

FROM BUILDING SYSTEMS TO USING THEIR DATA

AIMEE ROGSTAD GUIDERA

Aimee Rogstad Guidera is director of the Data Quality Campaign

Because good information is critical to both the processes and the outcomes of high-performing education systems, a rising chorus of voices — inside and outside the system — is calling for better education data. But achieving this requires a dual focus: building the data infrastructure at the federal, state, and local levels, while implementing policy and administrative changes to ensure that these data are accessible, timely, reliable and user-friendly. Policies and practices to support these two actions are necessary to turn data into information that is *actually used* to improve education performance.

Unlike Ray in the film *Field of Dreams*, we cannot blindly follow the dictum “build it and they will come” and expect a happy ending. The new “fields” of data being built in states and districts change the rules of the game. They redefine what and how information is collected, shared and used. Different skills and increased capacity are required to analyze and use this newly available information. The improving quality of this data also has potential to improve the results of the game. With timely and useful data, educators have valuable new equipment in their quest to improve student achievement. However, without consensus building and strategic planning across systems and stakeholders about what we want to use these data systems for — not just next year, but in the

next decade—our investments are unlikely to fulfill their potential to improve decision making and results in education. Historically, states and districts have collected data for compliance and accountability purposes, but it is time for them to focus on using data for continuous improvement across the systems and for increasing student achievement in particular.

We should celebrate the progress states have made in building longitudinal data systems, while also demanding more strategic focus and investments to ensure that the data collected can be turned into knowledge used to improve student and system performance. Part of the challenge is that no one single data system fits all states' and districts' political and practical realities. No district or state is starting from scratch, as they all have some sort of existing data collection and reporting system in place, albeit built mainly for compliance purposes. To date, very few data systems have been built for the broader purpose of decision making. Building such a data system—one that meets not only the demands of today, but the potential needs of users in the future—requires political leadership to provide the necessary time, funding, stability and staff.

Nearly every chapter in this volume discusses the challenges that impede the development and use of data systems in education. These include the decentralized nature of education governance, siloed organizations within the education sector, a lack of incentives to change current operating procedures, the fear of greater transparency, and a lack of capacity to use this new information. Because data have often been used for accountability purposes and connected with negative consequences, it has not been in the interest of teachers and other education stakeholders to embrace the new data-infused culture. Consequently, we are confronted with the challenge of building a system that will meet the needs of users who often mistrust data, see little value in data use, and are not trained to use data as part of their daily routine.

This chapter presents the issues that states and districts should consider as they plan strategically for a new role of data in education. *What's in it for me?* This is the central question that the promoters and builders of data systems need to answer for every potential user of the system—from parents and students to teachers and administrators, to governors, chiefs, and legislators. Only when we are able to show key stakeholders in the education system that they can be more effective, efficient and successful in their efforts when they use quality data, will the sustainability and growth of these data systems be secure. Before exploring the key actions states and districts should take to

build demand for and use of these data systems, it is important to review the progress that has been made in the past decade in improving the quality of education data.

What Has Been Accomplished and What Remains to Be Done

There is no data shortage in our education system. Until now, data collected by state education agencies have been used to file annual state and federal reports, not to inform instruction or program activity. States and school districts gather enormous amounts of school and student performance information, but we have rarely used these data to inform our decision making in education. Because we lacked relevant data that could be accessed in a timely manner by the people who needed it to make decisions, most of these decisions were made based on a “hunch,” anecdote, or experience—but rarely based on data. Not only were there little data available on which to base decisions, but the culture within education did not support the use of data. No Child Left Behind (NCLB) mandated that data be reported for particular populations, which began to bring transparency to a system that had survived on the safety of aggregated data. However, the NCLB data are normally snapshot statistics—information based on data gathered at a single moment in time. To maximize the power of data, not only for accountability purposes but to inform

