On Data-Driven Decisionmaking

Editor's Note: Nearly all states have comprehensive data systems to track student achievement over time. This Spotlight focuses on how data-sharing can help districts prepare students for college, create early detection systems for dropouts, and tie teacher evaluations to student achievement.

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Study Offers First Glimpse of Data's Impact on Districts

Promising results emerge from study of 59 districts

By Jaclyn Zubrzycki

A new study from the University of Wisconsin-Madison is among the first to examine the effectiveness of a data-driven effort to improve schooling on a large scale, and it's good news for data advocates: Even the first steps of data-driven instruction seem to have some positive impact on school districts' test scores.

The report focuses on 59 districts in Alabama, Arizona, Indiana, Ohio, Mississippi, Tennessee, and Pennsylvania, examining their mathematics and reading results on state standardized tests after the first year of a three-year initiative conducted by the Center for Data-Driven Reform in Education at Johns Hopkins University, in Baltimore.

The study is drawing attention as much for its design as its results. While most randomized studies in education are conducted at the individual, school, or class level, researchers for this study randomly assigned entire districts either to experimental or control groups, which allowed a controlled comparison of districtwide changes in student performance on standardized tests.

"Given how central data is to a lot of reforms that school districts in states across the country are doing, with data emerging from No Child Left Behind and data being generated by the current [federal] department of education, it's reasonable to ask the question, do the data actually matter?" said Michael Casserly, the executive director of the Washington-based Council of the Great City Schools. This study is one of the first to show that those efforts do work on a large scale, he said.

Districts' Scores Improve

States began the program in three successive waves, starting in 2005. In each wave, researchers gave one group of districts benchmark assessments tailored to their state examinations and trained school administrators in interpreting and using data to identify areas for instructional improvement. The second group received those services the next year and served as a control group in the first year of the study. Districts that received the assessments had greater gains on their states' reading and math tests than districts that had not yet begun the experiment.

On average, students from the data-driven-reform districts outperformed their control-group counterparts by approximately 8 percentile points in math and 5 percentile points in reading, according to Geoffrey D. Borman, a professor of sociology and education at the University of Wisconsin-Madison and one of the study's authors. Researchers also noted correlations between districts' scores and their percentage of students eligible for free-or reduced-price lunch, and found that participating in the CDDRE study was "comparable to reducing school-level free- or reduced-price lunch eligibility by approximately 35 to 60 percentage points," Mr. Borman said.

While most states are already implementing data-driven reform, research on its impact on student learning, especially at the district level, is sparse, researchers said. The CDDRE study is "important because of its size and its breadth," said Martin Orland, the director of evaluation and policy research at WestEd, a San Francisco-based research firm. "It's the largest study that I'm aware of that looks at the issue of data-driven decisionmaking, and it's enough to be intriguing that there may be supportive evidence for what scholarship has hypothesized and what people are acting on," he said.

Diverse District Mix

The districts assigned were generally low-performing, but the 549 schools represented were geographically and demographically diverse, Mr. Orland said, which makes the results more likely to be widely relevant.

Looking at reform on a larger scale is important, said Robert Slavin, the director of the data-driven-reform center, whose efforts are documented in the report. Mr. Slavin also writes an independent blog on education research that is hosted on *Education Week's* website. "People quite legitimately say, 'So what? You can do something in a small number of schools,'" Mr. Slavin said. "But this is at such a large scale."

At the same time, "a study of this breadth raises more questions than it answers," said WestEd's Mr. Orland. "What would be ideal would be if you also had some survey information. Were teachers doing things differently? What were they doing that was different? It cries out for further investigation."

More Than Data

Indeed, the researchers in the new study write that while improvement in test scores could be the result of teachers' effective use of data, other research frequently shows that teachers do not know how to use data effectively. The improvement could instead demonstrate what Mr. Borman referred to as "the testing effect"—students tend to score better on tests after having practiced for them.

Paige Kowalski, the director of state policy initiatives at the Washington-based Data Quality Campaign, which promotes data-based instruction and reform, said her organization had found that "by and large, teachers don't yet have the skills and capacity to take results from interim assessments [like those used in this study] and change their own instruction."

Patte Barthe, the director of the National School Boards Association's Center for Public Education, said her organization had already been supporting data-driven reform and was encouraged by the study. "What we're thinking is a good idea is proving to be a good idea," she said. But, she said, "now that we have tools available, we have to think about ways to help educators, school boards, and parents make use of these tools."

Results from subsequent years of the program, during which some of the districts adopted various interventions to address areas of need, will be published in an upcoming study, said Mr. Slavin, of CDDRE. That publication will delve into which interventions were used, and indicates that districts' scores improved more dramatically after they began using interventions to address the problem areas re-

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> Executive Director, Council of the Great City Schools

vealed by the data than when they had access only to the benchmark data.

"Benchmarks are useful, but they're only a part of the process," Mr. Slavin said.

Which Data Matter?

The Data Quality Campaign's Ms. Kowalski said that advocates of data-driven reform were moving to use data about attendance, school climate, and other factors outside of test scores.

"We know that the benchmark assessments are just one kind of data," she said.

Mr. Orland said focusing on improvements in state test scores "does run the danger of equating the test with real learning." Some of the most effective reforms use additional data like school climate surveys and attendance, he said.

But especially as many schools lag in implementing holistic reforms, Mr. Borman, the study's author, said "so many districts have been adopting quarterly benchmark assessments that [how they impact student achievement] is an important question in itself."

Discovering that benchmark assessments have an impact gives a first glimpse at how to "move the needle forward" for student achievement, said Mr. Casserly. "The research is starting to get pretty exciting in terms of informing us what things work and why."

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Study Exhorts States To Accelerate Use Of Education Data

By Lesli A. Maxwell

Now that every state has the tools to track individual students' academic performance over time, the hard work of making the flood of data useful must get moving.

That's the new push from the Data Quality Campaign, the Washington-based nonprofit organization that champions the use of data in education to improve the academic achievement of students.

Since releasing its seventh and final report examining states' progress in adopting what it considers the 10 "essential elements" of student-data systems last month, the DQC is turning its attention now to helping states put their longitudinal-data systems to effective use, and right away.

Hoping to highlight that new urgency, the DQC hosted a national data "summit" in Washington last week with U.S. Secretary of Education Arne Duncan and other high-profile supporters of data use. The group outlined concrete steps that states can take to turn their data into information that policymakers, school board members, superintendents, principals, teachers, parents, and students themselves can use to improve achievement.

"How are we going to empower every stakeholder in the education system to use this information to inform their decisions and actions to improve education for every single child in this country?" said Aimee Rogstad Guidera, the executive director of the DQC. "The stakes are too high to keep doing what we've been doing, which is not using all of this information that we have."

Setting Priorities

The DQC spells out four "game-changing priorities" for states to adopt in a new report released at the national summit.

As states wrestle with how to use all the data they collect to address key issues such as improving the effectiveness of their teaching corps and better preparing students for college and careers, the DQC report calls for them to tap a broad range of stakeholders, including parents and students themselves.

