3

Using Soft Data to Bring Information into Focus

In 1854 during a cholera outbreak in London, John Snow, one of the fathers of epidemiology (the study of the incidence and prevalence of disease) attempted to solve the mystery of the disease with quantitative tools. The prevailing theory suggested that cholera was caused by pollution or bad air. Given the conditions of London at the time, that explanation was reasonable. But Snow didn't believe air was the origin and posed the possibility of infected water as the culprit. At first, his quantitative analysis of the water did not conclusively prove its danger (at least with the chemical and microscopic analysis tools he had available). Undeterred, he talked with people who lived in a specific area that had a high incidence of cholera. Going door-to-door and interviewing residents, he identified a water pump on Broad Street as the source of the outbreak (Hempel, 2007).

The qualitative analysis of data was enough to convince the local authorities to disable the pump, despite the fact that germ theory was not yet understood. Snow's analysis and the resulting actions of the local council are credited with ending the cholera outbreak. Snow then created a spot map to illustrate the clustering of cholera cases around the location of the pump and used statistics to determine the relationship between the water source and cholera cases. Snow noted that the Southwark and Vauxhall Waterworks Company, using water from sewage-polluted sections of the Thames River, was delivering the water to some locations via pumps, leading to an increased incidence of cholera. Researchers later discovered that the public well had been dug only three feet from an old cesspit, which had begun to leak fecal bacteria into the water supply (Johnson, 2006).

So what does this story have to do with instructional improvement of schools in the 21st century? It's a reminder that we need to collect soft or qualitative data by observing and interacting with the people being studied or involved with a study. Hard or quantifiable data can tell part of the story, an important part to be sure. But getting behind the data to determine what's going on, to counter a prevailing theory, or to identify root causes require access to soft or qualitative data. As we discussed in Chapter 2, it's important to remember that quantitative or hard data can mask identification of groups of students in need of intervention. Other times, the hard data highlight priorities. In both cases, qualitative data can help clarify the problem and guide intervention efforts. In addition, soft data can be used to monitor progress of the goals that are established to improve the instructional program.

Soft Data Defined

Soft or qualitative data refer to information about student learning and instruction that is acquired by observing student and adult actions in and out of classrooms. It can include information about the classroom environment, instructional support, and use of instructional strategies. Unlike hard data, soft data are all around us. Rather than being found on paper, on the shelves in offices, in data binders, or in electronic files, soft data are uncovered in classrooms, staff lounges, main offices, playgrounds, athletic fields, and in the corners of the school. It is part of the realm of qualitative inquiry (Merriam, 2002), which is rich in description of people and their actions, behaviors, and discussions. Qualitative inquiry provides a myriad of ways to examine learning, and the end result of qualitative inquiry is soft data.

How soft data are gathered is very important. Hard data sources are primarily official organizational statistics, but soft data reflect the underlying currents of a place or situation that can easily go unnoticed precisely because they are so ubiquitous. As an old saying goes, "The last thing a fish notices is water." The qualitative research tools for gathering soft data include surveys, interviews, opinion polls, and observations. With each of these instruments, the intent is to shine a light on an element of a school's daily life.

Learning occurs through the academic and social interactions of teachers and students, and the hard data of test and attendance scores cannot adequately capture this information. Therefore, gathering soft data is focused on listening to the language and

interactions between and among students and staff, analyzing the details of teaching and learning, and examining the culture and climate of the school. Soft data are described in words and pictures rather than numbers and convey what the observer has learned (Merriam, 2002).

Hard data give us a snapshot in time and describe how students are doing but not necessarily why. Soft data put a human face on the numbers. Using both soft and hard data, school leaders, data teams, and individual teachers can determine what is working well and what is not, and then begin to explore the causes. By thoroughly examining processes throughout the school—classrooms, school culture, outdoor spaces, offices, and meeting areas—root causes for student achievement or lack thereof can be specifically identified. Unsuccessful processes can be modified, adjusted, or eliminated and successful ones replicated.

Triangulating both the hard and soft data sets around a single process allows educators to get a precise picture along with a detailed written description of the events leading up to or surrounding the picture. Without the soft data, we have a picture but few if any details about why the picture is occurring. The triangulation of both hard and soft data around a focal point completes the picture, one that teachers and data team members can use for discussion of next steps. Although soft data may appear on the surface to be fuzzy, in truth they increase the precision of school improvement efforts. Hard data alone cannot reveal the important nuances of a school's successes and challenges. Soft data, when combined with hard data, bring both of these into focus.

