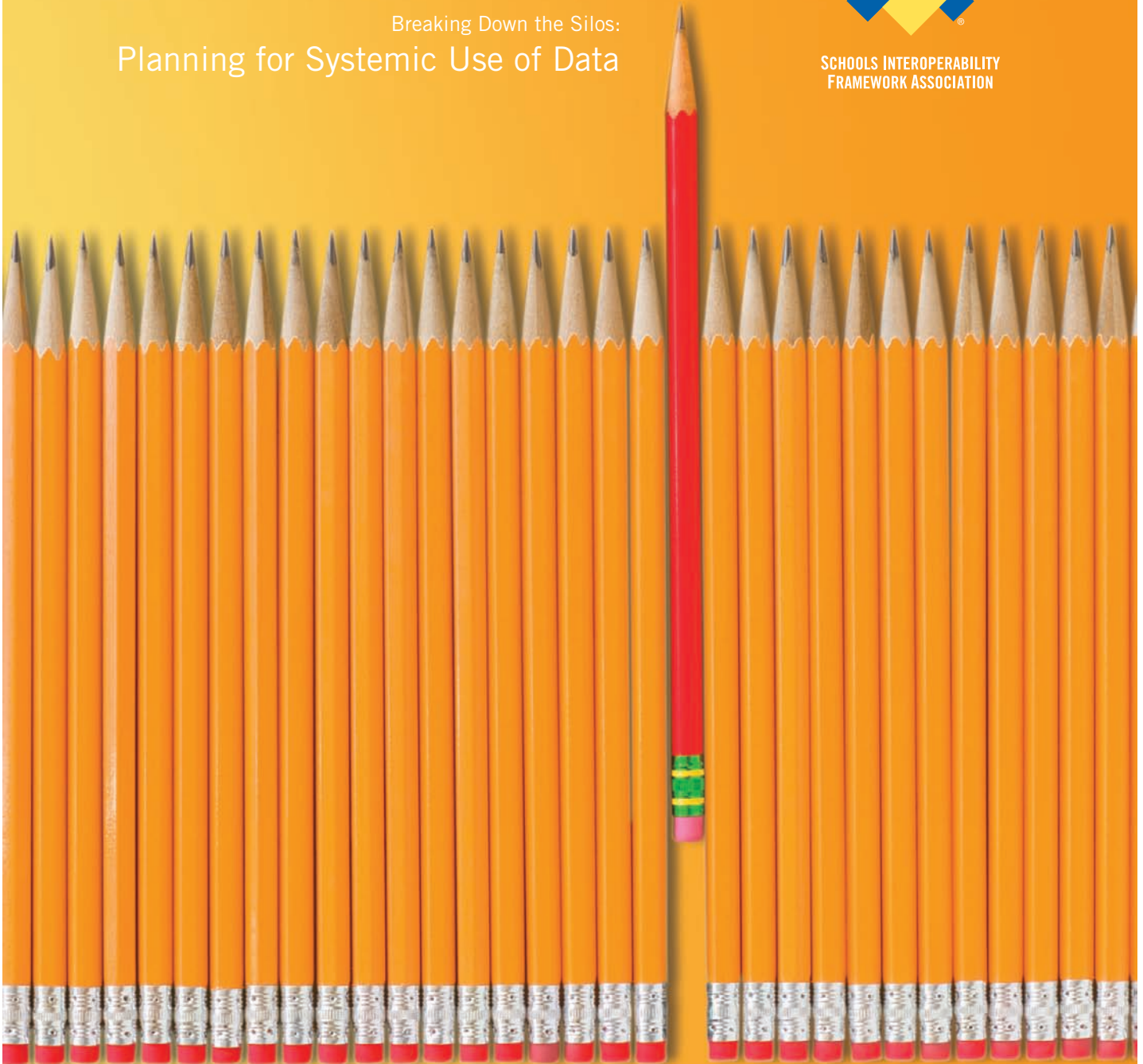


Breaking Down the Silos:  
Planning for Systemic Use of Data



SCHOOLS INTEROPERABILITY  
FRAMEWORK ASSOCIATION



a report from the 2008 data and learning summit



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“There is a need and interest to address the symbiosis, the interdependency and relationship between data usage, teaching and learning and accountability.”