States must also grant clear decisionmaking authority over student-data systems to governing bodies that will oversee and be held accountable for solving thorny issues such as privacy, data-sharing across agencies, and transparency. The DQC cites Maryland's Longitudinal Data System Center Governing Board as an example that other states should emulate.

Another critical priority for states, the report says, is providing data on how teachers are affecting student performance directly to the colleges and universities that train those teachers. Currently, only six states do so, including Louisiana and Tennessee.

"How can we expect schools of education to be part of our goal of having an effective teacher in every classroom if they don't have this information on how their graduates are doing?" Ms. Guidera said.

Finally, the DQC report says states need to address whether school feedback reports—such as those on the performance of high schools used in many states—are meeting local needs in a timely way. The DQC holds up Kentucky as the best model for giving that kind of feedback. The state provides reports on high schools within a year for a graduating class, rather than two years, and breaks down college-going rates and student performance by race and income.

As it calls for states to move swiftly, the DQC acknowledges significant hurdles yet to cross.

One of the most difficult is the widely held perception that the state data systems have been designed mostly as a means of evaluating teachers, said former Tennessee Gov. Phil Bredesen, a Democrat and a panelist at the summit.

"No data system will ever be successful if that's seen as its primary goal," Mr. Bredesen said. "The data is for so much more."

Michelle A. Rhee, the founder and chief executive officer of StudentsFirst, an education advocacy organization based in Sacramento, Calif., agreed that the "trust factor" is a problem. She also took part in the DQC summit.

"We have to figure out a way to engage teachers in this process and gain their trust," said Ms. Rhee, who as schools chancellor in the District of Columbia introduced a controversial teacher-evaluation system in the

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The DQC's new report also reiterates 10 policy actions that states need to take to ensure that their data systems don't just function as repositories of unused information. The group spelled out the steps two years ago, but Ms. Guidera said no states had achieved all of them.

The recommendations include: linking K-12 data systems with early-childhood, higher education, social services, and other agencies; providing ongoing funding to maintain and operate the state data systems; creating individual student progress reports that educators, parents, and students can use to improve performance; and training teachers and principals on how to interpret student data and use it to adjust instructional practices.

Milestone Reached: Most States Gather Data on Students

Survey finds better use by policymakers

By Sarah D. Sparks

Nearly all states now have comprehensive data systems that allow them to track students' academic careers over time, and state officials are starting to dig into using the mountains of information, according to the sixth annual national survey on the subject.

The Data Quality Campaign, a Washington-based nonprofit group that promotes data use in education, released the report last week. For the first time, the survey focused on governors' perspectives on state longitudinal-data systems, as opposed to the systems' technical capacity.

"Leadership is critical," said Aimee R. Guidera, the executive director of the campaign, noting that in the past year, Idaho and Maryland "leapfrogged many states that

had been building along slowly," thanks to statewide data-use programs launched by Idaho schools Superintendent Tom Luna and Maryland Gov. Martin J. O'Malley.

"There's been incredible progress this year in states' ability to provide access to stakeholders, including teachers and principals and parents," Ms. Guidera said, though she added that no state has enacted all of the DQC's recommended state policies to support data use.

"We really think the next several years need to be spent on the toughest issues in [data use], around turf, trust, technical issues, and time," she said in an interview. "This is much knottier and hard to solve, because it deals with changing behavior. It's much easier to build a data system that collects information."

Infrastructure Complete

The 2011 survey finds states have basically completed that first phase of developing data
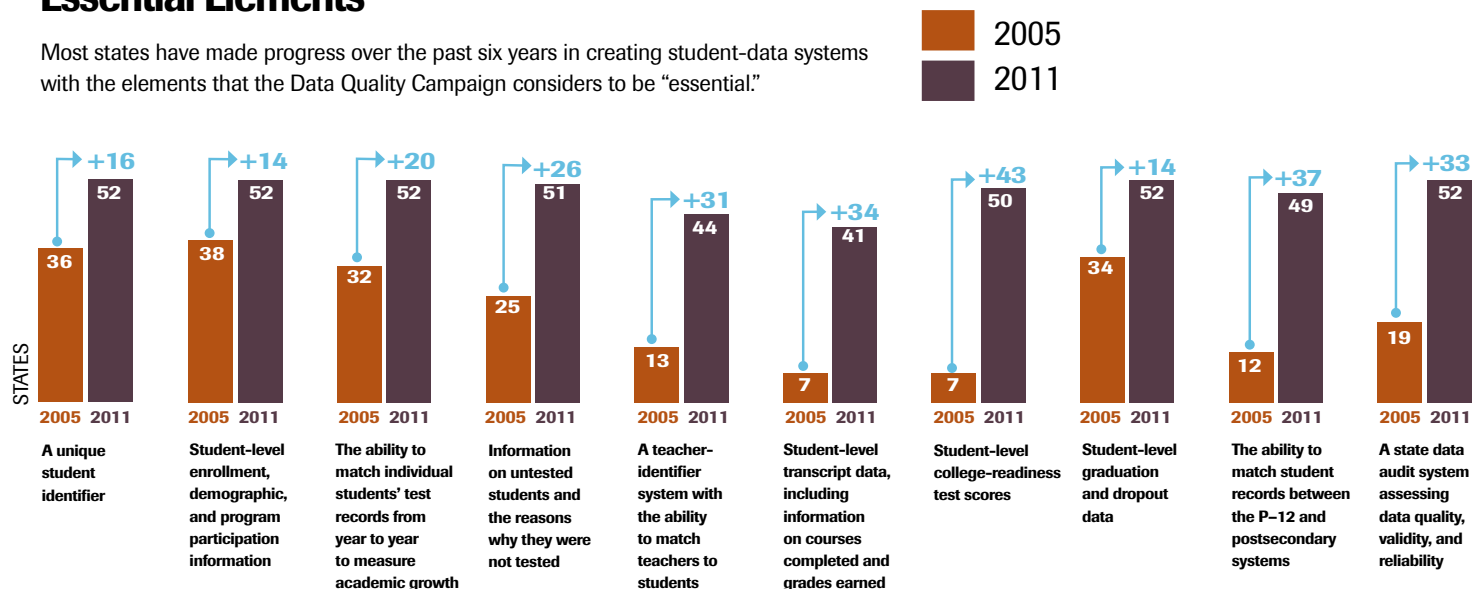
infrastructure.

This will be the last year that the DQC will track states' progress in what it considers the 10 "essential elements" of student data systems because, as the report concludes, "without exception, every state in the country has robust longitudinal data that extend beyond test scores and could inform today's toughest education decisions."

Nearly all states now have a unique identification code for each student. They also have student-level enrollment, demographic, and program data, as well as high school graduation data, college-readiness-test results, and the ability to match P-12 and postsecondary student records. All or nearly all states also can track academic growth from year to year using students' test scores, provide information on students who are not tested, and audit their data for quality and reliability.

However, only 41 states and territories track individual students' transcript data. Those that cannot are: Alaska, Arizona, Colorado, Connecticut, Maine, Montana, New

Essential Elements

Most states have made progress over the past six years in creating student-data systems with the elements that the Data Quality Campaign considers to be "essential."

