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COMMENTARY

Data Rich But Information Poor

By William J. Slotnik & Martin Orland

How do you get a healthier chicken? Do you weigh it more often, or do you improve the quality of the feed? These questions, once the exclusive domain of agriculture, are now front and center in education reform circles.

Over the past decade, there has been a quiet revolution in the quality of education data systems. Forty-eight states can now track a student's gains in academic performance from one year to the next, and many school districts are starting to link such gains with particular teachers. On top of this, the U.S. Department of Education will soon be making $250 million in federal stimulus funds available to states to make further improvements in their data systems, plus an additional $350 million to improve the quality of their tests.

But what will all this mean for improving learning in America's classrooms? Will we just be doing a better and more accurate job of weighing the chicken, or will we be improving the quality of the feed? Leveraging this data-systems investment into sustainable gains in student achievement requires a parallel investment in strengthening the capacity to use data to improve teaching and increase learning. Without this capacity, student achievement will continue to stagnate, and we can all expect the next flurry of reports indicating that America's schools are falling short.

Let's look at what capacity-building needs to entail. At root, it has to develop the ability to convert "data," which by itself is meaningless, into "information," which can lead to better decisionmaking. This means systematically probing the patterns revealed by data about students, teachers, schools, and policies, so that educators and policymakers make more-informed judgments about student achievement and where and how to improve it.

Converting data to information is relevant at every level of the education system. Teachers, for example, need to know how to examine student performance if they are to understand which parts of their instruction are getting through, and to which students. They can then use this information to adapt their teaching strategies—revisiting areas of the curriculum that are not being learned, targeting attention, and incorporating new techniques for students having difficulties. Without this knowledge and capacity, the test data are useless to them.

Similarly, school principals need to be able to look at data across their buildings to learn which teachers and programs are having success and which are not. Using this knowledge as the basis for action, they can focus on the weakest subjects and instructors, make better classroom-support decisions, modify initiatives that are not working, and expand those that are.

District officials need to know how to convert data into information to better understand the reasons for differences in results and then make better decisions when addressing challenges, such as how to have the most impact with limited resources and which curriculum and technical-assistance strategies to use. State education leaders need this capacity to better determine initiatives to pursue in the state's lowest-performing schools and districts, standards for entry into the teaching profession, and policies on school choice.

While these needs may seem patently obvious, study after study shows that most educators and policymakers make only the most limited use of data to inform their decisions. This is not surprising. Data just don't leap off the page and convert themselves to high-quality, useful information.

It takes time and skill to organize, analyze, and interpret data properly, and these assets are in short supply in today's educational landscape. The implications of raw data reports are rarely intuitive or obvious. For example, a school report may show higher achievement scores in one class compared with another. But to what extent is this due to better teaching, as opposed to the assignment of higher-achieving students? Principals, teachers, and parents need the capacity to answer this kind of question. Otherwise, such reports are largely useless for school improvement, or worse, lead to the wrong conclusions and actions.

Improving the nation's schools requires breaking the pattern of being data-rich but information-poor. Building the capacity to convert data to information would give educators and policymakers the tools needed to probe for causes of underperformance, analyze the conditions that are contributing to varying levels of student achievement, and develop and implement improvement strategies based on these analyses. Teachers, administrators, and policymakers critically need these capacities. They are essential if we're really serious about improving the feed, so that our students grow and succeed.

William J. Slotnik is the founder and executive director of the Community Training and Assistance Center, in Boston. Martin Orland is the director of evaluation and policy research at WestEd, in San Francisco.