Being Assessment-Literate with Soft Data

As with hard data, the quality of soft data is directly proportional to the expertise of those who gather and interpret the data. When collecting soft data, it is essential to understand the influence of sampling techniques, confounding variables, and instrument design on the quality of the soft data.

Know your samples. You've seen them in shopping malls. A swarm of eager poll takers equipped with clipboards invite shoppers to take a few minutes to complete a survey or to participate in a focus group. Some shoppers wave them off while others stop to fill out a form. Although this technique may appear somewhat haphazard, the research company is using a time-honored technique—volume. Researchers know that the risk of a small sample is in skewing the findings. For example, one grumpy and opinionated shopper can disproportionately influence the results of a survey totaling only five

participants. But in a sample of 100 shoppers, the other 99 balance his views. Although the product in question may warrant his negative comments, a large sample size will tell you whether others share his opinion. In this case, the smartest guy in the room *is* the room. Likewise, when gathering data at your school, avoid reducing the number of participants to a meaningless size and don't handpick your participants in advance to favor an outcome you hope to find. For instance, asking the members of the school's football team if they think the athletic program makes a positive contribution is going to yield predictable results. Asking a large sample including both athletes and nonathletes will provide a more accurate picture.

But let's say you have a different question, such as whether the school's athletic program is helping or hindering student-athletes in their academic endeavors. This time you *are* purposefully sampling a specific group of participants. It wouldn't make much sense for students who are not in organized sports to respond to this question. The questions should lead you to the sample population you need. The opinions and insights needed for describing a school's collective viewpoint on a topic demand a large randomized sample. Those questions that target the experiences of a specific group require a purposeful sample of the group.

Know your confounding variables. Many outside factors can get in the way of the questions we seek to answer through soft data. For instance, it's probably not a good idea to conduct a school climate survey on the Friday before winter break, because you're likely to get unusually high marks. On the other hand, we wouldn't administer this survey in the middle of midterms, when students are feeling more anxious than usual. Choosing an ordinary day in January is going to give you credible findings. Better yet, a series of four climate surveys spread across the school year will provide trend data. These factors, called confounding variables, can include the timing, gender, ability, experience, or other factors that directly or indirectly influence the findings. Identifying possible confounding variables is important because they can provide vital explanations of the results. To use a non-school example, both ice cream consumption and murder rates rise in the summer. But eating ice cream doesn't cause murders, and those touched by a murderous event don't eat ice cream to make themselves feel better. Rather, there is a confounding variable at play here—the weather. In the summer, more people are outdoors in the sweltering heat and eat ice cream to stay cool. They are also in contact with more people outdoors than in the winter, when people tend to stay home. All that

contact can have dangerous outcomes, but it doesn't have anything to do with how much ice cream is eaten. Awareness of confounding variables, such as the timing of your survey, can contextualize results and prevent false conclusions.

Know your instruments. Soft data are collected using a variety of research tools that should align with the questions you are seeking to answer. A question about family participation and attitudes toward school will likely require an anonymous survey so you can collect lots of information from a broad audience in an efficient manner. You may want to explore the question further by comparing and contrasting the experiences of families who volunteer at school with those who rarely visit school; in this case, by inviting representative samples of parents from both groups to participate in focus groups. Conducted in a friendly environment participants are asked a series of prepared questions, or probes, to ensure that their discussions are parallel. Because the school itself may be a confounding variable, focus groups could be held at a neutral site, such as a local community center.

In other cases, the information you are seeking may be of a sensitive or complex nature and may warrant individual interviews. Your question may revolve around the school's effectiveness in responding to bullying. Delving into the experiences of victims, perpetrators, bystanders, and interveners requires a delicate approach, and gathering them together into one large room is not going to result in productive conversation. Instead, a caring adult should conduct these conversations using an individual interview process. As with focus groups, a protocol of questions should be prepared to ensure parallelism.

Another tool for gathering soft data is observation. Unlike tools discussed previously, observation tools do not require direct contact with the person being observed. Observations may be simple tallies, such as the amount of time it takes for all the students to be in their classrooms after lunch is over. At the other extreme, observations can be quite complex and require the input of many to design a proper instrument, such as a classroom observation form. Most, however, fall somewhere in the middle range. In all cases, observations should reflect the nature of the questions being asked, and should be piloted to make adjustments to the design. From surveys to focus groups, from individual interviews to observational tools, all should align to the questions being asked. More complex questions, such as those surrounding school culture and climate, may require multiple instruments.

