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Put data through their paces

Data alone have no value. Only when put to use do data have the potential to transform teaching and learning and systems. Many people work in systems that are steeped in data — and are unfamiliar with how to use that data. Like households where exercise equipment clutters the basement, collecting dust while the people upstairs fail to get a healthy dose of aerobic exercise, schools and systems that don't use the data they have collected are not meeting the purpose. What is the point of having equipment if it isn't used?

Teacher leaders and coaches can take three critical steps to use data.

Step 1

The first is to understand the data and its source. District leaders and principals typically can provide a list of the various data available in a school. Victoria Bernhardt describes four kinds of data present in most schools.

The data source must be clearly described so that decisions based on the data are informed with a clear understanding of what is assessed, how it is assessed, who is assessed, and when the assessment occurred. Without understanding where the data came from, decision makers may have inaccurate interpretations.

Step 2

Once leaders have identified and collected the various data and the sources are clear, the second step is to analyze and interpret the data. Analyzing and interpreting are distinct processes. Analysis includes using the data to determine results. For example, if the results of this year's state assessment are presented to the staff at a back-to-school meeting, the results alone do not provide much information. They may tell the

staff what percentage of the students met the established standard for success. However, in the analysis phase when educators compare this year's results with the last three years' results, the data begin to make some sense.

Let's look at a specific example. The results of the 2007-08 8th-grade reading assessment show that 71% of students are proficient. The school's goal might have been to have 75% of

DATA-DRIVEN
Staff development that improves the learning of all students uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement.

students achieve proficiency. The staff might be disappointed at the results. Further analysis, however, might reveal that 77% of special education students achieved proficiency, up from 61% in 2006-07 and from 51% in 2005-06. The increase in proficiency among special education students is a point of celebration. In addition, the percentage of students in the below basic level might have been reduced from 30% to 10%. Again, this is a point for celebration. While this school did not meet its goal, groups of students showed substantial progress, and their gains are reason to appreciate teachers' efforts.

Another part of the second step is interpretation. Some groups showed substantial improvements, yet what contributed to those improvements is as important as knowing that they

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occurred. The interpretation phase gives staff an opportunity to explore the meaning of the results.

It's important to understand what those 8th-grade reading scores mean. How did the special education students improve so dramatically in such a short time? What changes in teaching, resources, staff, or professional development occurred in this time that might have influenced the results? Drawing conclusions about causation without an appropriately designed study would be inappropriate, yet it is possible to explore what changes teachers made in their classroom and how those changes might have influenced student performance, examining a wide variety of possible factors. For example, did the students whose data are being examined in 2007-08 perform better last year as 7th graders than the previous year's 7th graders? The interpretation process digs deeper into knowing if there is a reason for the significant improvement.

TYPES OF DATA	DESCRIPTION
Demographic	Describes the students, their families, the community, the staff, etc. (e.g., the number of second language learners in a school).
Achievement	Provides results of a wide variety of student academic assessments, including state, district, school, and classroom assessments (e.g., results of quarterly common assessments).
Perception	Includes results from various surveys about the opinions of stakeholders, typically parents, community members, and students (e.g., results of a student survey about their sense of safety within a school).
School process	Describes how the school or district operates in various situations so all stakeholders have clarity (e.g., student referral process).

Step 3

The third and most important step in the process of using data is to develop a plan of action based on what is known. If it's true that two groups of students at 8th grade are making rapid gains, other groups must not be making the same level of gain. What will the school do to support the learning of all students, most particularly those who did not achieve the school's standard of success? It is important to identify the students, understand any patterns of commonality among them, and examine what interventions exist at the classroom level, at the school as a part of the regular program, and at the school outside the regular program. Staff must know if these students accessed these interventions and which ones they tapped.

Once staff have answered these questions, teachers should set clear goals and plan a course of action. The course of action begins first at the classroom as part of the regular instructional program. What can be done in the classroom to improve students' reading performance? Language arts teachers might integrate explicit instruction about reading skills into their classroom curriculum. All teachers in a school might benefit from professional development on reading strategies to use across the curriculum. The

school might provide additional resources to classroom teachers appropriate to students' varied reading levels. Teachers at a school might implement quarterly assessments of reading performance to identify students who are not benefiting from the most common interventions. The school might institute a read-a-thon, recognize students who read beyond their normal course work, offer library time for all classes, or provide any number of other incentives beyond the regular classroom; however, the classroom is the primary focus of intervention development.

As the interventions are moved from idea to action, teachers collect more evidence about students' reading performance. These new data offer ongoing information for identifying students for whom the interventions are and are not working, which interventions seem to produce the best results, and knowledge for when an intervention can be retired.

These three steps describe the basic process for my statement about using data. Data alone provide limited information. Only by understanding the data, analyzing and interpreting that information, and moving from information to action through clear goals and plans of action to improve the areas targeted for improvement, will data be useful for improving student learning. ◆

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