Ten Essential Elements of a Longitudinal Data System:¹

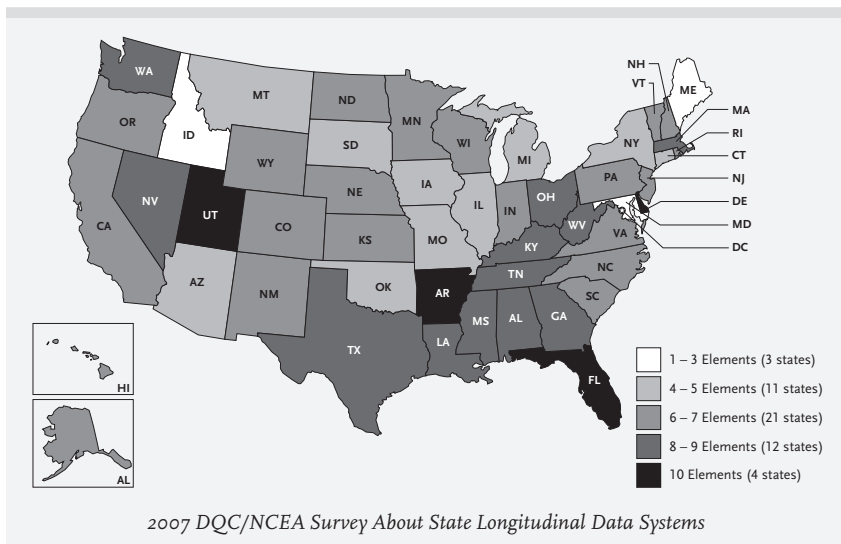
These numbers represent the number of states which reported having each element in 2007, as compared to 2005. These results will be updated as of September 2008.

- Unique statewide student identifier that connects student data across key databases across years **(45, up from 36)**
- Student-level enrollment, demographic and program participation information **(49, up from 38)**
- Ability to match individual students’ test records from year to year to measure growth **(46, up from 32)**
- Information on untested students and the reasons they were not tested **(37, up from 25)**
- Teacher identifier system with ability to match teachers to students **(18, up from 13)**
- Student-level transcript information, including information on courses completed and grades earned **(17, up from seven)**
- Student-level college readiness test scores **(15, up from seven)**
- Student-level graduation and dropout data **(49, up from 34)**
- Ability to match student records between the P-12 and post-secondary systems **(22, up from 12)**
- State data audit system assessing data quality, validity, and reliability **(42, up from 19)**

continuous improvement, we need to be able to follow individual students over time. Longitudinal data make it possible to track students' academic progress as they move from grade to grade; to determine the value-added and efficiencies of specific schools, policies and programs; and to identify consistently high-performing teachers and schools so educators and the public can learn from best practices.

Most importantly, longitudinal data can inform decision making for all education stakeholders because they can be analyzed and aggregated in myriad ways to answer specific policy and evaluative questions. With this data, teachers can tailor instruction to help each student improve, parents and students can make informed decisions about their educational options, administrators can effectively and efficiently manage their education enterprises, and policymakers can evaluate which initiatives are increasing student achievement.

To build policymaker understanding of and support for these longitudinal data systems, 14 organizations launched a national campaign. The Data Quality Campaign (DQC) aims to have longitudinal data systems in place in every state by 2009 and, equally important, to encourage the use of these data to improve the processes and outcomes of education. Just as more education leaders are recognizing the need for better data, more states are doing the hard work of



putting into place the DQC's ten essential elements of a longitudinal data system. (See box for a list of the ten essential elements).