■ 2005
■ 2011

	A unique student identifier	Student-level enrollment, demographic, and program participation information	The ability to match individual students' test records from year to year to measure academic growth	Information on untested students and the reasons why they were not tested	A teacher-identifier system with the ability to match teachers to students	Student-level transcript data, including information on courses completed and grades earned	Student-level college-readiness test scores	Student-level graduation and dropout data	The ability to match student records between the P–12 and postsecondary systems	A state data audit system assessing data quality, validity, and reliability
2005	36	38	32	25	13	7	7	34	12	19
2011	52	52	52	51	44	41	50	52	49	52
change	+16	+14	+20	+26	+31	+34	+43	+14	+37	+33

Note: The data include the 50 states plus the District of Columbia and Puerto Rico.

SOURCE: Data Quality Campaign

Jersey, Oklahoma, Pennsylvania, Rhode Island, and Vermont. Moreover, the District of Columbia and seven states—Alaska, Colorado, Connecticut, Montana, New Jersey, South Dakota, and Vermont—still cannot match teachers to their students. That data element is considered critical for developing test-based teacher-evaluation systems, the report notes.

The DQC found 39 states now regularly train active teachers and principals to understand and use longitudinal data to improve instruction. But fewer than a third as many states require preservice teachers to demonstrate data literacy in order to obtain certification or licensure, and only six states use data to provide feedback to teacher education programs.

"One of the lessons learned from 10 essential elements is to really push [education] leaders on quality," said Paige Kowalski, the director of state policy initiatives for the DQC. "You can't just check the box and move on. States may be providing access to data for teachers, but are they really providing timely, actionable, user-friendly data?"

During the next several weeks, the DQC intends to release four more in-depth studies of how states use longitudinal student data to inform education policy in four areas: teacher effectiveness, parent engagement, high school early-warning systems, and college and career readiness. The group will also hold a national data "summit" with U.S. Secretary of Education Arne Duncan in Washington on Jan. 18.

Linking Student Data to Teachers a Complex Task, Experts Say

By Liana Heitin

As more and more states push legislation tying teacher evaluations to student achievement—a policy incentivized by the federal Race to the Top program—many are scrambling to put data systems in place that can accurately connect teachers to their students. But in a world of student mobility, teacher re-assignments, co-teaching, and multiple service providers, determining the roster of students to attribute to a teacher is more complicated than it may sound.

At a conference in Washington on Thursday, representatives from the state departments of education in New York and Louisiana presented two very different systems for linking teachers and students for data collection. Together, the proposed systems highlight the challenges involved in this process.

The event was hosted by the Washington-based Data Quality Campaign, a nonprofit organization working to help states collect and use longitudinal education data. (Both DQC and *Education Week's* nonprofit parent company have received funding from the Bill and Melinda Gates Foundation.)

Paige Kowalski, director of State Policy Initiatives for DQC kicked off the panels by explaining that the teacher-student data link is the "linchpin" in teacher-effectiveness policies, on which 30 states have passed laws this year alone. One major aspect of the data link that states and districts are struggling with, however, is how to define a student's "teacher of record." A common definition is "the teacher who assigns grades," but student-teacher relationships are much more complex than that, Kowalski said. And with high-stakes decisions riding on these determinations, the cost of misattribution can be great.

Panelist Molly Horstman, assistant director in the human capital office for the Louisiana Department of Education, said her

state will begin to use a roster-verification system for 2012. Teachers will access their class rosters through a secure log-in and add or delete students as appropriate.

In an interview after the panel, Horstman explained that the teacher's verification of the class list will be done once a year, just before testing, and that the principal will conduct a second round of verifying after the teachers make their changes. Both teachers and administrators will be trained on how to use the system, which was developed with input from the teachers' unions.

New York, on the other hand, plans to use a much more nuanced process, according to Ken Wagner, assistant commissioner for data systems for the New York State Education Department, who was also on the panel.

"When you say a student was in a classroom for the year, that begs the question: What portion of the year?" Wagner said. He explained that, in his state, a student with a test score "will count in proportion to the time the student was with that teacher." Teachers will track the duration of a student's enrollment and attendance, not by days but by minutes.

Wagner showed an intricate flow chart with the details of the daily tracking and process for audits. Roster verification at the end of the school year "will only lead to lawsuits," he contended. "If you think this is too complicated, put yourselves in the shoes of a teacher. Some say it's not complicated enough."

Tracking Back to Teacher-Prep

A separate panel addressed the idea of linking teachers to student data in order to rate teacher-preparation programs. Sandi Jacobs, vice president of the National Council on Teacher Quality, explained that 99 percent of teacher-preparation programs are rated satisfactory, according to states'

reporting to the federal government.

When the New Teacher Project's The Widget Effect report came out in 2009, finding that nearly all teachers received satisfactory ratings, "that galvanized people," Jacobs said. "We have a similar situation with teacher preparation. We need to take actions against the weakest programs." She praised Louisiana, Tennessee, Florida, and North Carolina for their efforts in that realm.

Jane West, vice president of policy, programs, and professional issues for the American Association of Colleges of Teacher Education, stressed that while there's a need to track the performance of teacher-education graduates, "we have a long way to go" before the data can be considered reliable.

Teachers who leave the state, teach out-of-field, or move to private schools are nearly impossible to track, she said. And teachers in non-tested subjects and grades are out of the mix as well. Last year, the University of Central Florida was only able to get student-achievement data for 12 percent of its graduating class, yet that information was reported publicly. "What's the threshold?" West asked. "Where's the check to ensure that's a valid and reliable measure? It needs to be more than 12 percent."

In all, the Data Quality Campaign's conference was tightly managed and left little opportunity for audience participation, offering attendees a controlled (though still controversial) takeaway: that improved student achievement hinges on improving the teacher-student data link.

Better Data Urged to Link K-12, Postsecondary Outcomes

Information could lead to curricular and instructional changes

By Caralee J. Adams

If high schools are going to better prepare students for college and careers, experts say they need to track graduates enrolling in higher education, whether they take remedial courses to get up to speed, and whether they earn a degree.

At a meeting in Washington last week, politicians from both sides of the aisle, along with educators and nonprofit leaders, discussed the importance of using data to support the college- and career-ready agenda.

The event was sponsored by the Washington-based Data Quality Campaign, a national venture started in 2005 to encourage the use of high-quality data to improve student achievement, and College Summit, a nonprofit organization, also in Washington, that provides college-readiness programs in high schools.

"Our educators and students will not make sufficient college-ready gains unless they have information on how their students are actually doing in college," said J.B. Schramm, the founder and chief executive officer of College Summit, who, along with co-author E. Kinney Zalesne, released a paper, "Seizing the Measurement Moment."

While some communities around the country are creating postsecondary feedback systems, Mr. Schramm said efforts are inefficient and states need to take the lead.

"Only states have the incentive, the means, the impartiality, and the stamina to get this information in the hands of educators," he said. Some states, with significant federal support, have made progress in building these data systems in the past six years, but more needs to be done, he said.

Mr. Schramm suggested four steps to move forward: Improve the ability to measure students' postsecondary success; make those data available statewide; provide technical assistance to translate data into action; and reward districts whose students' college enrollment and performance improves.

