

# CHANGING *schools*

vol. 77/Spring 2017

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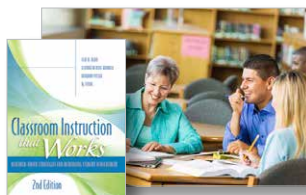


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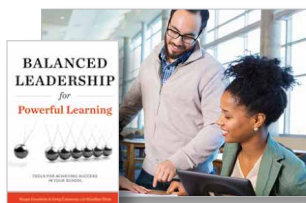
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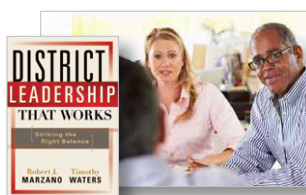
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# In this issue

## Taking data to the next level

Over the past 15 years, educators have gotten very good at collecting data. Most states, districts, and schools systematically collect data on student achievement, demographics, perceptions, and processes. But to many teachers and leaders, this overabundance of data is just that: Too much and, too often, not used in a way that makes a difference. “We don’t want more data, we want to make *better sense* of our data!” is a common refrain. With recent shifts in the data-use landscape, are they finally getting their wish?

As we come out from under the high-stakes accountability requirements of No Child Left Behind, educators have learned much about the potential—and limits—of data in improving teaching and learning. From the more flexible policies of the Every Student Succeeds Act to increased use of formative assessment in the classroom, the focus is shifting from *collecting* data to *using it effectively* at all levels.

Yes, as educators we still collect a lot of data, but we’re also expanding the types we collect, how we analyze and interpret them, and how we use them. Real-time data on growth and perceptions is being used to personalize professional learning for teachers, inform and differentiate instruction, and measure the effectiveness of programs and initiatives. Expanded achievement measures—such as student and teacher engagement and college and career readiness—give a more complete picture of how students and teachers are doing and allow schools and districts to better support their success.

In this issue of *Changing Schools*, we look at the many ways data are making a difference today: how ESSA is changing data use; the value of using surveys to get critical stakeholder feedback on improvement initiatives; how teacher collaboration can help schools get the most out of formative assessment; how to ensure that the data are actionable; and the importance of mindsets in getting everyone in a school excited about data.

We think you’ll agree, as educators refine how they think about and use data, it’s a very exciting time—not only for educators but also for the students who will ultimately benefit. ●



**Heather Hein** is a communications consultant at McREL and managing editor of *Changing Schools*. You can reach her at [hhein@mcrel.org](mailto:hhein@mcrel.org) or 303.632.5520.

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# Stakeholder surveys guide educator improvement in districts across Kansas

By Tedra Clark and Kirsten Miller



When we think of using data to drive improvement, we often think first of student outcome data—on student achievement, attendance, behavior, and the like. But we can get a much fuller picture of school improvement issues by expanding our use of data to include *stakeholder feedback*, which is typically collected through surveys.

Research supports the value of using surveys to collect such data; however, both stakeholders and education leaders remain skeptical (Mahar & Strobert, 2010). McREL’s recent work in Kansas counters misperceptions of survey data as “data lite” and shows how they can be used as one of many important tools to drive school improvement.

From 2013–2015, McREL partnered with the Kansas Department of Education (KSDE) to develop and pilot a set of surveys for students, parents, and teaching staff for districts to use in evaluating teachers and administrators. The goal was to provide additional, reliable measures for evaluating educators—building on the old standbys of rubrics and classroom observations.

## The case for surveys

Over the years, educator evaluation systems have evolved from, in many instances, not much more than an exercise in compliance to a more intentional system of measuring—and impacting—teacher and leader effectiveness. Changes have been driven, in part, by federal initiatives such as No Child Left Behind and Race to the Top, which provided incentives for states to develop more robust measures of educator effectiveness. Though most states now use multiple measures, not all systems allow for the inclusion of stakeholder perspectives—or a “360-degree view”—and surveys are not

as widely used as student achievement data and classroom observations.

Why does this matter? For one thing, student achievement data and observations may not fully represent educators’ classroom practices (Kalule & Bouchamma, 2014). But also, evaluation systems are imperfect: Variability in administrative expertise, subjectivity, lack of clarity, and vague terminology can all lessen their effectiveness (Danielson & McGreal, 2000; Kersten & Israel, 2005). Taken together, these issues make multiple measures necessary for evaluating educators more accurately and ensuring that the process is not based solely upon supervisors’ perceptions (Koçak, 2006).

This work counters misperceptions of survey data as “data lite” and shows how it can be used as one of many important tools to drive school improvement.

So why surveys? A 2013 study funded by the Bill and Melinda Gates Foundation found that estimates of educator effectiveness are more stable from year to year when they

combine classroom observations, measures of student achievement gains, and student surveys than when they are based solely on student achievement (MET, 2013). That same study showed that well-designed student surveys are strongly correlated to results of value-added measures and classroom observations (MET, 2013), and another study found student ratings of teachers show the strongest predictive relationship to student achievement, as compared with the ratings of principals and other teachers (Mahar & Strobert, 2010).