**DR. PRISCILLA MAYNOR**  
Executive Director  
*North Carolina Department  
of Education*



## overview

The 2008 Data and Learning Summit took place January 16-18 in Reston, Virginia. The intent of the Summit was to bring together state and district leaders in different departments and begin the conversation of how to use data strategically and systemically across the organizations and states.

The overarching goals included:

1. To share best practices among states.
2. To provide a time for structured, strategic dialogue among state leaders.
3. To develop strategies for effective statewide data utilization.
4. To establish ongoing mechanisms for best practice sharing and follow-up.
5. To create an action plan for implementation to begin breaking down barriers.
6. To offer seldom available professional development time among co-workers with common mission/vision.

Over the past several years, much attention has been focused on data driven decision making. This has taken various forms including the development of statewide longitudinal data systems, building data warehouses, providing accountability data and implementing more types of assessments to measure where students are learning towards the learning standards and where improvements need to be made. This has led to the condition of data rich and information poor. There has never been a time where more data is available to educators at all levels of the educational system; however, these data are often unused or misinterpreted.

It is widely agreed upon that to most appropriately impact the teaching and learning process you need the highest quality and timely data available to inform the work of students, teachers, administrators, parents and policy makers. It is also widely agreed upon that from the local level through state departments of education, various aspects of this data access and utilization are owned by different silos of operations - many times never coming together for needed integration. One could look at the most technological advanced state departments of education and see some of these silos either under direct report of shared supervisors or with formalized communications with each other - but that is rare among U.S. states.

All information in this report was gathered at the Data and Learning Summit from the expert panelists, state team participants and partners and sponsoring organizations.



## panelists

State teams consisted of representatives from the offices of the chief, assessment, curriculum, education technology, CIO, P20, data and LEA representation. Each of these team members brought expertise to broaden the conversation. In addition, hosting organizations and sponsors participated in all sessions adding national expertise.

A Pre-Summit meeting occurred to provide context and to stimulate thinking prior to the two and a half day face-to-face meeting. The actual Summit consisted of panels of experts in each of the areas of assessment, curriculum, data reporting, education technology, P20 and using data for transformation. These panels were forward thinking and structured to generate conversation, leveraging the collective knowledge of those in attendance.

Following each panel, state teams were given the opportunity to dialogue as a team, ask the experts questions and develop an action plan. In addition, cross-collaborative conversations were structured so those with similar areas of responsibility had a time to discuss successes, solutions and challenges. A Post-Summit meeting was held to further delve into using assessment data to inform instruction.

**MEREDITH BICKELL**  
Wyoming Department of Education, P20

**JIM BOARDMAN**  
Arkansas Department of Education, Curriculum

**DAVIS BROCK**  
Elmore County Schools, Curriculum

**BETHANN CANADA**  
Virginia Department of Education, Data Reporting

**COREY CHATIS**  
Tennessee Department of Education, Data Reporting

**DOUG CHRISTENSEN**  
Nebraska Department of Education, Assessment

**BRIAN FARMER**  
Pearson, Data Reporting

**SHARNELL JACKSON**  
Chicago Public Schools, Curriculum and Using Data for Transformation

**TIM MAGNER**  
US Department of Education, Welcome

**SEAN MCDONOUGH**  
Pennsylvania Department of Education, Using Data for Transformation

**KEN MEYER**  
Digital Bridge, Keynote

**BOB MOORE**  
Blue Valley USD #229, Using Data for Transformation

**JACQUELINE NUNN**  
Johns Hopkins University, Education Technology

**CHRIS O'NEAL**  
University of Virginia, Education Technology

**TOM OLSON**  
South Carolina Department of Education, P20

**SEAN PALMER**  
Pearson, Data Reporting

**ED ROEBER**  
Michigan State University, formerly with the Michigan Department of Education, Assessment

**WYNN SMITH**  
Wilson County Schools, formerly with the North Carolina Department of Education, Education Technology

**DAVID WALSH**  
New York State Education Department, P20

“At various organizational levels, expanded assessment reports (for example, information about curricular strands and objectives, performance of subgroups of students on specific objectives) are essential to plan for program changes.”