Once the information is gathered on student success after high school, Mr. Schramm said, it needs to be available in a user-friendly format for parents, the business community, and policymakers to make sound decisions about the rigor of curriculum and teaching.

Demand is growing for linking performance between education systems, the speakers suggested. A 2010 survey of high school educators by Deloitte, a finance-consulting company, found that 92 percent felt having data on students' academic performance in college was critical for evaluating the effectiveness of high school curricula and instruction. Yet only 13 percent of educators say they get postsecondary data for all their school's graduates.

Identifying Weaknesses

Knowing how students fare in college can help K-12 identify weaknesses in curriculum, such as the need for more math requirements or more rigorous writing instruction. That information can also relieve colleges from having to invest as much in developmental education and, ultimately, fortify the workforce, the College Summit report suggests.

U.S. Rep. Duncan Hunter, R-Calif., applauded efforts to improve tracking of student and teacher performance through better use of data. Rather than having top-down federal policies, schools want the freedom to make decisions based on their local needs, even though good education must be standards-enforced, he said.

"If there is no stick for the federal government to use—and I don't think there should be—then how do you make sure the job is getting done? The answer is data," Mr. Hunter said. "There has to be sunshine and there has to be the ability to compare apples to apples from every stakeholder at the local level going to the highest level. "

The information on school performance has to be easy to see and translated by the "stay-at-home mom or the Ph.D mom," said Rep. Hunter, adding that the idea is doable but will likely take a long time before it becomes a reality.

Lyndsay Pinkus, the director of national and federal policy initiatives for the Data Quality Campaign, said that momentum around this issue is accelerating. In 2005, 12 states were reporting the capacity to link K-12 and higher education systems, and by 2010, the number had leaped to 44.

In New York City, this year for the first time, report cards will provide data points for students on three measures: college readiness, college acceptance, and college retention, noted Bennett Lieberman, a panelist at the event and the principal of Central Park East High School. Eventually, schools will be able to compare their performance with others. Having that information will help schools make smarter decisions about where they are steering students and which schools have better supports, Mr. Lieberman said.

Charles McGrew, the executive director of the Kentucky P-20 Data Collaborative, said his state creates postsecondary information reports in formats for K-12 educators and administrators and postsecondary educators. "We put information in the hands of people who actually can make a change," he said. "There is a hunger for it."

The data need to be objective, and educators need to collaborate on how to make the entire education system better for kids rather than blame one another, Mr. McGrew said. "The minute it starts to be a finger-pointing enterprise is the minute things stop to work."

U.S. Sen. Michael F. Bennet, D-Colo., a former schools superintendent in Denver, said there is a big systems problem in the delivery model of K-12 education.

"You can't do this systems work unless you have data and unless you are rigorous about it and unless you actually measure what you are trying to do."

Data-Sharing in Kentucky Drives College Preparation

College-going rates rising, remediation rates falling

By Caralee J. Adams

Once Kentucky educators started sharing data about how high school students were doing after graduation, things started to change.

University professors and high school teachers began comparing notes about their expectations in class. Rigor was ramped up. Transition courses were developed in high schools to help lagging students avoid remediation in college. Advanced Placement restrictions were lifted to expose more students to college-level courses.

As communication lines opened, other changes followed. The percentage of college-going students in Kentucky went up, and the need for remediation in college went down.

Kentucky is at the forefront of collecting and sharing P-20 data, information that spans preschool through graduate study. Since the 1990s, it had been tracking the performance of students over time. But not everyone knew it.

Five years ago, that changed. With the input of educators at all levels, the system was revised to be more user-friendly. The resulting college- and career-readiness feedback reports are a tool for superintendents, principals, guidance counselors, school board members, college administrators, and parents to make decisions about education.

The state's outreach efforts set it apart. "We don't just mail them out," Charles McGrew, the executive director of Kentucky's P-20 Data Collaborative, said of the reports. He goes on the road to do presentations to nearly any group that will give him an audience.

"Every state is either building or trying to build a P-20 system so they can track kids across these educational systems," Mr. McGrew said. "In the end, they really aren't worth a lot if they don't get used. It's critical for states to spend some time thinking about what information needs to get out and who needs to get it."

The state was honest in recognizing that no one was looking at the reams of paper it produced, and that it needed to design something that made sense, said Aimee Guidera, the executive director of the Data Quality Campaign, a nonprofit group in Washington that advocates enhanced data-sharing to improve education. "Kentucky took on this initiative themselves to move from getting data out as a compliance idea," she said, "to more of a focus on how do we get information to people in the spirit of transparency and continuous improvement."

Substantial progress has been made across the country in building longitudinal-data systems to track student performance and increase efficiency. In 2005, 12 states were reporting the capacity to link K-12 and higher education systems, and by 2010, the number had leaped to 44, according to the DQC and the U.S. Department of Education.

Approaches vary by region. In Colorado, the nonprofit Denver Scholarship Foundation is tracking the performance of its college scholars and giving feedback to high school principals and college presidents. California has a voluntary system of collecting, analyzing, and sharing data among elementary, middle, and high schools and higher education. Florida's effort to link data from K-12, higher education, and the workforce is spearheaded by the state and dates back 25 years.

The DQC is pushing for states to take the lead, because it believes they have the means, impartiality, and incentive to get information in the hands of educators at all levels.

"This is not a technical conversation; it's policy leadership," Ms. Guidera said. "It's not about fancy data systems." For many states, she said, the barrier is trust.

Benchmarks Set

Kentucky's top K-12, postsecondary, and teacher-training leaders collaborated on data-sharing. The state legislature in 2009 mandated that the sectors work together

to improve education. It set benchmarks to halve the percentage of students who enter college with remedial needs so that 81 percent of students are prepared for college-credit-bearing coursework by 2014. The goal is to increase the college-graduation rate for first-time underprepared students from 33 percent in 2009 to 48 percent by 2014.

"The political will has translated into a positive focus on career and college readiness," said Terry Holliday, the commissioner of education. "It's not about turf, it's about kids."

Establishing the Council on Postsecondary Education, which oversees changes and improvements in the state's postsecondary system, made it easier to coordinate dialogue between K-12 and all the state colleges, Mr. Holliday said.

State leaders work closely together, said Robert King, the president of the council. "We all understand that our individual success is tightly tied to the success of the others."

"You can't expect people to fix something if they don't know it's broken," said Mr. Mc-Grew of the P-20 Data Collaborative. Educators were hungry for the data, and the benefits of having the information overshadowed fears of how it would make them look, he said. "It's by no sense a 'gotcha.' The overall response we get is very positive," he said.

Sam Evans, the dean of the college of education at Western Kentucky University, in Bowling Green, was part of the group that sketched out how the new P-20 collaboration would work. "Everybody had their data sets, and they weren't speaking to one another," he said. The focus of the discussion, he said, was practical: "What do we need to know?"

The driver for everyone to work together was economic development. There was agreement that the only way it could be achieved was with more college degrees and well-prepared high school graduates, said Mr. Evans.

Educators from all sectors labored for weeks over language and metrics, Mr. Mc-Grew said. Lawyers hammered out privacy issues and agreed not to release individual student-achievement data, which had been a stumbling block to data-sharing elsewhere.