While states have made great progress in building their longitudinal data infrastructure since 2005, collecting data is not an end in itself. Data are valuable insofar as they become the means by which policymakers, administrators, parents, teachers and students make informed decisions leading to improved student outcomes. The benefits of using these data are increasingly evident in the states that have invested in their longitudinal data systems. Thirty-four states are now able to identify which schools produce the strongest academic growth in their students, and 36 can calculate an accurate graduation rate—no small achievement given the poor quality of these calculations in the past.² Because of the increase in state data capacity, U.S. Education Secretary Margaret Spellings issued proposed regulatory changes to allow states to use growth models as an alternative means to determine Adequate Yearly Progress and to require all states to use the longitudinal graduation rate by 2014. And yet, we have a long way to go to reap the full benefits of this infrastructure investment. Only six states are able to determine which high school indicators (enrollment in rigorous courses or performance on state tests) are the best predictors of students' success in college or the workplace; only 19 states can follow high school graduates into higher education and determine which students take remedial courses in college; and just 13 states can identify which teacher preparation programs produce teachers whose students have the strongest academic growth.

States and districts continue to build these data systems, but how do we ensure dreams are not dashed by the lack of capacity to use these data? For the most part, education players aren't well versed in how to use data as part of their routine decision making. We have the technological know-how to build and connect these data systems, but the education culture has yet to embrace using the information produced by these systems to guide decision making at the state or local level. The challenges involve turf battles, ingrained mistrust, lack of funding and political will, inadequate governance, absence of a long-term vision, and the complexities of changing a culture.

The remainder of this paper will deal with three strategic priorities that state and district policymakers need to address in order to realize the dreams made possible by our infrastructure investments. These include:

1. Connect data across systems and states;
2. Make data accessible and useful; and
3. Build capacity to use data.

Connect Data Across Systems and States

Since the beginning of government programs and funding streams, we have had education data systems. These systems were built for accountability and compliance reporting and were often one-way data dumps to satisfy a requirement (often with no consequences). Rarely did these data systems need to be able to communicate with a data system in another organization because the data were not being used for decision making of any sort. Now that we are entering the era of data-driven decision making, we require data systems that are able to transfer information across geographic and sector boundaries. Our data systems must catch up with the reality that students are being served by multiple agencies, programs and funding streams. Data that can be shared and linked can help ensure that all the individual programs are successful in their specific goals (e.g., Title I to support compensatory education, McKinney-Vento to help ensure homeless students have stable education opportunities, and Trio/Gear-Up to increase students' chances of going to college) while ensuring that these programs are working to leverage each other, not duplicating efforts.

Align K-12 and Postsecondary Data Systems. U.S. schools are increasingly expected to prepare all students with the knowledge and skills they need for postsecondary education and the workplace. Consequently, there is growing interest in better aligning the pre-K, K-12, and postsecondary education systems to ensure all students leave high school “college and career ready.” Critical to this alignment discussion is the need to develop links between K-12 and postsecondary data systems to ensure that these conversations are informed by high-quality data. Although 22 states report they have the ability to link K-12 and postsecondary data systems, previous surveys from Achieve, Inc., and the National Center for Higher Education Management Systems (in 2006 and 2005, respectively) find that only 11 states actually link the data across the sectors, and only ten states regularly report postsecondary data to high schools.³ Without this two-way data sharing, secondary school systems cannot know whether their students are leaving high school prepared for the demands of postsecondary education, training and work— and why this is the case.

As education systems become increasingly aligned—through standards, assessments, and other measures—information about successful transitions and unsuccessful ones (when students drop out or fail) is vital. Longitudinal data on student courses, grades, test scores, and remediation rates can be used to develop indicators of college readiness and to identify the cracks in the system in which we lose students.

Transfer Records across Systems and States. In an increasingly mobile world, people regularly move across state borders, but it can be difficult for bureaucracies to know whether a student has dropped out or simply moved to a new state. Similarly, educators are impaired in adequately serving students that arrive in their schools without their complete education and program participation histories. Recent relocations of large numbers of students after Hurricane Katrina proved the importance of the immediate electronic transfer of student records and of having compatible ways of identifying students across state lines. At a critical moment, Florida, Louisiana, and Texas had functioning longitudinal data systems that allowed displaced students to be identified and their academic records to follow them to their new schools. Therefore, not only do education data systems need to be able to exchange information with other systems—such as postsecondary—within the state, they also need to be able to exchange information with systems in other states. The key is ensuring that data systems in different states use common data standards, definitions, and unique identifier protocols.