**JO ANNE ANDERSON**  
*Accountability in Education.*



## assessment

As you begin to think about how longitudinal assessment data impacts the teaching and learning process, consider the following:

- What policies do you need to consider in implementing your programs?
- What are some of the biggest lessons learned that you can modify?
- What are some potential risks that you can mitigate?
- What are your next steps?
- What communication mechanisms are important in designing and involving these various groups?
- How can formative assessment play a role in the use of data at the state and district level?

More data about assessments exist than ever before. These data cover high stakes summative assessments to formative assessments. The challenges in using assessment data involve forming the appropriate questions as to what you want to know as well as what data accurately provides that answer. Using the data in the right context, or the story behind the numbers, is critical to getting the right answers to your questions.



## CASE STUDIES

### Michigan Department of Education

The Michigan Department of Education focuses on providing appropriate assessment data to the school districts and in the use of appropriate assessment data at the state level.

Uses of state assessment data at the state level include 1) providing technical information needed to assure adequacy of the assessments on a continuing basis, 2) supplying information useful about the achievement of students to parents about student progress, public for school performance and progress, school administrators for school performance and progress and educators for curriculum review and planning, 3) gauging the status and progress of student learning and school performance (growth) for school accreditation, and 4) prioritizing schools for technical assistance from MDE required by NCLB by providing data to others within the Department.

State assessment data can also be utilized at the local district level. These uses include 1) at the school level using assessment results to review and improve the school's instructional program across grades to assure a horizontally and vertically articulated instructional program, examining the performance of sub-groups of students and grouping students according to instructional needs, 2) at a district level providing data and information to school boards and administrators in order to gauge school performances and progress and prioritize assistance efforts and reporting assessment results and improvement efforts to the public.

When building data systems to support assessments, several challenges need addressing. First, multiple state agencies are involved with assessment and data systems including education, management and budget, treasury and information technology. Second, resources may not be available to build elaborate data systems. Next, a variety of users rely on quick and secure access to the assessment information. Sometimes there is a conflict between users and providers as the users want data as soon as it is ready in draft form, while providers and LEAs are still making sure that the data is accurate. Fourth, no longitudinal record exists for student information. Each assessment cycle is a separate set of records. Next, the assessment cycle data is stored and reported in separate locations, making public access difficult. The format of the data varies among the assessment programs. Finally, secondary users face serious issues in gaining access to data files with student identification information on them. This reduces the use of information by secondary users. A critical component to addressing these challenges relies on establishing sound policies.

What is Michigan doing to address these issues? At the state level, cross-sectional data is available to school districts. The University of Arkansas assisted the state to create the Michigan Education Performance Report which includes student achievement, student outcomes, school and district fiscal information and school and district human resource information. At a district level, several school districts and regional centers have built data warehouses locally. In addition, a consortium of regional centers, the University of Arkansas and others have assisted the districts in developing a number of data analysis tools to examine the student achievement and outcomes and school and district financial and human resources data. Finally, the goal of the Title II-D program centers on building resources the state can provide to all school districts in the future. This requires the identification of local district needs and working relationships between the state agencies.

#### Lessons learned:

1. Develop good working relationships with universities as they can provide much-needed technical assistance at little or no cost.
2. Balance legitimate privacy concerns with concern about lack of use of the information.

3. Data systems are needed at the state level to provide accurate individual student identification information, provide longitudinal data on students pK-16 and use analysis tools, both database and statistical, to provide information that is needed at the state level.
4. Data systems are needed at the local district level to provide longitudinal data on students and provide analysis tools to garner the information needed by districts.