Information to Action

As in many other states, educators in Kentucky had an assumption that if students were doing well and getting good grades in high school, they must be ready for college. But the standards are not the same, said Mr. McGrew.

As data were funneled to the high schools, the misalignment was clear. The state started to have all students take the ACT college-entrance exam in their junior year in 2007-08, a policy that helped pinpoint areas where they didn't meet the benchmarks.

Kyle Fannin thought he was doing a good job as a teacher of U.S. history and AP American government at Woodford County High School in Versailles, Ky. "By all outward appearances, we were a great school," said Mr. Fannin, as students scored well on tests and AP exams. But the data told a different story.

Some Woodford students who had received state scholarships based on merit had lost their funding because they weren't maintaining a 3.0 GPA in college. Other data showed more of the students taking remedial math and English in college than the school had expected. When Mr. Fannin would talk to returning students, they would tell him that finals "killed" them. In high school, final exams counted for only 10 percent of their grades.

Armed with that information, the school made changes. More reading was assigned, including primary sources, and longer periods of sustained reading were included in classes. Finals counted for a bigger part of their grades.

And more AP classes became "open door" to all students, rather than just those with high grades. When students want to drop an AP class because they are getting a B or C and go to a general class to make an A, Mr. Fannin says the teachers are holding their ground and saying: "No way."

Mr. Fannin's mind-set is long-term. "I care far more about what my students do after they leave me than how they do when they are here," he said.

Elsewhere in the state, Lu Young, Jessamine County's schools superintendent, said high school feedback reports are conversation starters to get precollegiate and postsecondary educators around the same table.

"It gets teachers working to see what seamless means," Ms. Young said. Once teachers knew what professors were expecting, they were ready to make changes, she said. Now, the district has more ACT preparation, increased math and foreign-language requirements, and new policies around intervention support for seniors.

In turn, the district's teachers have relayed to their college counterparts the instructional tips for meeting the needs of diverse students that they will be more likely to encounter with the push for college for all.

With so many students coming to Eastern Kentucky University with developmental needs in math, Bob Thomas, a professor in the math and statistics department, came up with a high school program to get students who fell below the ACT math benchmark college-ready before they graduated.

"Our philosophy was it had to be done school by school, teacher by teacher," Mr. Thomas said.

He and his colleagues consulted with

high school teachers about lesson plans and gained respect because many on the university team were former K-12 teachers. "We know their world," said Mr. Thomas, adding it was crucial that EKU required faculty members on the project to have teaching experience.

EKU has a higher percentage of college-ready students this fall and those with developmental-math needs decreased to 31 percent, which could be attributed to the high school math-transition courses, officials say.

Last year, the English department followed the math department's lead and established professional learning communities with area high school teachers to discuss improving the writing and reading skills of students who didn't meet the ACT benchmarks. The department devised training on aligning curriculum with expectations on campus.

"It's important to recognize the expertise of the high school teacher and not prescribe a particular look, but allow them to create what works best in their setting," said Kim Creech, an assistant professor of English at EKU.

The mix of remedies is working. The latest feedback report, from the 2008 high school graduates, showed that 56.8 percent had enrolled in postsecondary education in-state, compared with 50.9 percent in 2004. Among those enrolled, 38 percent needed help in at least one subject in college, down from 45 percent. New data are due out in a few weeks.

Period of Adjustment

For teacher education programs, the data prompted some adjustments. For instance, Western Kentucky University is looking to add a course on helping students with literacy and it updated its technology so it was in line with what students had used in local schools, Mr. Evans said.

Kentucky is continually working to improve its high school feedback reports, Mr. McGrew said. Rather than coming out every other year, the reports are now annual as of this fall and will provide feedback within a year for a graduating class, rather than two years. For the first time, they also include a breakdown of college-going rates and performance by race and income.

"It's not cheap and it's not easy, but the benefit is so dramatic," Mr. McGrew said of the data-sharing. "You can't improve preparation for college if you don't measure how kids are doing across the pipeline."

§sas
THE POWER TO KNOW.

Data Systems to Make a Difference

How Winston-Salem/Forsyth County Schools provides fast access to meaningful data to make a difference in student achievement

■ "We need summary-level data – for instance, to know that 93 percent of students are getting what they need – but we also need to know that Johnny is not being effective in Reading 3 during this quarter. That was a goal, to find a way to focus in on the detail."

Betty Weycker, Assistant Superintendent for Technology for Winston-Salem/ Forsyth County Schools

An administrator is standing in your doorway, asking for yet another ad hoc report that was needed yesterday, but not requested until today. Can you deliver it today or tomorrow? You know it will take a week to find the data, validate and integrate it and create the report. What do you do?

If you're the assistant superintendent for technology for your school district and perhaps the only person in the state who holds that role as a senior staff member – you have to make some big changes in how data is managed and used.

That's just what Betty Weycker and her colleagues did for Winston-Salem/ Forsyth County Schools in central North Carolina. Starting with a hodgepodge of disparate data sources and ad hoc processes, the team created a unified information infrastructure that now delivers meaningful, interactive, visual reports to support data-driven decisions.

"Until a few years ago, school officials stored data in two-inch binders," Weycker recalled. "Principals frantically flipped through binders to make sense of the data for their schools. They literally had their hands on the data, but struggled to find the information they needed."

With better access to consistent data, enabling more data-driven decisions, the school district could serve its constituents better in many ways, from assessing the effectiveness of learning processes to ensuring data quality for compliance reporting.

However, a redesign of the district's information systems had some inherent challenges:

- **It is a large school district, and growing** – the fifth largest system in the state and 83rd largest in the nation, with 80 schools, 52,000 students and 8,000 staff members.

- **The district serves a diverse student population** – making it more important to have detailed views of student achievement to meet adequate yearly progress (AYP) goals.

- **Distribution of students changes** – because the district still operates on a choice system, which creates continual flux in managing student records.

- **Various departments maintained their own data resources** – causing difficulties with incompatible and uncoordinated systems.

To be able to use data for decision making and improving school performance – not just issuing reports for reports' sake – a more holistic and real-time information architecture was needed.

Redefining the Information Environment

"After researching data warehousing solutions, we determined that SAS® could provide the tools and resources we needed," said Weycker. The school district's solution includes the following components:

- A menu- and wizard-driven tool for efficient, visual data analysis and publishing of results.

- A data integration tool to easily build workflows for accessing and processing data from virtually any hardware platform or operating system.

- A query and reporting application that enables general business users to create, share and explore reports in a Web browser environment.

- An information mapping tool that shows data sources, transformations and outputs in terms business users can understand.

Starting with nearly two dozen, unrelated data sources – some of them just spreadsheets – the data team created a unified information infrastructure that brings together data from across the district and makes it available to users in interactive, self-service, Web-based reports.

Weycker described the various activities the team undertook in implementing their SAS solution.

Find and evaluate the current data sources.

"We spent a year studying the different data sources that were out there," said Weycker. "The result was scary. Our data was everywhere. It was fragmented and overlapping, and that was really concerning.

"We had to figure out a way to pull all of this together and determine which data system would be considered the authoritative data source. Homegrown databases are often no better than the person growing the data. In some cases that was excellent data and in other cases it was not usable. We had to eliminate some databases."