Examining the Culture and Climate of the School

Every school has a culture and a climate. To examine school culture, there must first be a clear understanding of the concept of culture. Schein (1992) defines culture as "a pattern of shared basic assumptions that a group learned as it solved problems of external adaptation and integration, that has worked well enough to be considered valid and therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (p. 12). Deal and Kennedy (1982) define culture as "the way we do things around here" (p. 4). Bolman and Deal (2008) further state that culture as a product "embodies wisdom accumulated from experience. As a process, it is renewed and re-created as newcomers learn the old ways and eventually become teachers themselves" (p. 269).

School climate is about the feel you get when walking onto the campus. Climate refers to how students and teachers interact with and among one another (Lindsey et al., 2009). It is the feeling one gets being on the playground, in the office, and in individual classrooms. You can visit several 5th grade classrooms and the climate may vary from room to room, but the overall feeling one gets from the school is called the climate (Harrison, 1992).

Schools attempt to capture their culture and climate through their mission or vision statements and core beliefs. These documents tend to be posted in the main office, data rooms, public areas of the school, on school websites and letterhead, as well as in teacher and student handbooks. Yet these documents tell us very little about the school culture or climate. The real description of a school's vision, culture, and climate is determined by the way in which school personnel interact with each other and students, the way students interact with one another and school personnel, and the manner in which the inner school community interfaces and communicates with the outer community (Crowson, 2003). Moreover, school culture and climate are determined by student placement in general education, remedial, advanced, and enrichment courses, as well as by student involvement in after-school clubs and athletic programs. It is manifested in the school curriculum, disciplinary records disaggregated by subgroups, and home-school correspondence (Fiore, 2011).

Most schools' mission statements purport to help *all* students become productive citizens of the 21st century and to create caring, nurturing environments in which *all* students are provided with a number of opportunities to reach their full potential in a global society. When we analyze the placement data for students, we begin to get a sense of the

real picture. At the secondary level, qualitative inquiry can be used to gather soft data from observation notes of counselor and student interactions. By analyzing the student placement by subgroups, soft data can be generated about the adults' beliefs regarding students' abilities. If large numbers of minority students are placed in remedial courses or if disproportionately fewer minority students are enrolled in advanced placement courses, that action serves as a manifestation of unstated core beliefs. Similarly, if few girls are enrolled in science, math, or advanced placement courses, that is an indication of core beliefs. Looking further at the hard data regarding placement in enrichment courses or special programs provides us with direction about the soft data we need to gather.

Principals in two middle schools of different sizes collected soft data to determine if their schools were fulfilling their mission. At Principal Monroe's middle school with 700 students, the mission statement professed providing the social and academic skills, environment, and support needed for each student to reach his full potential in a family setting where every student was valued for being unique. Yet placements of student subgroups that encompassed 40 percent of the student population were void in language enrichment courses. Special writing courses offered before school inadvertently excluded bused students who arrived too late for these sessions. Worse yet, when Mr. Monroe observed a media class, he noticed that students were separated by ethnicity and that one group of students was allowed to use the equipment but the other was required to work in a separate area of the classroom on written assignments. The soft data told Mr. Monroe a great deal about the school culture, which was quite different from that claimed in the school's mission statement.

Soft data from Principal Bradley's 1,200 middle schoolers revealed a different picture. The mission statement asserted that all students shall be surrounded and taught by caring adults who continuously participate in professional growth in order to understand how to provide every student with a rigorous and relevant education in a supportive environment that ensures the success of all. When Ms. Bradley walks into a science class, she finds the teacher beginning the lesson with a discussion about an African American astronaut and nuclear physicist. The teacher draws parallels to the physicist's work and the new unit of learning. Ms. Bradley notes that the student composition of the class matches that of the school demographics. As she reviews the bus schedule, she notes that there are five late buses for students who remain after school to participate in various enrichment and athletic programs. These soft data reveal a school living up to its mission statement, which proclaims an inclusive and celebratory culture.

At Mr. Monroe's school, fights on the quad often occur across ethnic lines and subgroups—these groups generally don't intermingle. This separation is also displayed in classrooms in which students sit in clusters by ethnicity. He notes that adults also separate themselves along ethnic lines. The soft data reveal that the school misses the mark on *valuing the uniqueness of every student in a family environment* as reported in its mission statement.

