# COACHES HELP MINE THE DATA

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Data-driven decisions and actions target identified needs and fit more appropriately within the context in which they are implemented. Teacher leaders acting as data coaches create a culture that values data as information for improved professional practice. When those data relate to student learning, coaches have five key responsibilities to help teachers use data effectively. They include:

- Creating a safe, blame-free environment for data analysis;
- Teaching data access and organization;
- Teaching analysis and interpretation of data from multiple sources;
- Engaging teachers in data analysis and interpretation to determine student and teacher needs; and
- Designing an action plan that incorporates professional learning to improve student achievement based on data analysis.

**Creating a safe environment**

When the culture of a school in which teachers work provides a safe, blame-free environment for data use, teachers more eagerly seek data to inform their practice. The key to creating safety in data analysis is keeping individual teacher data private, beginning with developing teachers' skills in understanding and analyzing data, and setting norms that include keeping the focus on student learning. A safe environment keeps the focus on issues rather than people, engages people in an appreciative inquiry approach rather than a deficit approach to a situation, and results in a plan of action that energizes and motivates people. Teachers can identify and analyze what is working for their students by focusing on what is working, seeking to understand the reasons for the success, and replicating those practices. Key

questions coaches and teachers ask are:

What's working? How do we know? What makes it work? Teachers will have an easier time confronting the realities of student learning gaps and how to address them if they are comfortable with the data and trust the process and the facilitator.

Facilitation of data analysis promotes safety. The facilitator works with the team of teachers to

**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.

set norms and uses a protocol, or a guideline, for the data conversation. The protocol makes the process known to all. A data analysis protocol such as the one on p. 8 offers a set of guiding questions for looking at student data whether those data are from state tests, common district assessments, or classroom assessments.

**Teaching data access and organization**

The accessibility and format of data make a difference in how easy they are to use. When data coaches help teachers know how to access data and organize them into user-friendly formats, teachers are likely to use data more readily. The opposite is true too. When teachers can't access data easily from their classroom or school computers or when they wait weeks to receive data reports, they are likely to avoid using data. Data coaches can begin by teaching how to access data and how to request various forms of reports. In the process, the coach provides tips on which reports will answer specific questions.

**For more information about NSDC's Standards for Staff Development, see www.nsdc.org/standards/index.cfm**

**Teaching data analysis and interpretation**

Data coaches help teachers know how to analyze and interpret data. Essentially, the coach prepares teachers to engage in analysis by ensuring that they have fundamental knowledge. Questions such as the ones below can be used to prepare teachers for analyzing any data set.

1. What is this assessment measuring?
2. What are the characteristics of the students involved in the assessment?
3. What type of assessment was used?
4. What type of conclusions can be drawn from this type of assessment?
5. How many students were assessed?

The coach may model or engage teachers in analyzing schoolwide or district data using a protocol so teachers are familiar with the process before they work on their own data.

**Designing action plans with professional learning**

The data analysis and interpretation process includes moving from data to action. Once data are analyzed, the work continues with forming conclusions, identifying potential root causes, and developing plans of action that include goals, indicators of success, timelines for achieving the goals, and benchmarks to mark progress. For example, if teachers discover from an analysis of state tests and the district common benchmark assessments that students' problem-solving skills are below standard, then they consider five possible root causes that might contribute to the problem and which they can control. These areas are instruction, curriculum, time, teachers' content knowledge and/or pedagogy, and instructional resources. Frequently, when teachers engage in identifying root causes they will identify causes that are not within their realm of control, such as student demographics. Coaches can accelerate identification of appropriate interventions if they help teachers focus on what teachers can change to improve student academic success. Teachers might write a goal such as:

Third quarter math goal: 85% of the 5th-grade students will demonstrate proficiency in problem solving on the third quarter benchmark assessment.

Coaches, working collaboratively with teachers, identify the specific actions to incorporate into their plan. For example, teachers may commit to learn multiple problem-solving strategies and ways to help students determine which is most appropriate to use. Then teachers may develop common lesson plans in which they integrate their new knowledge. Teachers may look at the number of opportunities they provide students to practice problem solving in both guided and independent situations. Finally, they may develop a common assessment to measure student progress midway through third quarter.

When data coaches build teachers' knowledge about data analysis and assessments, develop their competence and comfort with data analysis, and facilitate teacher professional learning and planning to move from data to action, teachers and students benefit. Teachers have the information to focus instruction more specifically on student learning needs. They can also focus their own professional learning on specific student learning needs thereby increasing its purposefulness and its results. Students are the big winners because they are the beneficiaries of refined teacher instructional practice. ◆

**DATA ANALYSIS PROTOCOL**
Analyzing data: Guiding questions

1. What areas of students' performance are at or above expectations?
2. What areas of student performance are below expectations?
3. How did various groups (e.g. gender, race, socioeconomic, disability, English proficiency) of students perform?
4. What are other data telling us about student performance in this area?
5. What confirms what we already know? What challenges what we thought?
6. What important observations seem to "pop out" from the data? Surprising observations? Unexpected observations?
7. What patterns or trends appear?
8. What similarities and differences exist across various data sources?
9. What do we observe at the school level? The grade level? The class level?
10. What are some things we have not yet explored? What other data do we want to examine?