But for surveys to be used as part of an effective teacher evaluation system, they need to be developed in a way that ensures their validity and reliability. The following strategies can help ensure that survey data (particularly data that may be used for high-stakes decisions, such as whether an educator is effective) are accurate and can be used to help drive improvement:

- Avoid vague terminology
- Measure concepts related to teaching (or leadership)
- Ensure that surveys are useful for professional growth and development
- Ensure that surveys are appropriate for their intended audience (for example, assessing whether questions are appropriate for a 3<sup>rd</sup> grade reading level)
- Ensure that surveys meet What Works Clearinghouse standards for reliability and validity (2013) so that we know that the results can be trusted
- Pilot test the surveys prior to use

### Assessing what matters most

Using the above strategies, McREL worked with KSDE to develop a customized, targeted set of surveys for students, parents, and teaching staff. The surveys assessed topics found within two existing evaluation systems—the Kansas Educator Evaluation Protocol (KEEP) (Kansas Department of Education, 2012) and McREL’s Standards Based Evaluation System (Mid-continent Research for Education and Learning, 2009), which are the most widely used in the state (by 80 and 103 districts, respectively) and are highly similar.

#### *Student survey*

The student survey, developed to assess students’ perceptions of their teachers, included a total of 37 items across seven subscales, or topic areas: Individual Student Learning; Classroom Environment; Content Knowledge; Related Material; Instruction Planning; Assessment; and Fostering Critical Thought. The survey was pilot tested in 42 schools in seven districts, with 7,013 students.

#### *Parent survey*

The parent survey was developed to assess parent perceptions of their school’s leadership team and classroom teachers, and

For surveys to be used as part of an effective teacher evaluation system, they need to be developed in a way that ensures their validity and reliability.

included a total of 56 items across nine subscales: Outreach; Supporting Students; School Environment; Classroom Environment; Individual Student Learning; Content Knowledge; Relates Material; Instruction Planning; and Assessment. Parents were invited to complete one survey for each child who attended public school in one of the participating school districts. They provided data on 1,670 children, from kindergarten through 12<sup>th</sup> grade, across 39 schools in seven school districts.

#### *Staff survey*

The teaching staff survey was created to assess teachers’ perceptions of their school’s leadership team. The survey included a total of 28 items across five subscales: Strategic Direction, Instructional Development, Staff Development, Organizational Management, and Supporting Students. For the staff survey, 710 participants responded from 42 schools and district offices across seven districts. Survey invitations were sent via e-mail to each respondent to ensure that all teaching staff had the opportunity to take the survey once. When participants were asked to select which topic(s) they taught, 295 indicated that they taught language arts, 263 mathematics, 226 social studies, 219 science, 71 art, 37 music, 59 health, 41 physical education, and 102 special education (participants who taught multiple subjects could select more than one).

### Promising results

Although some challenges emerged during the project (e.g., because this was an opt-in pilot study, fewer districts than anticipated agreed to participate), the results of the survey pilot testing were promising. McREL researchers found that participants answered survey questions in a consistent way, which suggests that survey items didn’t contain confusing or vague terms. This finding is particularly important because research (Danielson & McGreal, 2000; Mahar & Strobert, 2010; Tobin, 2008) suggests that evaluation systems often contain terms that participants have difficulty understanding.

Additionally, the results suggested that each subscale contains items that only measure a single topic; for example, survey items that make up the subscale for Individual Student Learning all appear to be highly related. This is important because it suggests that the group of items in the subscale is measuring what it is intended to measure. This also means that surveys can provide results for targeted areas, which is

necessary for charting professional growth. Further, if surveys are designed to provide reliable and valid information about teacher and administrator strengths, educators should feel confident that they are accurately capturing their skills and abilities in those areas.

Ultimately, KSDE provides their districts with guidance for conducting evaluations, including a list of approved evaluation systems, but it is up to the districts to choose their systems and measures. By creating this set of surveys, the KSDE has added another tool for districts' tool box—and if districts choose to use surveys as evidence in evaluations, they now have access to valid measures that are aligned to the overarching goals of the evaluation system. ●



**Dr. Tedra Clark** is research director at McREL, where she designs and leads research projects focused on school climate, instructional practices, formative assessment, and professional learning. She can be reached at [tclark@mcrel.org](mailto:tclark@mcrel.org) or 303.632.5629.



**Kirsten Miller**, communications manager at McREL, plans and manages dissemination for Regional Educational Laboratory contracts. Contact her at [kmiller@mcrel.org](mailto:kmiller@mcrel.org) or 303.632.5632.

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# ESSA offers opportunity to use data to benefit all students

By Sheila A. Arens and Dale Lewis

The past 15 years of education reform has seen the rise of *data-based* or *evidence-based decision making* and, with it, a more urgent demand that educators understand how data and evidence can and should inform decisions related to teaching and learning.

For much of this time, however, the use of data has been centered on federal accountability—specifically, on using singular data points (standardized test scores) to determine the achievement levels of students. Under the No Child Left Behind Act (NCLB), schools were accountable, ultimately, to the federal government for raising these scores, not to their own communities and stakeholders. Little attention was paid to the contextual factors (e.g., pragmatics, feasibility, socio-political consequences) that affect decision making at the local level. Further, using data to improve or innovate practice was not a priority.

In more recent years, though, attitudes and ideas about data use have been changing—changes which were codified in December 2015 by the passage of the Every Student Succeeds Act (ESSA). ESSA shifts more of the decision-making authority to local agencies, allowing for greater flexibility in how student achievement is measured, but also increasing the burden on those local agencies to use data to inform decisions about interventions and strategies and to present that data clearly to the public.