Ms. Bradley reviews the number of suspensions for the quarter and finds only two for the entire period. She decides that this low number is a good sign for a middle school of 1,200 students. As she begins to ponder why, she notes the teacher professional development calendar, the student positive discipline calendar, and the character-building program that the school adopted four years ago. Ms. Bradley notes that professional development and student assemblies are scheduled monthly, not one of them has been canceled since she arrived at the school three years ago. These soft data lead Ms. Bradley to believe that the school is espousing its mission statement.

Soft data about school culture and climate can be obtained from correspondence. If a school has a large number of second language learners and the correspondences are sent in the most widely spoken student languages, these soft data provide evidence about the willingness of the school personnel to communicate with all parents. If the school is socioeconomically diverse and school information is sent home only by e-mail, these soft data yield a different finding about the school culture and climate (Fiore, 2011).

"When examining school culture and climate it is important to remember that they are not stagnate, but rather dynamic entities that may change. Both influence and are influenced by the behaviors, values, and practices of the school" (Lindsey et al., 2009, p. 125). By observing the practices for student placement, instruction, retention, disciplinary issues, and parent communication, you can learn much about both the culture and climate of a school. Like hard data, soft data can be formative and used to make schoolwide changes in culture.

Looking in the Corners

The front office and staff lounge are important components of the school and can be excellent sources of soft data. The transactions in both of these areas of a campus are climate trendsetters and have significant implications for student learning. Each area provides a wealth of information regarding school culture, climate, school-community relations, student-teacher interactions, and the schoolwide learning environment.

The front office is like the welcoming committee that greets a delegation at the airport. It is the hospitality suite and the concierge, and is where most parents, students, and the larger community get their first impression of the school. If the individuals in the front office are too busy to welcome their clients, it communicates that other matters are more important than human presence (Crowson, 2003).

A data team wanting to learn more about the many aspects of student learning could obtain a great deal of data from the front office. Questions that members seek to find answers to might include: How do the personnel in the front office greet individuals? How long does it take for a person at the counter to be greeted? Are different ethnic groups treated differently? If so, how? How are students treated when they come to the front office? Are the front office personnel helpful in getting students and adults where they need to go? Do they attempt to answer all questions or to find the answers to those questions they cannot answer themselves? Do they treat parents and students with respect? How do front office personnel answer the phone? Do they respond to district calls differently than outside ones? If so, how? Where is the office entrance? Can front office personnel immediately see and greet individuals from where they sit? How is the office furniture arranged? Is it closed or opened? Is the office tidy and clean? Is the mission statement posted? What do students think about the front office? What do parents think about the front office? What do teachers think about the front office?

The data team can use qualitative inquiry to answer these questions, observing front office transactions and noting exactly what occurs. The team then sifts through its notes seeking emerging themes or common occurrences. With these soft data the team is ready to make some suppositions about the school culture and mission. Moreover, the team can add this information to the hard data gathered to get a clearer picture of the overall school learning community. For example, when Mr. Monroe walked into the front office of his school for the first time, he was surprised that no one acknowledged him. He was more surprised that the person behind the counter who finally did ask if she could help him, did so without looking up. Mr. Monroe, new to the school, then went to his office and began logging his soft data.

To find out more about the school culture, core beliefs, educational values, common practices, instruction, and the professional learning community, the data team might decide to camp out in the staff lounge because an abundance of data can be uncovered there. If the conversations in the lounge are mostly about sharing lessons and ideas, it might be an indication of a learning community where there is trust and collaboration.

If, on the other hand, most of the conversations are about how difficult students and parents are, that information provides a different, but important, piece of soft data. If teachers in the lounge sit according to ethnic groups rather than by department or grade, the data team will have found another important piece of information. The team may also want to know the feel or tone of the conversations—the climate of the lounge. General questions might simply be: How do teachers use their time in the lounge? What do they talk about? Answers to these questions can inform student learning, school culture, and climate.

Acknowledging the importance of gathering soft data, Principal Monroe decided to make it a point to eat in the staff lounge at least twice weekly. He hoped to learn more about the heart and soul of the school and get to know his staff on a more personal level.