Determine what information is needed, in what form.

"As we were building out this process, we were continually asking administrators to identify the reports and data they needed," said Weycker. "We didn't assume we knew what they needed most – or needed first." Their top request? Clean data with drill-down capabilities – right down to individual student performance.

Cleanse and validate the data.

Once the school district selected SAS to consolidate data islands, the foremost question was how to resolve issues with duplicate records, inconsistent data entry and missing data. "If Johnny went to School A for three days and then went over to another school, and the records didn't transfer efficiently, you would find overlaps of data," said Weycker. "We couldn't have those types of things happening."

In addition to improving the quality of analysis and reports, data cleansing brought ancillary benefits:

- By ensuring that address information conformed to USPS requirements for mass mailings, the school district dramatically reduced the number of returned letters and saved $5,000 on one mass mailing alone.

- Matching siblings in the database reduced the mailing list from 52,000 to 41,000 households and helped with both the Free/Reduced Lunch Program application process and identifying siblings for the Parent Assistant program.

"When you look at some of this data, you find simple ways to achieve great gains," said Weycker. "SAS puts all our data in one location, so we can focus more on data quality and getting information to our constituents more effectively."

Create repeatable data integration routines.

With SAS, data integration jobs are defined in a Gantt-type graphical display, with each box representing a discrete job in the total process. "The power of the tool is that once you have captured what needs to be reported on, you can come back to it tomorrow, next month and next year, and it's there," said Debbie Harman, NC WISE Coordinator for Winston-Salem/Forsyth County Schools.

Automated data integration proved its value for repetitive tasks – such as bringing in a nightly data set from the North Carolina Department of Public Instruction – and for large-scale jobs, such as the data collection for reporting to the Office of Civil Rights. "Four years ago,

I would have been stressed about meeting the federal reporting deadline, but with the intuitive nature of the SAS tool, we made it happen," said Harman.

Publish the data in an easy-to-use, easy-to-understand format.

"Users shouldn't have to know where to go to find the data," said Harman. "We put it out there so they can get the information they need with the click of a button. It is real time, it is what they need, and it is effortless on their part. We're very excited about the possibilities."

The first reporting initiatives with the new data warehouse focus on school improvement and rapid program evaluation.

Interactive reports with drill-down capabilities. For example, choose a course from a course enrollment report to display course enrollment by teacher, then zoom in to see enrollment detail for a specific teacher, and from there zoom in to a complete profile for an individual student. Or, choose an AYP report for any day or date range to display a bar chart that shows subgroups relative to the AYP threshold, then click to drill into the detail for any subgroup and see which students might need more help.

■ "This isn't just putting data in the hands of some people. It is putting information that could impact student achievement *inside* the school."

Betty Weycker, Assistant Superintendent for Technology for Winston-Salem/ Forsyth County Schools

Districtwide student locator application. "We had to give administrators a way to quickly and easily look up a phone number for any student from any school," said Weycker. "What a simple concept, but with our previous data islands, how difficult that was. Now any administrator across the system can pull up a list of all the students, drill down to get contact information and get that student the help or care he/she needs. This is huge. This report is probably our most used report. It seems so simple, but it required compiling so much data for 52,000 students."

Closing Thoughts

"There's still more to be done," said Weycker. The data team is continuing to build more reports to support data-driven decision making, automating data integration for other recurring requests and bringing quarterly test data into the data warehouse.

"We are going to make a real difference when we can monitor in near-real time," said Weycker. "Not looking back at what happened a year ago or at trends from three years ago. That's all value-add, but for classroom teachers and administrators, what is important is what is happening on a day-to-day basis.

"We're not just producing reports to say we've got this report or to turn it in for this grant, but so we can make a difference in student achievement. Administrators are using these reports, and they're hungry for more, which is a good thing.

"With our data warehousing tools, we are right where we need to be, and we feel like we are making a difference. We now feel like we are a critical piece of making all of our students and partners successful."

Swift Growth Found for 'Early Warning' Data Systems

But most don't reach at-risk students in sufficient time

By Sarah D. Sparks

While more states and districts are developing "early warning systems" to target students most at risk of dropping out, many of them may still not be reaching students early enough, according to the first national study to look at the data-based identification-and-intervention practice.

A study released last week by Civic Enterprises, a Washington-based policy firm, and the Everyone Graduates Center at Johns Hopkins University in Baltimore found that at least 16 states now produce early-warning systems that flag students who are not "on track" to graduate from high school, while at least 18 others have plans to implement such systems. Only four states so far—Delaware, New Jersey, Oklahoma, and Virginia—provide early-warning feedback to educators on a weekly or daily basis. (At least one more state—Louisiana—launched its early-warning system since the study count was taken.)

"A lot of these school districts and states are awash in data," said John M. Bridgeland, the chief executive officer of Civic Enterprises and a co-author of the study. "The big problem has been using that data in a way that's useful to teachers, administrators, and community-based nonprofits to target in on kids.

"There are a lot of [early-warning systems] in schools across America, but a lot of them are put in place too late, in 9th grade," Mr. Bridgeland said. "By the time kids are in 9th grade, a lot of them have already made their decisions about whether they are going to drop out."

The researchers conducted detailed interviews and site visits at 16 "early adopter" districts in seven states. They found that many are already working on the next generation of indicator systems, intended to be more streamlined with information sent to teachers faster.

"The whole notion of using early-warning signs is critical," said Sandra L. Christenson, an education psychology professor at the University of Minnesota in Minneapolis, who helped develop the Check and Connect dropout-intervention program used in Minneapolis public schools. "We're trying to counter this hopelessness that can reside in the student and families when the student has not been very successful."

Varied Indicators

States and districts have experimented with both streamlined and complex systems of indicators—at one point, Louisiana's system

Flagging Policies

A growing number of states have early-warning data systems that flag students who are not "on track" to graduate from high school. Other states are in the process of developing such systems.

- System in Place
- In Progress
- Not Scheduled
- Not Available

SOURCE: Data Quality Campaign

tracked and analyzed more than 200 separate indicators. At minimum, researchers found that most existing systems flag what Robert Balfanz, a co-author of the study and the director of the Everyone Graduates Center, calls "the ABCs" of such systems:

• Attendance: Students who have missed either 10 percent of the school days or 20 days total;

• Behavior: Students who receive two or more mild or more-serious behavior citations, which in most schools means detentions or suspensions; and

• Course performance: Students who struggle to keep up in key classes at different grades.

The last indicator varies at critical transition grades. A student who can't read on grade level by grade 3, when students begin moving beyond basic literacy to read to learn, is four times less likely to graduate by age 19 than a child who reads proficiently. Failing English or mathematics during grades 6-9 increases the chance a student will never catch up. The systems also tend to flag more general academic struggles associated with dropping out, such as a grade point average of less than 2.0, two or more failing grades in 9th grade, or not progressing from 9th to 10th grade on time.

Grades vs. Scores

While many state warning systems do include state assessment scores, Mr. Balfanz, whose center has helped districts and states develop early-warning systems, said school-based grades have proved more popular markers for educators. "Grades are a cumulative thing: Did you attend, did you try, did you get your work in? It includes all of those things," Mr. Balfanz said. "The evidence shows [annual state] test scores are really not as predictive at the individual kid level."

