MODULE I
GETTING READY FOR VALUE-ADDED ANALYSIS

Implementation Stories

Following are several examples of ways that the value-added metric has been used at the district, building and grade level.

Value-Added Analysis Helps Improve Fifth-Grade Math Instruction

Ms. Katie Peters-Crosby was in charge of fifth-grade math instruction at a rural elementary school in Ohio. She has taught at least two of the four classes each year for the last four years at her school. During the first year that the school used value-added analysis, Ms. Peters-Crosby's fifth-grade math classes' value-added scores were lower than she wanted. The growth rate of 5th grade math students was not detectably different from the growth observed for all fifth-grade math students.

Ms. Peters-Crosby was not satisfied with facilitating typical growth in her math students' progress. Thus, she began considering instructional or curricular factors that could be strengthened to increase student learning in her math classes. Ms. Peters-Crosby studied her school's math program to determine its alignment with the state's math curriculum standards. Noticing several curriculum gaps, she:

- Designed supplemental materials to help strengthen math instruction in the curricular areas not well represented in the current program.
- Created math units based on the fifth-grade level indicators (GLI's) from the state.
- Wrote summative and formative assessments, created and gathered materials aligned to these GLIs and only used those math lessons that were highly correlated to the GLIs. Those supplemental instructional resources were implemented the next school year.

What happened after she made these changes? The 2003 value-added data reports for Ms. Peters-Crosby's fifth-grade students revealed much different results than the previous year's reports. The fifth-grade math students now performed 5.9 scaled score points higher than predicted. And, the associated standard error indicated this school effect was statistically above the growth standard and above typical growth.

While this result certainly affirmed Ms. Peters-Crosby's efforts to improve curricular alignment, she noticed another trend in the data that suggested she could make other instructional improvements.

The 2003 school diagnostic report showed a gain pattern across the achievement subgroups that strongly indicated that her higher-achieving students were benefiting from instruction more than her lower-achieving students. Ms. Peters-Crosby reviewed her instructional strategies and determined that many students didn't master the material the first time taught. Thus, she decided to implement several practices to help ALL students master the material.

During the next school year, she:

- Created weekly review sheets, consisting of 20 problems addressing 20 different skills. Students had to re-work problem assignments until done correctly.
- Asked high school juniors and seniors in the higher math classes to come during study hall periods to tutor individual fifth-grade students on the math skills they hadn't yet mastered.
- Instituted a math facts program to ensure that students were mastering their basic facts to facilitate speed and ease when calculating.

The next fall's reports once again affirmed Ms. Peters-Crosby's efforts. The average fifth-grade math student performed 23.4-scaled points higher on the standardized test than the predicted score. The associated standard error indicated this fifth-grade's school effect departed even further from the growth standard of the previous fifth-grade's growth index. Clearly, reliable data about student progress, when interpreted and applied with other information, can facilitate significantly improved teaching and student learning. In Ms. Peters-Crosby's case, value-added data validated her efforts to strengthen curricular alignment and conduct new instructional practices that benefited ALL of her fifth-grade math students across the achievement continuum.

2004 Middle School Report—Math Total

Test	Grade	Year	N	Mean Student Score	Mean Score %tile	Mean Pred Score	Pred Score %tile	School Effect	Effect Std Err	School vs. Testing Pool Avg
Math Total	5	2002	105	662.0	56	663.8	59	-1.6	2.69	NDD
		2003	96	663.8	64	657.3	57	5.9	2.69	Above
		2004	78	671.2	83	646.9	65	23.4	3.01	Above

During the 2004-2005-school year, the fifth grade departmentalized—making Ms. Peters-Crosby the only fifth-grade math teacher. The district also purchased a new math series, highly correlated to the grade-level indicators (GLIs). Ms. Peters-Crosby continued engaging high school tutors and implementing the weekly review sheets and math facts

program. As expected, 2004-2005 reports showed that the school effect in math improved again.

Ms. Peters-Crosby's case study represents a classic example of using value-added information. She started by analyzing the data. Then, she asked why her students were not making more progress. She looked to herself for the causes—not to the students, the math program, or the number of students in her classroom. This is not to say that these exogenous factors may not have some impact, but the most effective teachers look to themselves for why. Ms. Peters-Crosby made reasonable assumptions about her students' performance, changed her practice and achieved better results. When an educator sees his/her changes make an appreciable impact on student performance, the results not only affirm, but also encourage continuation of such inquiry and application.