## Multiple measures, new measures

Practitioners who have read ESSA are likely aware that its provisions for data use will impact their practice on several levels. As was the case with NCLB, ESSA largely frames data (or, perhaps more precisely, *evidence* or *actionable information*) as the means to an end—that increased data use will result in improved decision-making and, therefore, increased progress toward reaching desired outcomes. However, there are some notable differences from the previous legislation.

First, ESSA broadens how student outcomes are measured. It requires that states incorporate at least four indicators from the following: 1) proficiency on state tests, 2) English language proficiency, 3) another academic factor that can be broken out by subgroup (e.g., growth on state tests), 4) graduation rates (for high schools), and, for the first time, 5) a non-academic indicator that is left up to state discretion and can include things like student engagement, educator engagement, access

## Recommendations for practitioners and decision-makers

- Practitioners should familiarize themselves with ESSA’s tiers of evidence and seek additional support for understanding these tiers, if needed.
- Decision-makers should support research or evaluation efforts that examine solutions to relevant and local problems of practice, for example:
  - ✓ Critically examine whether and how evidence of implementation and effectiveness corresponds to your local concerns.
  - ✓ Become a system committed to disciplined, systematic data collection that addresses not only the requirements of the legislation but also the local need for information to drive improvement.
  - ✓ If considering adoption of an intervention or strategy that has promising evidence, work with an internal or external research or evaluation team to determine how to generate even stronger levels of evidence for the intervention—ensuring the evidence aligns to your particular context.
- Identify research partners who can help document implementation and outcomes of interventions and strategies. Ideally, ensure these partners can be embedded in the system so they can better understand it and provide informed decisions regarding potential actions and changes.
- Most decisions on interventions or strategies result from a combination of the kind of evidence outlined by ESSA *and* moral/ethical commitments. Determine appropriate strategies for considering important commitments while also abiding by ESSA regulations.

to and completion of advanced coursework, postsecondary readiness, or school climate/safety.

ESSA also establishes expectations that data can be disaggregated in ways that ensure all students, including those in foster care, who are homeless, or whose parent is a member of the armed forces, are being well served. In addition, the statute demonstrates a serious and rigorous commitment to fostering data literacy and ensuring data privacy.

Finally, ESSA provides greater flexibility in defining what makes a program or intervention “evidence-based.” It offers four possible levels or tiers of evidence: 1) strong, 2) moderate, 3) promising, or 4) demonstrates a research-based rationale. Decision-makers need to become familiar with the definitions of each (see below) and show how they align with the programs, interventions, or strategies they want to adopt. Additionally, they need to be aware of how fund allocation works in relation to the evidence level; for instance, monies under Section 1003 for school improvement can be spent on programs with evidence that falls in one of the top three tiers, but not on those that only demonstrate a research-based rationale.

### Expanding the definition of “evidence-based” interventions

According to the U.S. Department of Education, ESSA defines an evidence-based activity, strategy, or intervention as *one that demonstrates a statistically significant effect on improving student outcomes or other relevant outcomes based on:*

- **strong evidence** from at least one well-designed and well-implemented experimental study;
- **moderate evidence** from at least one well-designed and well-implemented quasi-experimental study; or
- **promising evidence** from at least one well-designed and well-implemented correlational study with statistical controls for selection bias; or

*One that demonstrates:*

- **a rationale** based on high-quality research findings or positive evaluation that the activity, strategy, or intervention is likely to improve student outcomes or other relevant outcomes *and* includes ongoing efforts to examine effects. (U.S. Department of Education, 2016, p. 7)

The inclusion of the fourth tier shows that ESSA recognizes that novel interventions or strategies are unlikely to have strong, moderate, or even promising evidence. This is an important deviation from prior legislation, but it does come with some strings: ESSA requires practitioners who want to adopt such interventions or strategies to be actively developing their evidence base.



ESSA's four evidence tiers ought to encourage decision-makers to think about how they can generate evidence about the effectiveness of new approaches in their unique contexts. One of the common complaints about large-scale, randomized controlled trials—the “gold standard” under NCLB—is that, though they might have been internally valid from a research standpoint, from a practitioner standpoint, they often failed on tests of external validity. In other words, practitioners weren't convinced that the students, teachers, or schools in these studies were enough like their students, teachers, or schools to warrant adoption of the studied intervention or strategy.

### In support of continuous improvement

The passage of ESSA served as a harbinger of greater decision-making autonomy for state and local entities. Although the legislation retains many of the elements related to data use that were part of NCLB, including a committed focus on what works, the onus now rests more squarely on the shoulders of state and local leaders to ensure data are presented in ways that are accessible to all constituents, and are used scrupulously in guiding programmatic decisions and fostering improvement and innovation. Education systems that embrace the increased flexibility under ESSA, while keeping in mind the needs of end-users and holding student learning at the center of their work, are likely to reap the benefits of continuous improvement and avoid the pitfalls and complacency that often accompany a singular focus on compliance. ●



## What problems do you want to solve?

- McREL's research and evaluation teams know that every school and education system is unique, with its own strengths, challenges, and stakeholders. We help develop theories of action, logic models, data collection strategies, and analyses that help clarify the *root causes* of your problems and reveal the *bright spots* you can build on.
- Collaborating with you, we'll deploy solutions that build your system's capacity to be a high-reliability and high-performance organization—one that leads and delivers continuous improvement and innovation.