Listening to the Language of Interactions

Listening to the language of interactions is about noting verbal communication between and among students and adults. It encompasses body language and facial expressions, both of which are culturally driven. Since many of our schools are ethnically diverse, an understanding of the cultures represented in the student body is also important. According to Dimmock and Walker (2005), "the reality of school life results from the complex interplay of cultural elements from society, region, and locality on the one hand and organizational culture on the other" (p. 25). Due to globalization and multiethnic communities, understanding the language of interactions of the ethnic groups represented in a school becomes that much more important.

Lindsey and colleagues (2009) assert that verbal interactions can fall into one of six categories, all of which have significant implications for student learning. When adult interactions and language seek to eliminate any culture other than the dominant one, that action is understood to be destructive. Verbal communication, looks, or cues that seek to dismiss the culture or contributions of subgroups are also destructive. Communication cues that trivialize or lead to the stereotyping of subgroups is labeled as culturally incapacitating and occurs when the language used by the dominant group seeks to make other cultures appear to be wrong or inferior to its own. When school personnel and students use language that ignores or seeks to ignore the experiences of individual subgroups or when communication cues seek to treat everyone exactly the same regardless of culture, then it is said to be culturally blind. Language transactions that show

an intentional awareness of what someone knows or doesn't know about subgroups is said to be culturally precompetent. Communication that is inclusive of other cultures that are different from the dominant culture is said to be culturally competent. Finally, language that seeks to create social justice is said to be culturally proficient (Lindsey et al., 2009).

School leaders, data teams, and teachers wishing for instructional improvement cannot overlook the language of interactions. Teachers can gather soft data about their own interactions by watching video of their instruction or by asking colleagues or school leaders to script portions of their lessons. Examining video or scripted notes with administrators, peers, or students will add rich data that the teacher can use to improve instruction.

In addition to the data uncovered in the front office and staff lounge, data teams and administrators can gather a wealth of soft data from the verbal interactions across the campus: the halls during class changes, the playground, the athletic fields, the cafeteria, across the campus at dismissal and lunch, and within classrooms. Within classrooms, data gathering begins with the first interaction among students and adults. Teacher interaction includes eye contact, proximity, one-on-one instruction or lack thereof, small group instruction or lack thereof, whole group instruction, checking for understanding, teacher questions, prompts, verbal feedback, and praise of students' accomplishments (Los Angeles County Office of Education, 2000). The language of interaction also includes the number of times a teacher interacts with or possibly ignores individual students. Classroom data can be gathered via scripting and tallying interactions, taking notes, viewing videoclips, or listening to audiotapes.

The words used to usher students through the halls and into classrooms during class changes should be observed as well as verbal dealings among students. Similarly, the care with which adults and students communicate with and among themselves around the campus before school, during lunch, and after school can be revealing. Are the salutations enthusiastic, encouraging, remindful, and respectful or are they labored, rare, undignified, demeaning, or forced? Are language interactions between and among some groups of adults or students different? Are some adults or students treated differently? If so, how and why? Gather these data using appropriate observation tools.

The cafeteria and common eating areas are especially interesting because both socioeconomic and ethnic factors may come into play between and among adults and students. The climate in these areas is easy to detect. Gathering data in this case might include focus group interviews about where and when they eat and with whom.

Data teams and administrators can collect soft data on the playground and during school events via note taking and checklists. The team can begin with a set of questions or a hypothesis about language or a rubric of language interactions. If responding to open-ended questions, team members may want to write brief but descriptive notes about what they observe. If using rubrics, data teams and administrators might want to add a tally mark to a given column or range when certain language transactions are heard or observed. With note taking, the data are teased out by themes. Regardless of the approach, the team or administrator then reviews the data, possibly comparing the information to other soft and hard data for instructional decision-making purposes.

Collecting Teaching Observations

The single most important factor that affects student learning is instruction. What the teacher does in the classroom has a profound effect on students' learning (Leithwood, Louis, Anderson, & Walstrom, 2004). Therefore, the primary place to collect data on instruction is in the classroom. To determine the *why* behind hard data generated from student assessments, soft data must be collected from within the classroom walls.

Analyzing state assessment data at the beginning of the year sets the stage for collecting soft data via classroom observations. The hard data provide specific information on where to focus teacher observations or where to begin to look. After analyzing annual and quarterly hard data reports, principals, data teams, and teachers should pinpoint where to begin or shift the observation focus, perhaps focusing on particular content cluster areas, periods, grade levels, or teachers. Although there are targeted areas of focus, all teachers should be routinely visited. The principal and the support team must make daily visits into classrooms a primary goal.