Flagging a student based on behavior also can be problematic, the study found, because discipline policies vary so drastically from state to state and even school to school. Mr. Balfanz found that schools with "zero tolerance" policies tend to have much higher overall discipline referrals, making it harder to tease out which students have the most severe underlying problems. But he said the number of discipline referrals will still predict students who are likelier to leave school, because "overreactive school policies" can prompt students to disengage.

The momentum to build and use these early-warning systems has developed incredibly rapidly. While it usually takes a decade or two for interventions identified in research to translate into practice, much of the research on dropout-warning systems has come out in the past five years.

Part of the impetus has come from an increasing federal focus on raising high school graduation rates. In the 2011-12 academic year, states, districts, and schools will for the first time be held accountable for their graduation rates based on a common federal metric in which cohorts of students entering 9th grade are tracked through graduation.

The study, funded by the AT&T Foundation, suggests that local businesses and community groups are also pushing districts to adopt early-warning systems as part of grants or partnerships.

"There's a sense of urgency in these local communities to get these things moving quickly," Mr. Bridgeland said. Businesses and foundations, in particular, "were frustrated in grantmaking [by] not getting sufficient feedback from school districts. They felt like they didn't have the ability to understand the return on investment. ... [They] don't want to wait for 10 years for a longitudinal study to show their investment is helping kids."

The vast majority of the state and district early-warning systems have been implemented only in the past year or two—insufficient time to evaluate how well they are working overall—but the few that have been in place longer show promising results. For example, a review by the U.S. Department of Education's What Works Clearinghouse found that the Check and Connect early-warning program, which targets middle and high school students with learning, emotional, and behavioral disabilities, reduced truancy and helped students stay in school.

The 34,000-student Minneapolis school district now uses the intervention in all seven of its high schools as well as its support program for teenage parents.

Colleen M. Kaibel, the director of the program for the district, said she and the district's data officials analyze middle school attendance, behavior, and grade data for all incoming 9th graders. Those who were failing math or English, who had two or more suspensions, and who attended class 80 percent or less of the time get flagged. Mentors at the high schools greet those students and help them get oriented in the first days of school. After four weeks, if the flagged students haven't improved in all indicators, they can be referred for weekly check-in sessions.

"We know those kids are not on track to graduate; they will not accrue enough credits to graduate in four years from a traditional high school, and each year they earn fewer credits, they become more disengaged from school, and it's easier for them to drop out," Ms. Christenson said.

At an annual cost of $847 per student, mentors meet with at-risk students weekly, helping them set goals, catch up on classes, and work with their families to attend class regu-

larly. Once the student is passing all classes and has 95 percent or better attendance, he or she is moved to less-frequent monitoring, but the mentor still checks in to ensure the student stays on track.

This year, Minneapolis is analyzing the dropout data from its class of 2010 to identify early-warning signs of those students all the way back to grade 3, in an effort to implement Check and Connect interventions at earlier grades. It also has expanded the program to try to recover students who have already left school, identifying and acting on the indicators that former students as old as 21 might be ready to give school another try.

COMMENTARY

Dear Data, Please Make Yourself More Useful

Sincerely, teachers and students

By Brad C. Phillips and Jay J. Pfeiffer

As surely as the trees bud in spring, night turns to day, and the Kardashians provide grist for the tabloids, another education practice—the use of education data—is turning ugly. Factions are setting up camp at two extremes: one for those who believe data is the Holy Grail, and the other for those who shun it.

Meanwhile, our students are counting on us to help them learn and be successful. Consequently, we believe there is a way to acknowledge that both sides have valid concerns, while applying a "usefulness" standard to make sure we're collecting information that actually can be drawn upon to change schools for the better.

While mountains of data exist, there is little that busy people can use to make good decisions. Educators are natural cynics, and their daily interactions with students are often dramatic proof of each student's qualities and the vagaries of growing up. The fixed and standardized ways that data are reported often do not strike educators as relevant or useful. But by focusing on students and the value that data can provide to better understand each one, we change the dynamic, win over teachers, and improve student learning,

Just as electronic health records provide doctors with access to a patient's full medical history and reminders about particular health issues, so education data can provide teachers with insights into a student's learning history and unique needs.

Here are some guidelines for meeting the standard for useful data:

Engage teachers and decisionmakers in the design of the tools used to collect data. According to a recent article in *Governing* magazine: "Forty states provide school principals with student longitudinal data" that follows student progress from grade to grade, while only 28 do so for teachers. And, Governing says, "40 states offer feedback or growth reports to teachers based on student-performance data." But, we'd add, too few ask whether the data included are what teachers want and need. Asking those who perform the work to provide input in the design of the data-collection and -reporting tools they will use makes abundant sense.

Unfortunately, teachers haven't been as involved as they should be in the development of education data systems, and it shows. Instead of an array of indicators that teachers can use to make midcourse corrections and revised lesson plans that acknowledge their students' needs while learning is in full swing, the emphasis is on summative test-score results, which measure learning at the end of a course of study.

Create regular opportunities to huddle around the data. Again, according to *Governing* magazine, only eight states require teachers and principals to be "data literate." In addition to setting aside time for training, statewide longitudinal-data systems should create regularly scheduled opportunities for teachers to gather and strategize about particular students who are struggling. Data systems like the California Partnership for Achieving Student Success, or Cal-PASS, which has collected years of school transcript information for more than 40 million students, show what is possible when educators move from blunt, end-of-year test scores to detailed and timely student-performance information.

For example, San Diego-area high school teachers and college faculty members learned through careful review of Cal-PASS data that, counter to conventional wisdom, students who took English courses through 12th grade were just as unprepared for college as students who stopped taking English courses after 10th grade. Working collaboratively via professional learning councils, San Diego educators determined that an almost-exclusive focus on literature in high school wasn't giving students an opportunity to develop the writing and analytical skills they needed for college and careers. Subsequently, San Diego high schools began teaching more writing and critical thinking.

By responding to this important indicator, teachers in the English Curriculum Alignment Project, or ECAP, kept 86 percent of their students on course to successfully complete college-level English. In contrast, only 24 percent of students placed in the lowest level of English remedial courses in California colleges ever make it out. The collaboration is an extraordinarily uncontroversial effort which teachers and administrators universally support.

Tailor reports to your audience. There are so many stakeholders interested in how schools are performing, but they often want different things at different points in time. While teachers focus on their classes or specific students, superintendents may examine the impact of a new curriculum or teachers hired from a specific college. At the same time, parents are more likely to look at school and teacher-level performance. Some districts have learned the hard way the limitations of what data can and cannot show. That doesn't mean the underlying data was useless; it just wasn't the right tool for the job (akin to measuring air temperature with a stethoscope).

"Useful" means many things and has many audiences. Currently, the data that school systems collect and report to states is too often limited to only what is required under the federal No Child Left Behind Act: standardized-test results for reading and math in grades 3-8; science- and writing-test scores in at least one grade at the elementary, middle, and high school levels; and graduation rates. While valuable, this in-

formation will be vastly improved with data that teachers can use to tailor lessons to students, such as which courses students took in prior years and the grades they received, and the students' writing samples, diagnostic test results, and participation in tutoring programs.