Link Education Information with Other Critical Data Systems. No Child Left Behind has made it our shared national goal for every child to reach academic proficiency by 2014. For the first time, we have data systems that can track individual student progress toward this goal. Increased collaboration among the major systems involved with young people—especially education, child welfare, and social services—can help students reach academic proficiency. Collaboration requires the ability to share data among and within the agencies that are responding to different aspects of the student (e.g., English language learners, special education, career and technical education). If those tasked with improving the welfare of children, such as educators, case workers, and health providers, had access to pertinent information, better decisions could be made. In Utah, a policy question from the governor to the Department of Human Services about “what happens to children who age out of foster care?” led to several separate agency databases being linked. This linkage of data uncovered that

children who age out of foster care earn wages below poverty, have high arrest rates and teenage birth rates, have low participation in follow-up services, and often do not have a drivers' license. After learning this, state officials were able to coordinate efforts to address these deficiencies and increase basic services such as health care, food stamps, and referrals to education and job training. The data not only created the impetus to act, but also provided policymakers with the information needed to target assistance and achieve their ultimate goal of improving outcomes for this disadvantaged group.⁴

Current technology enables state agencies to exchange and analyze data that historically have been housed separately and incompatibly; however, garnering the political will to clarify student privacy protections, establish interoperable data systems, and standardize data definitions has proved more difficult. While we need to ensure individuals' privacy is protected and information is not used inappropriately, these protections need to be balanced with other needs. The tragedy at Virginia Tech highlights the danger of disconnected information. Had school officials understood that it was permissible to share mental health files between the high school and university, a horrific loss of life might have been avoided. Currently, countless agencies may be serving the same individual. Appropriately linked and shared, data on individual students from multiple agencies enable decision makers at all levels to provide better and more cost-effective services. Other countries, as well as select states and districts in this country, are already realizing the benefits of linking their child-focused data systems. Great Britain began implementing Every Child Matters, an integrated data system, after the nation was jolted by the violent death of a young girl who was being treated by multiple agencies. The system that had been set up to assist and protect at-risk children failed because information that could have served as a warning sign could not be shared among the various programs and agencies serving the child.

Other types of data systems—such as those dealing with financial and management information—need to be linked to data about education processes and outcomes to better inform decisions about resource allocation and program effectiveness. Very few education accounting systems are structured to track expenditures by program and link them to student outcomes; consequently, there is very little information about the returns on various investments. This disconnection between funding and outcomes is based not on technological challenges, but rather on the fact that we haven't valued this type of information.

Now that we are gaining momentum to use data on education outcomes, we need to focus on collecting and using information on *how* schools and systems are achieving (or not achieving) those outcomes, and what they cost. We need to connect data on education inputs, processes and outcomes to ensure the entire system is aligned towards meeting the goal of improving every student's performance. (For more on this topic, see the chapter on balanced scorecards and performance management by Frederick M. Hess and Jon Fullerton.)

Make Data Accessible and Useful

States and districts can develop comprehensive data systems that collect quality data, but if this information is not shared in a timely, user-friendly and action-oriented format, it is all for naught. Everyone does not need access to all data, nor does everyone involved in education need to suddenly become a statistician. Rather, we need teachers to teach, principals to lead, parents to ask questions and make decisions in the best interest of their children, and policymakers to allocate resources. States and districts are beginning to present users with “actionable data” that can assist each of those education stakeholders with their task.