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**Dr. Sheila A. Arens** is an executive director at McREL, where she leads research and program evaluation projects and oversees large-scale studies. You can contact her at [sarens@mcrel.org](mailto:sarens@mcrel.org) or 303.632.5625.



**Dr. Dale Lewis**, an executive director at McREL, provides strategic vision, direction, and leadership in planning, developing, and implementing a wide variety of consulting services and technical assistance for districts and education systems. He can be reached at [dlewis@mcrel.org](mailto:dlewis@mcrel.org) or 303.632.5522.

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## Accomplish more together: Teacher collaboration and formative data use

By Tedra Clark and Kathleen Dempsey

Jasmine is a middle school mathematics teacher who works with about 120 students each day. She's been teaching at her current school for five years, and she has good rapport with her students and their families. As with most groups of learners, Jasmine's students entered class with diverse experiences and readiness levels, but she has worked hard to build a positive classroom environment, maintain high expectations for her students, and develop solid approaches to mathematics instruction.

However, with a packed curriculum to cover, little time has been left over for intervention or enrichment activities. As she gets closer to the end of the school year, she finds that, despite her good intentions and hard work, more students than she realized are lagging behind—and she feels like she let them down.

Jasmine's situation is not unique; many of even the most effective and well-intentioned teachers grapple with how to continually meet the needs of all students. However, we know from research that one way to stay ahead of the curve is by using formative assessment to check in on student understanding throughout the year. Formative assessment provides more clarity for teachers about what students know and still need to learn, how their performance will be assessed, and how to respond if they don't meet performance criteria.

To be effective, however, formative assessment can't be done half-way. It must be carefully planned and well implemented—

which may be difficult for teachers like Jasmine, who already feel overwhelmed. That is why, as with many efforts in education, only when teachers work together *as a team* can formative assessment become a tool that truly transforms teaching and learning.

### Collaboration in action

In the formative assessment process, a teacher identifies clear learning goals and the criteria by which performance will be measured. The teacher then communicates these criteria to students and uses them during instruction so that students build a clear understanding of learning expectations. This allows students to track their own progress and use the teacher and peer feedback they receive more productively. Clearly understanding performance criteria allows the teacher to more effectively identify learning gaps, implement high-quality formative student tasks, and plan targeted responsive action.



The planning and implementation of this process can be daunting for individual teachers to do on their own, but when teachers work together each step of the way, they increase the chances of success—for themselves and their students. The positive impact of collaborative approaches on student outcomes is supported by a large body of research. For example, findings from a recent McREL study of school climate in Victoria, Australia, showed that greater collaboration among teachers led to myriad positive school climate attributes, including greater academic emphasis, collective efficacy, and trust—a composite we refer to as “academic optimism” (see infographic on p. 6). In turn, this optimism was a direct predictor of higher achievement on standardized assessments.

The benefits of teacher collaboration are highly applicable to teachers learning how to make the most of student data. When teachers are given the opportunity and time to collaborate, they can learn about formative assessment practices together, identify and share learning expectations for students, discuss successes and challenges, and come up with solutions to improve individual students’ performance. In addition, it takes the onus off any one teacher and makes formative assessment a schoolwide responsibility. If teachers know other teachers are using student data and using it well, they will likely become more optimistic that they can apply the same strategies in their classrooms. With increased consistency of use throughout the school, student exposure to the benefits of formative assessment becomes a matter of routine.

Collaboration can take different forms, depending on the needs and priorities of the teachers and students involved and how much teachers are already collaborating. In our work with schools and districts around the country, we have seen educators take a variety of effective approaches in their efforts

to better align instruction with assessment and use data to meet the needs of all students. Below are examples from three different kinds of districts in Colorado.

**Approach #1: Translating standards into student-friendly language**

Standards are often written in language that is content-dense even for educators, and translating it into student-friendly language can be challenging. In one large, urban middle school, teachers realized that students could reference the topic they were studying (in this case, mathematics topics like statistics and equations) but had difficulty understanding what they needed to do to master the related knowledge and skills. Teacher teams worked with a content coach to analyze the mathematics standards so they could articulate what their students must know, understand, and be able to do in ways that would help students better understand their own progress toward learning expectations.

Together, they developed a set of student self-assessment tools that unpacked unit standards into specific skills and knowledge in the form of “I can” statements. As students progressed through a unit, they referenced the tool to track their level of confidence on each skill and identify where they needed more help. Each tool provided three opportunities to assess the same skill, so students also learned that the path to mastery takes time and persistence. Teachers found that when students weren’t expected to “get it right” the first time, it reduced their stress level. Each tool included a rubric describing three levels of performance—“in progress,” “partial mastery,” and “mastery”—and students assessed themselves using the evidence indicators. Below is an example of the rubric that 6<sup>th</sup> grade students used to evaluate their ability to use ratio concepts.