### Nebraska Department of Education

The Nebraska Department of Education takes a unique approach to accountability and assessment. First, focus on standards, assessments and accountability that are statewide in scope, local in definition. Next, give your energy and direction towards school improvement. Finally, make the standards matter.

Assessments should be school and classroom based. Make the assessments where the point of instruction is focused. The Nebraska assessments for accountability are not large scale, external to the system or the end of instruction. Each school district chooses which assessment instrument will be used. The department of education then focuses on school improvement. By encouraging assessment and not testing, the focus can be on teaching and learning and not on testing and test scores. A key component includes measuring at the point of instruction not at the end and through the formative use of the data; the student and classroom take the center of the conversation.

The Nebraska Department of Education looks at the question, do we want LEA's to be held accountable or do we want LEA's to be accountable? The STARS System - School-based, teacher-led, assessment and reporting system drive the continuous improvement process. Everything, from planning, creation, delivery, evaluation, concentrates on a standards-based classroom and with the end in mind. Content is never the outcome but instead a vehicle to the outcome. Assessment is seldom an event, but integrated into instruction. The self-assessment then becomes a student learning a skill. Students take responsibility for their own learning and they can determine what and how well they are learning. Standards provide the framework for conversations with all stakeholders - teacher/student, student/parent/parent/teacher, teacher/teacher, teacher/administrator.

In addition, a series of asking the right questions provide the schools and districts to focus on what to assess and then use the data to impact the instructional process. Look at not what's the score but who is learning and what are they learning? Who is not learning and what is it they are not learning? What are you going to do about it? These questions then drive the continuous school improvement plan. You can't have continuous school improvement without data about every student and each standard.

#### Lessons learned:

1. This is harder than we ever thought it would be.
2. This is culture change - technical change is easy, adaptive change is hard. Culture change is really hard but priceless.
3. Learning comes from doing the work.
4. Ownership comes from engagement in the work.

#### Resources

California Comprehensive Center (2006). *Data-Driven Decision Making Based on Curriculum-Embedded Assessment: Findings from Recent California Studies*.

Murnane, R, Sharkey, N. & Boudett, K. (2005). *Using Student-Assessment Results to Improve Instruction: Lessons from a Workshop*. *Journal of Education for Students Placed at Risk*, 10(3).

*Presentation from the Data and Learning Summit.*

[http://www.sifinfo.org/upload/presentations/BACD24\\_assessment.pps](http://www.sifinfo.org/upload/presentations/BACD24_assessment.pps)

“Making decisions based on data is a little like being a detective. Good data analysis requires asking lots of questions, uncovering more and more information, and revisiting hypotheses along the way until a complete picture, supported by facts, unfolds.”

American Association Of School Administrators, *Using Data To Improve Schools: What's Working*.



## curriculum

As your organization explores the use of data to impact curriculum, consider these questions:

- How are the stakeholders identified and brought into the conversation?
- How, specifically, is the data analysis and transfer being addressed between the state and districts?
- How can you begin to write and inform policy around data analysis & reporting?
- How can you support aligning district instructional management and other data systems with the state longitudinal data system?
- How can data be an asset to collaborative school reform or student achievement?

Finding and using the right data to inform curriculum can be difficult. Knowing the sources from which to harvest the data and information presents one side of the feat. Another includes the vast constantly changing learning and performance standards across the United States. There is limited quality control on the content and resources to support the learning and performance standards. Once the curriculum has been developed, the matter of management in planning instruction arises. After the careful use of data and creation of curriculum, ensuring this translates to the classroom may not occur.

One way that data systems can assist in this is to provide teachers access to the data that informs instructional decisions. These data should be available in order to inform the curriculum to the various assessments a student has taken for targeted instruction. In addition, developing a comprehensive approach to the collection and use of data around curriculum, teaching and learning brings all stakeholders into the process and generates alignment vertically within the organization.



## CASE STUDIES

### Elmore County Schools, Alabama

Elmore County Schools is located in Wetumpka, AL just north of the capital, Montgomery, AL. It is the tenth largest district in Alabama with 1200 staff and 10,800 students. The district is comprised of 15 schools and 10 ancillary sites. The district is growing at the rate of an additional 250 students per year. The annual budget is \$125 million. Elmore County Schools is the 10th largest school district in Alabama out of 136 and 134th in local funding.