Continuously Hone Validity and Accuracy. The exclusive focus on summative tests and "accountability" often viewed as punitive and unfair risks a serious crisis of confidence in the power of education data. As some school districts have shown, student test scores alone are not valid measures of teacher performance. Instead of tunnel vision focused on narrow test results, statewide longitudinal-data systems have the opportunity to become highly developed instrument panels that guide teaching with a host of information about students, not just test scores. Further, educators engaged in using Cal-PASS report that the daily practice of using data not only improves teaching effectiveness, but also improves the data. The more educators study it, the more they understand and can perfect what is being measured.

After hundreds of millions of dollars and years of tinkering, the time is nigh for education data systems to make themselves much more useful. Just as electronic health records and disease registries are fueling greater discoveries and personalized patient care, education data must become a necessity of teaching. We wouldn't think of cutting back on data in medicine, because it is endlessly useful. The San Diego-area students now excelling in college-level English—a key gateway for success in career and life—would say the same about their teachers' use of education data.

Brad C. Phillips is the president and chief executive officer of the Institute for Evidence-Based Change, a nonprofit organization based in Encinitas, Calif. Jay J. Pfeiffer is a consultant on statewide longitudinal-data systems and a former deputy commissioner of the Florida Department of Education.

COMMENTARY

The Rising Tide of Data

By Kenneth Lopour

While I was attending a few teacher professional-development seminars recently, a long-fermenting thought of mine came more clearly into focus: Educators may be overinvesting in data and data collection. Many propose that we base most, if not all, of our classroom decisions on the corroboration of data. This, in and of itself, is a seemingly common-sense thing to do, but if implemented to the extreme and without proper forethought, such thinking may do as much harm as good.

As educators, we are drilled from our earliest credentialing-program class that we need to be agents of change. This concentration on continual change, while beneficial, unfortunately makes us more susceptible to fads and pendulum shifts. I fear that data collection is our newest fad. I worry that if it's universally adopted without a clear understanding of the effort required for implementation or the end goal, we could, in fact, harm the students whose education we are so valiantly trying to improve.

We need to have conversations about the reason for the data collection. It cannot be enough to simply collect numbers. There must be a well-defined purpose in mind. Are we trying to identify ways to improve test scores, or do we have a larger objective? Are we seeking to address specific behavioral deficiencies or just on a fishing expedition to illuminate problems?

I believe that a lack of forethought plagues the data-driven movement. At my school, teachers are required to create self-directed data-driven goals. They must identify a professional deficiency, formulate a plan to address it, and decide upon an effective data-collection method to chart their progress. In essence, they need to know where they want to go and

how to get there. This is the most effective way to use data, since there is a continuous cost-benefit analysis attached to the process. I am not so sure we are performing the same due diligence when it comes to our students.

Programs that compile and organize a multitude of student data points are out there, but we should be asking if the information we collect has a purpose. Is the energy expended in collecting and analyzing that data really worth it? Say an average history teacher notices that her students scored poorly on the French Revolution section of their state standardized test. Given this information, what is she to do? The most common answer is that the teacher could re-evaluate her instructional method of that particular unit and redesign her lessons to convey the subject more effectively, increase information retention, and, hopefully, raise test scores. This seems like a fairly straightforward answer, but I would argue that there is a more important question to ask: What is the true benefit of addressing that specific instructional deficiency? By revamping her method of teaching that unit, those test scores should rise, but at what unintended cost?

Given the reality that teachers are required to go over such a vast amount of information every year, education becomes a zero-sum game, in which the addition of something to the curriculum necessitates a subtraction of something else. For that history teacher to address the French Revolution problem, should she then have to give up one of her favorite units—the one she and the kids love—decreasing her job satisfaction and overall student engagement? Does the very structure of the class have to be modified, thereby draining a sense of the joy of learning from her students? Granted, one instructional deficiency is not a huge

deal, but if every teacher is analyzing his or her curriculum on the micro level, does this mask the true longitudinal, macro effects?

These are questions brought up by countless others before me, but questions now increasingly being relegated to the sidelines. Instead, they should be at the forefront as individual schools decide how they collect and use different pieces of data. Whenever we collect data, be it standardized-test scores or results of benchmark exams, there should be a cost-benefit analysis in our classrooms. As educators, we should ask ourselves: Does the time and energy put into data collection and analysis actually translate into desired outcomes? Does such data truly help us improve students' education and longitudinal progress? Data is useful, to be sure, but it is not necessarily the answer to providing a high-quality education to our students. Educational decisionmaking involves much more than a numerical analysis to identify deficiencies.

Think about the the world beyond education: The entertainment industry uses focus groups and other means to collect a mountain of data to determine whether a certain campaign, song, or film has what it takes. In fact, data can often drive artistic decisions. And yet, I bet you can recall more than a couple of films or pop songs produced in the last decade that were "done by the numbers" but were commercial and critical flops. When data drives too many decisions, the soul of the enterprise is robbed, and the whole project falters. Politicians who try to make political calculations in order to appeal to many competing constituencies suffer as well. After a time, they promise so much to so many that instead of focusing on the majority, they are mired in discontent from all sides where precious few are served.

As educators, we need to acknowledge that numbers should be a guide, not the sole determinant in our classrooms. We must not forget that teaching is an art as much as it is a science.

Kenneth Lopour has taught history at schools in San Francisco, Los Angeles, and Orange County, Calif. He is now the dean of student discipline and activities at New Millennium Secondary School, a small charter school in Los Angeles. He is also a member of the Committee of Accreditation, a subcommittee of the California Commission of Teacher Credentialing.

WEB LINKS

Resources on Data Driven Decisionmaking

NOW FEATURING INTERACTIVE HYPERLINKS.
Just click and go.

10 Essential Elements of a State Longitudinal Data System
http://www.dataqualitycampaign.org/build/elements/
Data Quality Campaign

Center for Data-Driven Reform in Education
http://www.cddre.org/

Check & Connect: A Comprehensive Student Engagement Intervention
http://checkandconnect.org/

Data for Action 2011: Empower with Data
http://www.dataqualitycampaign.org/stateanalysis/about
Data Quality Campaign, 2011

Kentucky P-20 Data Collaborative
http://kentuckyp20.ky.gov/

A Multistate District-Level Cluster Randomized Trial of the Impact of Data-Driven Reform on Reading and Mathematics Achievement
http://epa.sagepub.com/content/33/3/378
Geoffrey D. Borman, Deven Carlson, Michelle Robinson
University of Wisconsin-Madison, May 2011

On Track for Success
http://new.every1graduates.org/on-track-for-success-the-use-of-early-warning-indicator-and-intervention-systems-to-build-a-grad-nation/
Mary Bruce, John Bridgeland, Joana Hornig Fox, Robert Balfanz
Civic Enterprises; Everyone Graduates Center, Johns Hopkins University, November 2011

The Widget Effect
http://widgeteffect.org/
David Keeling, Jennifer Mulhern, Susan Sexton, Daniel Weisberg
The New Teacher Project, 2009