Targeting specific areas should be a fluid process based on initial hard data and ongoing soft data acquired through classroom observations. If the hard data point to vocabulary development across the grades as a weakness, then teacher teams, instructional support staff, and the administrative team will want to visit classrooms with a focus on collecting data around the use of academic vocabulary. If the hard data point to 4th grade math as a starting point because math achievement is significantly lower in 4th grade than in both 3rd and 5th, then the instructional team will want to devise a plan for full observations in these classrooms. The principal, members of the instructional support team, or groups of teachers will observe lessons in 4th grade math classes to collect

broad baseline data. After these data are collected, analysis begins. To determine why students are underperforming in one area as compared with others, the team will want to analyze and take notes in one or more of the following:

- Classroom environment, routines, and transitional structures
- Student understanding of the objective and lesson focus
- Teacher focus throughout the lesson
- Use of instructional routines for introducing new content
- Use of instructional routines to deepen student knowledge
- Verbal and posted celebrations of student work
- Evidence of prior instruction on the classroom walls
- Gradual release of responsibility
- Continuous checking for understanding
- Simultaneously engaging all students through pair share, cooperative groups, small group collaboration, or some combination
- Use of the 7:2 rule; no more than seven minutes of teacher talk for every two minutes of student talk
- Clear and focused closure for each component of the lesson

In top performing urban schools in the People's Republic of China, research indicates that most schools have open classrooms, meaning that teachers can observe colleagues teaching without notice. Teachers are required to observe at least one colleague daily and to provide specific feedback on instruction. Principals and curriculum specialists also spend time in classrooms daily and regularly provide specific feedback to teachers. In general, teacher observations should be conducted routinely by principals and the instructional support staff (Marzano, Waters, & McNulty, 2005) and as often as possible by fellow teachers (City, 2011).

We have found it helpful to focus classroom observations on specific aspects of the instruction. For example, observers at a school were looking for evidence of the connection between an established purpose and the group tasks that students were asked to accomplish. (See Figure 3.1 for an example of an observation). Of course, the soft data of teaching observations can, and should, be aggregated across classrooms to identify coaching, professional development, and collaboration time needs. These observations are not used for teacher evaluations but rather to inform the instructional improvement efforts of the school.

FIGURE 3.1
Teaching Observation Form

Teacher: Jessica Sanchez	**Date:** 1/6/12	**Period:** 2	**Lesson Focus/Topic:** World History

Teaching to:

- ☐ Individual
- ☐ Small Group
- ☐ Whole Class
- ☐ ELL
- ☐ IEP(s)
- ☐ Multicultural
- ☐ Other:

Notes: 34 students in the class; 4 students with IEPs

Establishing Purpose: (posted on board):

- Learn about the events and people of the Russian Revolution
- Examine the effects of the Russian Revolution on WWI
- Use our textbooks and smart phones to find historical information

Productive Group Work:

- When the teacher didn't get an answer on commonalities between the *U.S. Bill of Rights* and the *Declaration of the Rights of Man*, she said, "I want you to say hello to the people at your table, and talk with each other about what these two documents had in common." She visited three groups, then posed the question again to the class. This time, they were able to answer.
- Following her modeling while reading from the textbook, students were asked to compare the Glorious Revolution and the American Revolution by developing notes for the foldables in small groups. Each member was responsible for part of the note page and for contributing to the collaborative poster in writing.

Lesson Highlights

Students were working in groups of 4. Each group was constructing a conversation roundtable (good for group and individual accountability), and each student had a question to answer and teach the rest of the group. The questions were related to passages in the textbook (Background to the Revolution; Lenin and the Bolsheviks; Civil War in Russia; Triumph of the Communists). The teacher used a digital timer displayed on the board so students could gauge the elapsed time for their small group work.

Students were fully engaged in the task, and there were numerous signs of joint attention (turning the textbook so a partner could see), as well as evidence of their learning (taking notes on the graphic organizer). As students worked, the teacher moved from group to group, sitting with each to facilitate discussion of the topic. At the end of the elapsed time, students were instructed to move to expert groups to more fully discuss a single question. Before moving, the teacher briefly revisited the purpose to reinforce why they had completed the task, and to set up the next portion of the lesson.