The states furthest along in this effort are finding that greater access to and use of data lead to increased data quality. Previously, data typically were reported up the command chain so that the “compliance box” could be checked. Now, everyone along that chain has a vested interest in the accuracy of those data. New Mexico's two-year-old STARS data warehouse and reporting tools system highlights this point. In the year prior to the introduction of STARS, the state education agency was forced to accept 5,000 unresolved data errors; after collecting student-level data directly from the local districts and providing opportunities for the districts to review and update their data through STARS in 2008, all of the 2,000 identified concerns were resolved.⁵ Margaret Raymond's proposed Student Data Backpack (see her chapter in this volume) provides a way to ensure the quality of data by engaging the self-interest of parents and students themselves.

Expand the Use of Data Warehouses and Data Reporting and Analysis Tools. One of the keys to storing, organizing and making data more accessible is a data warehouse. This is a storage facility for many data sets culled from a variety of source files, such as student enrollment, program participation, graduation, state-level test data, teacher data, and financial data. Reporting and analytic tools

are essentially the software programs written to calculate the statistics (based on data in the warehouse) that stakeholders need to evaluate the performance of a student, school, district or state, and to produce electronic or print reports that answer stakeholder questions.⁶ Thirty-six states have built or plan to build data warehouses and 35 states have deployed web-based data analysis and reporting tools to make these data accessible and user-friendly to various audiences.⁷ These warehouses and data analysis tools expedite the development of reports mandated by federal and state requirements, but they also can inform decision making throughout the system when information flows back to schools and districts for improvement purposes. For example, districts in Delaware benefit from the state's ability to collect and link many different data systems through their data warehouse. The state is able to report district compliance with the Highly Qualified Teacher Requirements of No Child Left Behind on behalf of the districts, while also reporting back to the district and school staff (within hours of receiving it from the district) detailed information on educator hiring, licensure/certification, and NCLB compliance that can be used to inform staffing and professional development decisions.⁸

While most warehouses and reporting tools can only be used by state and district staff, they could eventually deliver relevant and comprehensible data to teachers, policymakers, parents, and students. In his chapter in this volume, Bryan Hassel describes the power of information in other industries. Just as Wal-Mart is able to predict which items need to be stocked in a region preparing for a hurricane based on data in the company's extensive data warehouse, teachers could have at their fingertips results of a benchmark assessment they administered the previous week that could help them tailor their teaching to the needs of individual students. Students would no longer have to spend the first week of school taking placement tests if their teachers had access to their individual academic histories through the data warehouse. Parents could have a sense of how their child is performing compared to students in the same class, school, district, and state. State legislators could allocate resources based on accurate and timely data rather than hypothesizing about potential impact. Today, access to the data is not limited by the technology available, but rather by issues of governance (Who decides who gets to see what data/analysis?), privacy (Are we allowed to share data?), and funding (Is there training for users to access and manipulate the data? Is the technology available to get this data on every teacher's desk?).

Provide Data Access to Researchers and Analysts. Education agencies need to make the data they collect available and user-friendly for purposes of accountability, transparency, and efficiency, but they also need to make it readily available to the research community to investigate which practices are enhancing student achievement. Few agencies now have the capacity to conduct this research “in house,” though Massachusetts’s elementary and Kentucky’s higher education agencies are producing valuable reports that provide data on postsecondary outcomes for students graduating from state high schools and matriculating to state universities.

At times, state data managers deny researchers or third-party advocacy groups access to data because the state is not staffed appropriately to support the work required, or they are concerned about violating the federal Family Educational Rights and Privacy Act (FERPA) and state privacy laws. These capacity and regulatory ambiguities need to be addressed, but a change in expectation is even more crucial. Promoting access to and use of this data must be part of the core mission of the agency, not just an “add on.” For example, Florida’s Department of Education has a research review board that meets weekly to consider all requests for data and determine which research projects would best serve the state’s goals. Acknowledging that the state lacks the capacity to conduct much of the research and analysis it desires, the agency is enthusiastic about making its data available to outside researchers, and asks only for the opportunity to review the research findings prior to their release.