Quality of Evidence Indicators—Grade 6: Ratio Concepts	
<b>Mastery</b>	I am consistently able to use ratio and rate reasoning to solve real-world and mathematical problems, including ratio, unit rate, and unit conversion problems. In addition, I can use several representations and strategies to solve these problems. I can accurately find missing values in tables and plot values in the coordinate plane.
<b>Partial mastery</b>	I am able to use ratio and rate reasoning to solve real-world and mathematical problems, including ratio, unit rate, and unit conversion problems, but not yet with consistency OR I can solve some of these types of problems but not others. In addition, I know how to use one or two representations and one or two strategies to solve these problems, but I am not yet able to use several strategies. I know how to find missing values in tables and plot values in the coordinate plane, but I continue to make minor errors.
<b>In progress</b>	I try each problem but am not yet confident using ratio concepts. I can use ratio and rate reasoning to solve very simple real-world and mathematical problems, but I cannot yet use these concepts in multiple representation (tables, graphs, fractions, number lines). I may still be making several errors when I try to find missing values in tables or plot values in the coordinate plane.





Together, teachers clearly defined performance criteria and identified “check points” within each unit of instruction for reviewing formative assessment data and determining appropriate responses.

In addition to helping students understand their own progress toward mastery, these tools helped teachers provide students with specific descriptive feedback and target instruction in the areas where students needed extra support. In class, groups of students used the tools during collaborative problem solving activities to determine whether they were meeting performance criteria in real time. Outside of class, teachers also found these tools useful in communicating student progress with parents.

### ***Approach #2: Establishing “check points” for student progress***

Teacher teams at an elementary school in a small, rural district took a similar path to planning for the formative assessment process. First, they worked together to clearly define student performance criteria for each unit of instruction, which ensured the same criteria was used across each grade level. Then, they identified the “check points” within the unit where they would meet as a team to discuss student progress. At these times, teacher teams met with their instructional coach and principal to review formative assessment data and determine the appropriate responsive action. Teachers shared resources for re-teaching and enrichment activities and discussed possible regrouping strategies. By unveiling student needs throughout each unit of study, fewer students struggled with the summative assessment.

### ***Approach #3: Getting interim assessments right***

In a mid-sized rural district, teachers are focusing on improving the interim assessments they use to check student progress. Teachers have spent considerable time clarifying their learning objectives and performance criteria, but they are concerned that their interim assessments aren’t yielding useful data—which makes it difficult to plan responsive action. Teachers have decided to analyze their interim assessment using four major criteria: how the assessment content aligns with learning objectives; how the cognitive demand of the assessment aligns with the demand of the learning objectives; whether the assessment is free from bias; and the adequacy of the assessment for informing responsive action. Although this is a new process, leaders and teachers anticipate that greater

focus on the design of interim assessments will help teachers be more proactive rather than reactive as they plan for responsive action.

### **Meeting student needs**

In each of these situations, teacher teams are improving their use of formative assessment by leveraging their collective knowledge and experience to clarify what they expect students to learn, how to assess them, and how to respond to those assessments. If done thoughtfully and thoroughly, such collaboration increases teacher confidence and ability to meet the needs of all students—and keeps everyone ahead of the curve. ●



**Kathleen Dempsey**, senior director at McREL, helps schools, districts, and state education agencies with strategic vision, program development, and delivery of training and coaching. As director of the North Central Comprehensive Center, she also helps states build their capacity to implement and sustain improvement initiatives. You can contact her at [kdempsey@mcrel.org](mailto:kdempsey@mcrel.org) or 303.632.5634.



**Dr. Tedra Clark** is research director at McREL, where she designs and leads research projects focused on school climate, instructional practices, formative assessment, and professional learning. She can be reached at [tclark@mcrel.org](mailto:tclark@mcrel.org) or 303.632.5629.



# Off-the-shelf surveys: A practical yet powerful way to get the data you need

By Karen Bumgardner

Data collection at all levels in education has increased exponentially over the past couple of decades. It's safe to say that every district and school in the U.S. collects *some* data (e.g., standardized test scores), but most collect a *variety* of data, using a variety of tools, in their mission to improve student achievement.

While school leaders understand the value and necessity of a variety of data to determine what's working and what's not, it can also be overwhelming—and they may think that they don't have the time, energy, or resources to do it right.

Collecting data doesn't have to be overly complex. If you're just getting started with data-driven decision making or you need to “take the temperature” of your school or district on an improvement-related issue, *off-the-shelf survey tools* can offer a convenient, cost-effective—and yet valid and reliable way—to get the information you need from teachers, students, and parents.

## Weighing the options

Let's say you're a new principal at a high school, and you think that school climate is a factor behind a plateau in student achievement levels, but you're not sure exactly which aspects of school climate need attention. You could interview staff and students, conduct focus groups, observe classrooms, or create and administer your own survey—all of which could help determine a focus, but which are also very time-consuming and costly.

In contrast, an off-the-shelf survey tool can gather school climate perceptions more simply and quickly, while avoiding

the bias that sometimes happens during face-to-face interactions (like focus groups and interviews) and offering stakeholders the ability to answer anonymously—both of which could lead to more candid answers.

Most surveys are now conducted online, which offers more convenience (for most stakeholders) than pencil-and-paper surveys and more rapid delivery of results. The downsides of online surveys are that people may feel less pressure to respond, which could lead to lower response rates, and that they may be less accessible for certain groups of stakeholders, for example, those who are low-income, live in rural areas, or are older.

