to the implementation of interventions and programs addressing those problems.
8. Evaluate intervention and program effectiveness and refine instruction, interventions, and data collection procedures as needed.
9. Engage all school staff members, students, and families in reviewing and using data.
10. Distribute student progress reports on a regular basis (e.g. monthly or quarterly) to all stakeholders to ensure continuity and ownership of student learning.

### Conclusion

Principals play an essential role in promoting the effective and efficient use of data for school improvement. Their leadership and priorities set a tone for how data will be used and embraced by teachers, students, and community members. For effective school improvement to be achieved, principals must establish a culture for using data, provide resources and protocols for data to be collected and used successfully, and guide teachers to use data formatively to inform and modify instruction. Although data are often displayed summatively to provide the status of students or schools in relation to a certain standard or expectation, to ultimately change ineffective practices and improve student achievement, data must be used by principals and teachers in practices that promote data-based decision making by all school employees. **PL**

### REFERENCES

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