Clarify Privacy Laws. Efforts to share data across agencies, schools, and sectors must include appropriate protections for the privacy of student records. In particular, FERPA imposes limits on the disclosure of student information by educational agencies that receive funds from the U.S. Department of Education. In the 30 years since FERPA was enacted, the technology and culture around data collection and use have changed, and so has the state role in collecting and using data. This has caused some uncertainty around how FERPA relates to state agencies and state longitudinal data systems, which has led to organizations and individuals being denied appropriate access to educational data under the sometimes mistaken assertion that providing the information would be “in violation of FERPA.” Many states also have their own privacy laws that restrict the collection, sharing and use of data. To maximize the power of longitudinal data, privacy policies need to be updated to clarify

appropriate uses of data.⁹ Chryst Dougherty's chapter in this volume provides detailed analysis of this topic.

Build Capacity to Use Data

The DQC partners believe that every state will have in place, or have a timeline for having in place, the foundational elements of a comprehensive longitudinal data system by 2009. This is an extraordinary accomplishment given the political will, technical expertise, and resources required to build these systems. The real work is just beginning, however. For these data systems to improve student achievement, policymakers and practitioners need to focus on the next generation issue of building capacity throughout the education system to analyze, access, and use data.

Improve Staff and Organizational Capacity within Education Agencies. Until recently, the state role has been to serve as a conduit of data between local and federal data systems. No Child Left Behind and the rise of state longitudinal data systems have given state education agencies a central role in the collection and dissemination of data. Most agencies, however, have not updated their structure, staffing, or resources to support these growing data demands. Often, the same handful of agency staff that previously had only to report data to the federal government for compliance purposes are now being asked also to calculate and report accountability data for NCLB, as well as to fulfill data requests from advocacy organizations at all levels, the media, parents, legislators and researchers. The increased focus on data systems provides an opportunity for state education agencies to reinvent their roles. State agencies should ensure access to data; provide analytical tools for using the data; develop professional training around data use; promote the development of interoperable systems (making sure all the nozzles on the hoses can fit all of the hydrants, no matter the town); and support local districts in their data efforts. Doing these will require the political will to support new funding, to negotiate new staff roles and responsibilities (not only within the agency, but in relation to districts and other stakeholders), and to reorient the mission of the agency from that of regulator to that of service provider.

Outside investments — from foundation grants and the federal government (including the \$115 million in grants made to 27 states since 2005 through the Institute of Education Sciences at the U.S. Department of Education) — are spurring state action in building longitudinal data systems

much faster than they would have otherwise. These investments do not cover the full cost of the data systems, nor should they. Few state legislatures have funded longitudinal data systems to be a sustainable part of the state's infrastructure because they haven't been convinced that ongoing funding is a valuable investment. Education agencies need to continuously demonstrate the value their data provides to every stakeholder. For example, the Florida Department of Education is now providing data analysis and reports tailored to each legislator's district to demonstrate the power of having access to longitudinal data.

Improve Coordination between Education Data Systems at the State and Local Levels. The majority of the nation's 14,200 school districts are small and lack the capacity to develop and maintain a data system that does anything more than generate mandated data reports. However, many large districts have had more developed data systems than their state due to greater budgets and staff capacity and the *de facto* role of the district as the "owner" of data. Efforts to build state longitudinal data systems must take care not to undermine the established, productive district systems. States can learn from and partner with those districts furthest ahead with data systems, while also providing services and support for those smaller or less sophisticated districts.

State education agency staff say that district personnel who might have been reluctant to share their data with the state have been won over by the analyses and reports that the state's data portals and tools make possible. For example, Massachusetts has developed a state warehouse and is allowing districts to store within it not only data they report to the state, but also district-specific data. In Ohio, a state-sponsored pilot program gives educators access to data on student learning gaps identified by state tests, and then guides the teachers to educational resources and teaching tools targeted to the individual student's needs.¹⁰ Some of the technical challenges for states and districts working together are to ensure common data definitions (e.g., What is retention?); to standardize the way data should be formatted, coded, and stored; and to determine how and when the data should be transferred to the state education agency. The Virginia Department of Education has bought memberships for each of its school districts in the Schools Interoperability Framework Association (SIFA) and funds SIFA-certified software for its districts so that the state and local districts are all working from the same data architecture as they build their interoperable data systems.