In addition to school climate, other issues that off-the-shelf survey tools can be used to examine are school culture (beliefs and values that educators share), academic mindset (what is needed for students to succeed), and parent, family, and community involvement. On a larger scale, surveys can be used across a region or state as a needs assessment, a professional development planning tool, or a formative evaluation to take a snapshot of progress. On a smaller scale, they can be used in schools to assess professional development needs or inform discussions and actions that need to take place.

# Key Questions to Consider

Before choosing the right tool for your school or district's needs, school leaders should consider the following questions.

1

## Who

*Do you intend to collect data from teachers, students, parents, or community members? Will respondents be identified or anonymous?*

4

## When

*When do you intend to collect the data and for how long? Will it be collected during school hours or after school hours? During the school year or during summer break?*

2

## What

*What kind of questions are you looking to answer? Can you and will you modify the survey tool in some way? What response rate do you need for the data to be useful?*

5

## Where

*Will respondents be allowed to complete the survey in the privacy of their own homes or in a designated place? How might the location affect the responses?*

3

## Why

*Why are you collecting data? Does it support your school improvement goals? Is the data not already available elsewhere?*

6

## How

*Will the survey be given in person or online? How quickly do you need the results? How do you intend to use the data you collect?*

### Being intentional

As with any data collection tool, off-the-shelf surveys are most effective when school leaders are intentional about their use; in other words, when the purpose of the data collection is clear, the right questions are asked, and data are gathered, analyzed, and used in a timely manner that affects outcomes. If you collect the wrong kinds of data—for example, if your questions don't address your issue or you don't give the survey to the right groups of people—and then you make decisions based on that data, your decisions will most likely not be helpful in determining a focus or identifying strategies to address specific problems of practice.

School leaders need to be aware that, even though you may be surveying the right people and the questions might be appropriate for, say, school climate perceptions, you may find that the questions aren't specific enough to get to the root cause of your school or district's particular challenges.

But that's the point of collecting data: to figure out what you know and don't know and refine your questions and tools until a more complete, evidence-based picture emerges. ●



**Karen Bumgardner** is managing researcher and evaluator for McREL International. She is based in Charleston, W.Va., and can be reached at [kbumgardner@mcrel.org](mailto:kbumgardner@mcrel.org) or 303.337.0990.

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# Making data actionable in the Northern Mariana Islands

By Phillip Herman and Daisy Carreon

Across education issues and contexts, data use is a high priority—but gathering the right data, at the right time, and getting it into the right hands isn't always as straightforward as it might sound. And simply gathering and sharing data is not enough; for data to be used to guide policy and practice, they must be actionable.

This was our mission in the Pacific Region as contractor for the Regional Educational Laboratory (REL Pacific) from 2012–2017. The REL Pacific, one of 10 such regional laboratories funded by the U.S. Department of Education's Institute of Education Sciences, serves Hawai'i, the U.S. territories of American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), and Guam, and the freely associated states of the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau.

In the Pacific Region, increasing data use among educators to guide policy and practice is a high priority. Educators are especially focused on college and career readiness in CNMI, where many high school graduates, based on their performance on college placement exams, are placed in non-credit-bearing developmental courses when they enroll at Northern Marianas College (NMC), the only public institution of higher education in CNMI.

To address this issue, McREL brought together a first-of-its-kind alliance of representatives from the CNMI K–12 Public School System, NMC, and the CNMI Department of Labor, with the goal of leveraging data use to further the college and career readiness of CNMI students.

With any new initiative, particularly one that brings together so many different stakeholders, it can be difficult to know where to start. How can we ensure that the data we are gathering and examining can be used to foster improvement? In the CNMI, the answer was to begin at the beginning: by identifying and targeting the problem of practice, examining the available data, and using multiple sources of data to guide decision making.

## *Identify a shared problem of practice*

Although college and career readiness, as a broad topic, was identified as an area of need early in the 2012–2017 contract, it took time for the alliance to drill down to their specific

focus. Often, the process of improvement is iterative, requiring multiple cycles of conversation and action. During needs-sensing discussions at NMC, REL Pacific at McREL learned that too many students were unprepared for college and placed into developmental education; at this point, college representatives were uncertain about these students' ultimate outcomes.

Alliance members participated in technical assistance that allowed them to understand and identify indicators of college and career readiness. It also helped build trust and deepen relationships.

As this conversation—and conversations with K–12 representatives—evolved, McREL developed sustained technical assistance and research projects to support deep analysis of the education systems in the CNMI. Alliance members participated in technical assistance projects that focused on topics such as indicators of college and career readiness, which allowed them to learn about national indicators, identify local indicators, and generate a local definition of college and career readiness for CNMI. It also provided a venue to build trust and deepen relationships—an important aspect of any collaborative effort.