Summary

The pacing of this portion of the lesson was appropriate—there was no wasted instructional time, and the teacher instilled an appropriate sense of urgency in her students. She relied on a number of management techniques to do so (timer, questions on cards, graphic organizer, purpose and agenda posted on board). Beautifully organized, and students were actively working to deepen their understanding of the topic.

Copies distributed:

- ☐ Teacher
- ☐ Observer
- ☐ Other (specify)

Using Soft Data Formatively and Summatively

Like hard data, soft data can be analyzed to inform or to summarize. For example, the analysis of classroom observation data could be used to inform professional development efforts or it could be used to evaluate the effect of coaching efforts. The data collection process does not determine whether data are formative or summative; that's determined by how the data are used.

We discussed some of the challenges with summative, or autopsy, hard data reviews in Chapter 2. Many of those same challenges apply to soft data. We also talked about the need to use data formatively, which is also the case with soft data. The use of soft data, both summatively and formatively, can stir controversy as people might argue that the information is too subjective to be used in these ways. In most cases, however, if the data are collected using sound practices, the information will accurately represent some aspect of the school's operation.

For example, a vice principal interviewed 10 percent of the student body, randomly selected, asking students about ways to improve school attendance. About 50 percent of the students reported that they missed school on days when their favorite activities were not available. There were several categories of reasons, including illness and child care responsibilities. But that one category caught his attention. Several of the students said that they missed school when their chosen extracurricular activities were not available. Micah, as a case in point, said that he regularly missed Tuesdays because there's no basketball practice on Tuesdays and none of the other after-school options motivated him enough to go to school. Although these data could be dismissed as subjective, not related to student achievement, or based only on 10 percent of the students, they could be used to make adjustments to the offerings in the after-school program. In other words, these soft data could be used formatively.

As part of the interviews, the vice principal also asked about one of the efforts initiated the previous year, which was to post daily attendance rates by grade level. The majority of students indicated that posting the attendance rates was useful and that they understood that their lack of attendance would compromise the school's ability to meet one of its goals—to obtain 95.5 percent attendance for the year. These data were used as part of a summative review of efforts from the previous year.

Instructional Improvement in Action

Mario Marcos, the new elementary principal introduced in Chapter 2, is considering the soft data he and his team need to gather and analyze to answer the questions that surfaced through examination of the school's hard data. The first question concerned mathematics performance. When Mr. Marcos analyzed his end-of-year data with the data team, staff, and parents, they noticed that 3rd grade math scores were lower than those in 2nd and 4th grades. The team readily agreed that last year's 3rd grade cohort bears watching, and a member proposed doing some brief focus group interviews with students who scored at or above grade level, as well as those who scored below. In addition, the team decided that teacher surveys of mathematical instructional practices might be helpful. "Maybe there's a problem with alignment across these three grade levels," offered a team member. "The surveys can be anonymous, because our goal isn't to identify a single teacher. We want to look at their practices." Mr. Marcos noted, "That's a good idea. Let's pull data together and we'll decide where to go from there."

The team then turned its attention to the other question raised through the hard data review—a rise in the suspension and expulsion rate to the highest it had been in five years. "I'd like to take this one on," offered the school counselor. "I'll do individual interviews with the students and families of suspended students to find out how we handled these incidences." The team began brainstorming possible questions for an interview protocol that began to take shape. "That's going to help us put faces on the data," Mr. Marcos reminded the group. "The numbers alone can't tell us the full story."

Quality Assurance

We are surrounded by soft data but can fail to notice them unless prompted to do so. Like the air we breathe, soft data can become so much a part of our environment that we can be oblivious to them. An assumption of soft data collection is that we make a conscious effort to examine the information. Soft data sources include the interactions that occur in and out of classrooms, including the front office and cafeteria. The ways in which these soft data are gathered can have a profound influence on accuracy. Aligning our questions with the methods we use to gather information speaks to the level of sophistication of the data team. Poorly collected soft data yield faulty interpretation and ineffective intervention. As you review the soft data at your school, keep these quality assurance questions in mind:

- What do these soft data report?
- Do the soft data that we are collecting address the questions we are asking?
- Are we cognizant of the confounding variables that can interfere with our findings?
- Are these findings consistent across subgroups?
- Are there underrepresented or overrepresented subgroups?
- Are we examining the soft data at regular intervals?
- Are we examining the soft data across reports as well as within reports?
- Do our observations result in action?
- Are our soft data borne out by our hard data?