Clarify Data Governance. Control of and access to data are a proxy for power. Hence issues surrounding data governance and the relationships between data systems (Who owns the data? Where do they reside? Who gets to have access to it? What can they be used for?) are ultimately decisions about the roles and responsibilities of players from different functional areas. These questions rarely had to be dealt with in the past because data were only used for compliance reporting. Now that there is a premium on using quality data to make high-stake decisions about accountability, resource allocation, and personnel—deciding who ultimately controls access to the data is critical.

This governance conversation is being played out in every state developing mechanisms to share data among the K-12 and postsecondary data and workforce systems. The K-12 systems usually rely on a unique student identifier, while higher education and labor data systems generally use social security numbers. Governance conversations are touching on issues such as which unique identifier will be used and how, in which agency's warehouse the matching will take place, and how research processes and results that use this matched data will be reviewed and monitored.

Clarifying data governance and the roles of the people, processes, and technology that govern data collection and use will improve data quality as all departments will use the same definitions and standards; increase data timeliness as data requests are processed more efficiently under a single set of business processes; and improve alignment between educational initiatives across departments under a shared data management strategy. As data are increasingly shared across states, agencies, districts, and K-12 and postsecondary sectors, common policies help to ensure data quality and make it easier to use that merged data to inform decisions.

Build the Capacity of All Stakeholders to Analyze, Understand and Use Data. If we are to increase the usage of these newly available data, ongoing professional development is essential for all those charged with collecting, storing, analyzing and using the data. The local school person who inputs course grades needs to understand how his/her work fits into the broader data system, the principal needs to understand how data can affect daily school management, and policymakers need to understand how their decisions can be enhanced by high-quality data. The Kansas State Department of Education has developed a Data Quality Curriculum and Certification program for school-level staff, which shifts the emphasis toward quality at the point of data entry rather than

relying on the state to monitor and correct data. Culture change around data use depends on training for data managers and users that teaches all to be active consumers of the longitudinal data system.

In particular, until school-level stakeholders—teachers, administrators, students and parents—embrace the use of data, we are at risk of building a field of dreams. The developers and promoters of data systems need to demonstrate that using data to inform decisions about teacher placements, curriculum selection, and resource allocation will improve the performance of schools and of individual teachers and students. Teachers and principals feel so much pressure to meet new outcome requirements that they often cannot handle thinking about “another change.” As with the state agencies that were neither created nor staffed to deal with longitudinal data systems, most schools are not currently positioned to think about infusing data into their standard operating processes. Finalists in competitions for the Broad Prize and the Baldrige Award, as well as other successful schools and systems, have taken specific steps to integrate data into their instructional and management processes. These include offering training on data use, ensuring access to data in a timely manner, embracing organization-wide measurable goals, and being transparent about progress. There is growing momentum to study and share best practices. This shift beyond anecdotes is crucial to taking effective practices to scale.

Realizing the Dreams

To meet our goal of preparing each child for the demands of an increasingly competitive, knowledge-based global economy, it is not enough to build state and local longitudinal data systems that generate data to satisfy compliance and accountability reporting requirements. Just as the American economy will increasingly rely on its ability to turn raw data into knowledge that informs continuous improvement, so too must the education sector realize the power of data to improve decision making, and ultimately, student achievement. As information continues to flatten the world, education leaders also must be prepared to embrace the power of data .

This central belief that data are critical to improving student achievement was the cornerstone laid by the founding partners of the Data Quality Campaign. Governors, chief state school officers, and business leaders know that without more useful data, we will continue to produce inadequate results.

But while state policymakers for the most part understand the need to invest in building these systems, very real challenges remain.