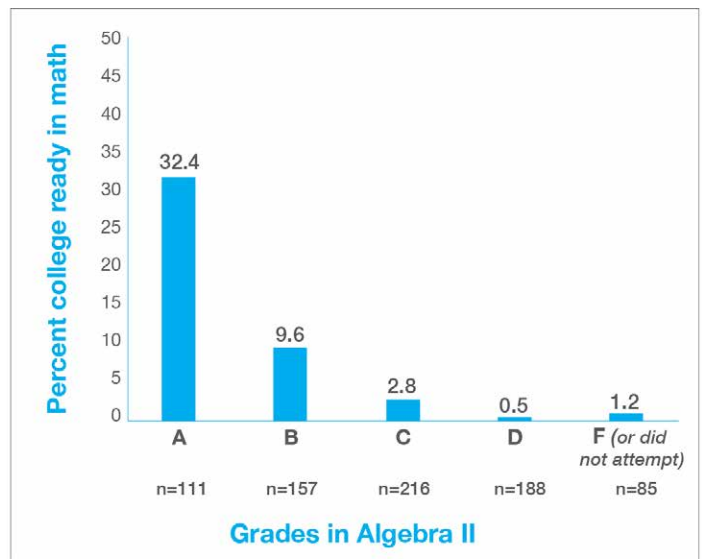
### Examine the available data

With their problem of practice identified, it was time for the alliance to examine the available data. But what happens when data aren't available to answer your identified problem of practice? In the CNMI, some of the available data were incomplete, and other times they were of insufficient quality to guide practice. REL Pacific therefore incorporated data quality discussions into workshops and introduced frameworks, such as the Data Quality Campaign's 10 Essential Elements, to help stakeholders better understand their current data systems and identify potential improvements. As part of this focus on available data, REL Pacific also invited data managers and their teams from both the CNMI K–12 Public School System and NMC to join the alliance.

As the alliance began to delve more deeply into the available data, the members recognized the need to better understand the alignment between math and English courses in high school and college. For example, Algebra II is required for high school graduation in CNMI, and when reviewing a sample of student data, several issues surfaced. Students who received less than a B- in Algebra II were more likely to take developmental math in college. But surprisingly, just a small percentage of students who received As or Bs were college ready; most had to take developmental math (Figure 1). This brought up questions

about differences between high school and college content and why high school teachers would give students As and Bs if they weren't ready to succeed in credit-bearing math in college. This led the alliance to begin considering ways to better align students' high school math and English experiences with college-level coursework. Alignment between K–12 and college or K–12 and the workforce became the overarching, galvanizing focus of the alliance.

Figure 1. High school students' readiness for college math



Note: Students were considered college ready if they placed into a credit-bearing math course upon entry to Northern Marianas College.

### Use as much information as possible when making data-based decisions

NMC relies almost exclusively on placement exam scores to determine college readiness. However, research indicates that using more data about students—for example, a combination of grades and placement exam scores—can help colleges make more accurate placement decisions (Westrick & Allen, 2014; Wiley, Wyatt, & Camara, 2010). In 2014, CNMI's public school system discontinued the SAT-10 exam and replaced it with the ACT Aspire. A question to consider, then, might be how well scores on the ACT Aspire predict a student's likely college readiness—and if we examine these data while students are still in high school, we might be able to design interventions to mitigate issues of readiness before students enroll in college. Similarly, the college may consider using ACT Aspire scores as part of its placement process. Ideally, stakeholders will ultimately use a multidimensional metric (for example, a combination of coursework and assessments) to more accurately determine students' college readiness, both while they're still in high school and as they transition to college.

Another question to address is, as mentioned earlier, why aren't all students who enroll in higher-level math courses ready for college? It could be that the content of high school English and math courses needs to better align to those college courses.

## Finding simplicity on the other side of complexity

A strategic planning process streamlines district work and improves the system for all

By Jay Harnack and Matt Seebaum



### NEW WHITE PAPER: REDUCE SYSTEM COMPLEXITY WITH A STRATEGIC PLANNING PROCESS

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Another possibility is that the content students learned in high school English and math courses differs from what is on the placement exams. To better ensure that high school English and math aligns with college expectations, some states including Hawai'i have put in place transitional English and math courses, co-designed by colleges and K-12 systems. NMC and CNMI's Public School System, then, may consider doing the same. In the meantime, as a result of the conversations and work of the alliance, NMC has decided to discontinue their math placement test, and is seeking guidance from other colleges in the Pacific Region on what to use for placement decisions.

### Building a better-aligned pathway

By identifying the problem, examining the data, and gathering as much information as possible, the alliance better understood why high school students were not ready for college-level work and identified actions they could take to change those students' trajectories. Instead of just focusing on outcomes (e.g., "Many students take developmental courses"), the alliance used new data representations, like grades in high school Algebra II and subsequent enrollment in developmental math courses in college, to foster meaningful discussions among high school and college faculty about assessment, content, and expectations. These conversations are critical for building a better-aligned pathway from high school to college. ●

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**Dr. Phillip Herman** is executive director at McREL, leading a team of researchers in studying and improving student outcomes in the Pacific Region. He can be reached at [pherman@mcrel.org](mailto:pherman@mcrel.org) or 808.664.8187.



**Dr. Daisy Carreon**, managing researcher, conducts research and evaluation studies of K-12 educational programs in the REL Pacific at McREL. She can be reached at [dcarreon@mcrel.org](mailto:dcarreon@mcrel.org) or 808.664.8180.



# To use data more effectively, start with **MINDSETS**

By Bryan Goodwin



On a professional learning community day at an elementary school in a suburban school district, a group of 4<sup>th</sup> grade teachers are meeting in the library to talk about data from a mid-year English language arts assessment. They talk about individual students who did well and who improved—and why—as well as who didn’t do well and how to provide those students with extra support. Then they ask each other, respectfully, about their practices and strategies and what they think works well and what they would like to work on.

