

provide vital information about all aspects of student learning; that is, what students know, are able to do, and believe at a particular point in time.

School Data

Moving from the classroom level to the school level of data takes a step away from direct contact and involvement with students. But many important questions regarding professional learning are school based. School leaders might consider data about school resources such as financial support, available technology, personnel assignments, and time allocations. School staffs might look at participation in school activities, levels of engagement, types of communication, collaborative planning, and parent involvement. In addition, school policies related to scheduling, attendance, discipline, and grading and reporting can have a powerful influence on students and teachers alike.

When it comes to analyzing data from assessments of student learning at the school level, the most important and most helpful information for guiding improvement comes not from statistics like averages or overall scores. It also does not come from comparisons of a school's results with averages from the state, province, or nation. Rather, it comes from exploring and analyzing variation in students' responses to individual items or subsections of items on the assessment. Consider the following example from Guskey and Jung (2013) based on the analysis of data gathered by the teachers in one school from the administration of a common formative assessment.

Increasing numbers of educators today are discovering the advantages of "common" formative assessments. These assessments can vary widely in their form and structure, as can any type of assessment. What makes them different is that they are collaboratively developed, scored, and analyzed by teams of teachers rather than by an individual teacher (Ainsworth & Viegut, 2006). These teacher teams usually have similar grade-level assignments or teach in the same academic department in a school.

To develop common formative assessments, teacher teams first examine the standards or learning goals for each instructional unit and then collaboratively develop assessments that they believe will capture how well students have mastered those standards or goals. Some teams work directly from curriculum frameworks, guides, or

maps, while others use “Tables of Specification” (Guskey, 2005a). Team members administer these collaboratively developed formative assessments in their individual classes at about the same time. They then get together to analyze the results and plan corrective activities when needed.

For many teams, the first step in their analysis is to construct a table like the one illustrated in Figure 1.1. This table shows a tally of how many students in each teacher’s class answered each item incorrectly or failed to meet a particular performance criterion. These simple tallies reveal several important findings. Specifically,

- A. All students answered items 4 and 8 correctly. Generally this is a wonderful result indicating that the standards to which these items or prompts relate were taught so well by all three teachers that all students were able to demonstrate their mastery. It also may be, however, that these items or prompts were structured in way that revealed the correct response or made the correct answer obvious. If inspection confirms that this is true, then the teachers will need to revise these items or prompts on the assessment.
- B. Most students in all three teachers’ classes did well on items 1, 2, 5, 6, 10, and 11. This shows that the instructional practices the teachers used in teaching these particular standards worked well for nearly all students and should be continued. Only a few students in each teacher’s class will need to revisit these standards and continue to work on mastery.
- C. Although many students in Jen’s class struggled with item 3, most students in Michael’s and Chris’s classes answered this item correctly. In this case, Michael and Chris might offer Jen advice on how she could revise her instructional strategies for this particular standard or goal.
- D. For item 7, most of Jen’s students did very well but the majority of students in Michael’s and Chris’s classes had difficulty. Jen can share how she approached this topic or standard and the strategies she used to engage her students. This could help Michael and Chris develop more effective strategies for teaching this particular standard. Similarly for item 12, Michael’s approach appears to have led to greater success than that of Jen or Chris.

Figure 1.1 Analysis of Items Answered Incorrectly by Students on a Common Formative Assessment

<i>Formative Assessment 3</i>			
<i>Item</i>	<i>Jen</i>	<i>Michael</i>	<i>Chris</i>
1			
2			
3	### ## #		
4			
5			
6			
7		### ##	### ## #
8			
9	### ## #	### ##	
10			
11			
12	###		### ##
13	### ## #	### ## #	### ##
14		###	###
15	###	###	###

Source: Guskey & Jung, 2013. Copyright © 2013 Corwin. Used with permission.

- E. Items 13, 14, and 15 address standards that continue to be problems for students in all three teachers classes, especially the standard associated with item 13. When this occurs and if the items are found to be appropriate, teachers need to seek solutions outside of their individual experiences and expertise. They might consult an instructional coach, critical friend/coach, district coordinator, teachers in other schools, or other subject area experts. They might explore research evidence on effective instructional practices related to these

particular standards or goals. They might consider alternative instructional approaches or activities presented in other materials, teaching guides, or online sources. Because these problems are shared by all three teachers, it's clear they will need to turn to resources other than each other to find effective solutions.

The purpose of this kind of data analysis is to help all of the teachers involved to improve the quality of their instruction so that all of their students learn well. Of course, teachers need to have the necessary time and resources to conduct these kinds of analyses and to develop instructional alternatives. This means that school leaders need to find creative ways to adjust daily teaching schedules so that teachers can meet to do this important work.

With appropriate guidance, the collaborative preparation of common formative assessments assists teachers in developing better assessment tools. But the most vital aspect of this process is the analysis of results and how teachers use the results to revise their instructional strategies and techniques. Working with colleagues in a supportive environment for the collective benefit of all, teachers can be valuable resources to one another in their improvement efforts. Together they can develop better formative assessments that provide students with higher-quality feedback on their learning. Such collaboration also helps teachers create and implement more varied and more effective instructional alternatives so that more students learn well.

It is precisely this form of data analysis, looking for variation in students' responses among classrooms, that can provide the basis for making specific, targeted improvements that help improve learning for all students.

District or Jurisdiction Data

Data summarized at the district or jurisdiction level take us another step away from direct contact and involvement with students. Yet because many school policies are established at the district or jurisdiction level, data gathered at this level can be particularly useful.

Like school-level data, the most meaningful analysis of the district or jurisdiction data comes from the exploration of variation, particularly among schools. Are all schools comparably successful