Making data readily available, easily understood, and widely used has the effect of decentralizing the power that the education “system” once monopolized. While this growing access to and use of data empowers stakeholders, it can also be seen as a direct threat to the status quo and those who fear change, as is seen in the following examples:

- Teachers unions in New York successfully lobbied to defeat a bill in the state legislature in April 2008 that would have tied a teachers’ receipt of tenure to the academic performance of his/her students. This incident demonstrates the challenge of changing how we recognize, reward and improve the teaching force now that we have access to student-level information.
- Postsecondary institutions, particularly independent and private ones, are wary of greater access to and use of data about their processes and outcomes. Broader use of data would open the door to an accountability discussion that higher education has, to date, skirted. Forward-thinking institutions and systems, such as the colleges of education in Louisiana and Texas, however, have welcomed studies that highlight which of their institutions are producing the teachers with the greatest impact on student achievement. The colleges of education are using that data to distinguish effective practices and promote them.
- The ambiguity that abounds due to conflicting legal interpretations of FERPA continues to have a chilling effect on data sharing and use. This is a case in which federal leadership is required to provide clear national guidelines that would widen access to information.
- Most stakeholders tasked with changing their operating procedures and daily routines to include data use have little incentive to take risks and venture into new territory. Managers and teachers need to be given the authority to make changes based on what that data tells them about the best allocation of time, money, and personnel. Only then will real change occur—what we truly mean by data-driven decision making.

To move beyond building longitudinal data systems to *using* them, we must build political will, consensus, and capacity beyond the policymaker

community and throughout the education sector to collect, share, and provide access to quality and timely data. Self-interest is key to the success and sustainability of this effort. If the users of data systems don't see the value this data provides, then our infrastructure investments have been squandered. Private foundations' and the federal government's venture capital to build these data systems must continue until we have produced enough proof points to convince state legislators, teachers, administrators, parents, and students that they cannot do their jobs without the information provided by these systems. Only then will our systems be successful and sustainable. *Build it and they will come?* Stakeholders—policymakers, parents, students, researchers, teachers, school system leaders—are beginning to hear the whispers. To transform our education sector into one driven by information, we must make true believers of the users of these data systems, which will only happen through their own first-hand experiences that *using data* does actually improve processes, performance and ultimately, individual student achievement.

Endnotes

- 1 These data were collected from the National Center for Educational Achievement/DQC survey administered to each state education agency in September 2007. Results for 2008 will be available in November 2008. For more information on the survey and for specific state results, visit <http://www.DataQualityCampaign.org>.
- 2 These 36 states are able to calculate the longitudinal graduation rate agreed to in the 2005 National Governors Association compact. Since it takes at least five years of data to calculate this, it will be a few years before many states actually have enough data to do the calculation.
- 3 Guidera, Aimee R. "The Data Quality Campaign at Year Two: Update on 2007 Survey Results." Data Quality Campaign, November 2007.
- 4 Smith, Susan , Deborah Staub, Mary Myslewicz, and Elizabeth Laird. "Linking Education and Social Services Data to Improve Child Welfare." Data Quality Campaign, October 2007.
- 5 Wanker, William. Email correspondence with Aimee Guidera. April 2008.
- 6 Steiny, Julia and Nancy J. Smith, "Reporting and Analysis tools: Helping Mine Education Data for Information Riches." Data Quality Campaign, September 2007.
- 7 Guidera, Aimee R. "The Data Quality Campaign at Year Two: Update on 2007 Survey Results." Data Quality Campaign, November 2007.
- 8 Taylor Robin. Phone interview with Aimee Guidera. April 2008.
- 9 For more detailed information on privacy laws, FERPA and state longitudinal data systems, please visit the DQC website at http://www.dataqualitycampaign.org/policy_implication/ferpa.cfm.
- 10 Laird, Elizabeth. "Data Use Drives School and District Improvement." Data Quality Campaign, September 2006.