At the same time down the street, a group of language arts teachers at the middle school are sitting down to talk about recent data on their students’ reading and writing. This group chats for a while, and then quickly goes through a data discussion protocol—without reflecting or identifying any changes in instruction—before declaring, “Yay! We’re done!”

To an outside observer, it might appear that the teachers in the first group are better teachers who care more about their students’ success than the teachers in the second group. But an educator might realize it’s probably not that simple. So what’s really going on? More than likely, the difference has less to do with their motivation and more to do with something far more malleable: their *mindsets*.

## **Understanding attitudes toward data**

Most teachers know they should be using data to inform their instruction, but many demotivating factors can stand in the way: Teachers may be overwhelmed by the amount of data, they may not know how to use them effectively, or they may be getting the data too late in the year to make a difference.

A U.S. Department of Education study, for example, asked 230 teachers to make judgments from particular data sets and found they often “lost track of what they were trying to figure out” and relied on general impressions rather than empirical ones “if the calculation became at all complicated” (2011, p. 61).

However, even if teachers have the skills to analyze data and they receive them in a timely manner, a bigger obstacle may be to blame: the way they and their colleagues *think about* data—or, more precisely, the way they think about student learning.

In some schools, teachers are, in effect, using data as a “window” to cast their gaze upon what students are doing wrong and what someone else might do, rather than what they could be doing better. In one in-depth examination of two urban middle schools engaged in mathematics reform, for instance, researchers found teachers in one school decided the solution for helping “bubble kids” (those whose scores fell just below proficiency) was tutoring or after-school programs (Horn, Kane, & Wilson, 2015). The principal at that school also revealed a behaviorist mindset about student learning by directing

teachers to show kids their test scores to “motivate” them into doing better. This same leader also said that the after-school math program ought to be reserved for well-behaved students—with no acknowledgment that poor behavior might reflect student disengagement or difficulties.

Teachers in the other school profiled in the same study dug more deeply into student test data, examining questions students had missed to determine what concepts learners were struggling to grasp. Yet even as they surfaced possible misconceptions, the new teaching strategies these data teams came up with focused on helping students perform better on those particular test items, rather than on improving instruction (Horn et al., 2015).

### Deliberate steps

By contrast, another study found that in schools where teacher teams used data effectively, principals were more likely to have clearly defined the purpose for data analysis and created a “we feeling” in the school (for example, stressing that reading and writing achievement was everyone’s responsibility) (Datnow, Park, & Kennedy-Lewis, 2013). These strong leaders created and modeled norms for data conversations, specifying what materials—and attitudes—teachers should bring to meetings. They set up ways teachers would hold one another accountable, argue productively in a safe, confidential environment, and ensure conversations about students never turned to “nit-picking or trash talking” (Datnow et al., 2013, p. 354). These teachers learned to use data as a “mirror” to reflect on their own practices and identify ways *they* could improve.

Developing a system that uses data to inform instruction and support continuous improvement requires several deliberate steps, but it all starts with establishing the right mindsets and a culture that values data use.

A professional development toolkit put out by the Turning Data into Action initiative (Gartner, Inc., 2012) defines four elements of developing an effective data-guided culture:

- Make sure all stakeholders—teachers, students, parents, community members—understand the purpose of data and are engaged in the data use process. For example, involve teachers in selecting and implementing data systems and provide professional development on best practices for using data in the classroom.
- Build trust at the district, school, and classroom levels. School leaders must communicate to teachers and others that data use is about improving achievement, not about punishing educators. Make sure communication is open and honest, timely, purposeful, and personalized as much as possible.

- Be supportive of the change process. Building a data-guided culture takes time, and the process is not linear. Focus on practices rather than results, communicate clearly, and get and act on feedback.
- Set clear goals for data use at all levels. Take into account the district’s priorities and vision, the challenges your stakeholders face, and the data, resources, and materials needed to positively impact student achievement.

Clearly, changing mindsets and developing a data-guided culture is not a small job, but it is vital. If teachers and leaders don’t believe students can improve or that they are responsible for (and capable of) improving achievement, all the data in the world won’t make a difference. ●

*Editor’s Note:* Parts of this article are adapted from the author’s Research Says column in the November 2015 issue of *Educational Leadership*.

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**Bryan Goodwin** is president and CEO of McREL International and co-author of *Balanced Leadership for Powerful Learning* (ASCD, 2015) and *The 12 Touchstones of Good Teaching* (ASCD, 2013). You can contact him at [bgoodwin@mcrel.org](mailto:bgoodwin@mcrel.org).



4601 DTC Blvd., Suite 500  
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**Editorial Staff**  
 Heather Hein, managing editor  
 Roger Fiedler  
 Christine H. Schmidt

**Graphic Design/Layout**  
 Judy Counley

**McREL International**  
 4601 DTC Blvd., Suite 500  
 Denver, CO 80237-2596  
 P: 303.337.0990 • 800.858.6830  
 F: 303.337.3005

[info@mcrel.org](mailto:info@mcrel.org) • [www.mcrel.org](http://www.mcrel.org)



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