As the district began the Data Drive Decision Making Project (D3M), several challenges were outlined. First, a desire to develop measurable academic goals existed. Second, there was a need to provide focused interventions at all levels. Finally, decisions were being made, including curriculum, funding and technology, without the use of data. Before moving down the path of D3M, the district randomly searched for targets and experienced random acts of improvement. Based on these challenges and needs, an essential question emerged. How do we respond when we have evidence that our students are not achieving?

A clear distinction between NCLB and D3M was delineated. NCLB focuses primarily on end-of-year summative data and the desire for D3M was to generate a systemic process of relating student information, instructional practice, professional development and leadership. NCLB does not address the bigger picture of the D3M vision.

In moving towards answering the essential question and implementing D3M, Elmore County Schools provided staff development by working with consultants to help define, design and implement an entire program, engaging all stakeholders. Several courses were created and professional development began simultaneously as the creation of the data warehouse. Professional development included topics such as what is D3M, accountability mandates, multiple measures of data, data transparency and safety, use of data, developing goals, data driven leadership, use of formative assessments and root-cause analysis.

In the use of formative assessments, the Elmore County Schools began looking at how to assess students, aligning the curriculum across the district, moving teachers to teaching the standards and purchasing an assessment product.

As of August, 2006, all staff has been trained in D3M. In addition, formative assessments have been given in grades 3-8 in mathematics and reading. Additionally, in grades 9-11, formative assessment was used in all four core areas (mathematics, language arts, science and social studies). This powerful data, combined with testing, attendance, school climate and demographic data, changes the way teachers are teaching, students are learning and curriculum is developed.

### Chicago Public Schools, Illinois

Chicago Public Schools is divided into 24 areas with over 600 schools, 25,000 teachers and 400,000 students. It is the third largest school district in the nation.

In order to address the varied challenges of a large, urban school district, the IMPACT model was created. This model focuses on curriculum and instructional management, specialized services management, student information management and verification of data.

Focusing on Curriculum Instructional Management (CIM), school-wide benchmark assessments are given. These results are aggregated at the district level for analysis and use in guiding decision making. At a school level, the align module provides item analysis data around this and other assessment data. This analysis of the data includes the standard that is assessed, possible points, correct response and data for each student as to their response and whether it was answered correctly.

This data provides some of the baseline data that is obtained for the data cycle model implemented in Chicago Public Schools. First, good baseline data is gathered. Then an analytical discussion occurs looking at the data and making planned adjustments to curriculum and lessons. Then the teaching occurs focusing on improvements in teaching and instructional strategies. Finally, formative assessments are administered. The cycle consistently repeats ensuring a cycle of focused improvement. All of this data and information informs measurable instructional goals.

Also embedded in the CIM model is publishers digital content. This content aligns to learning and performance standards and can be assigned to students based upon individual needs and interests. The digital content also consists of lesson plans resources, playlists, essential questions, rubrics, quizzes and online learning and professional development for staff. Important stakeholders to incorporate in digital content awareness, decisions and policies include curriculum leaders, technology leaders and policy makers at all levels.

Providing a comprehensive picture of professional development, multiple measures of data and a substantive curriculum instructional management, has afforded teachers, students and other education stakeholders in Chicago Public Schools information and resources to improve academic achievement.

### Resources

American Association of School Administrators (2002). *Using Data to Improve Schools: What's Working*. Arlington, VA:Author.

Earl, L. & Fullan, M. (2003). *Using Data in Leadership for Learning*. Cambridge Journal of Education, 33(3).

Halverson, R., Grigg, J., Prichett, R. & Thomas C. (2005). *The New Instructional Leadership: Creating Data-Driven Instructional Systems in Schools*. Paper prepared for the Annual Meeting of the National Council of Professors of Educational Administrations. Retrieved: June 6, 2008. <http://www.academicmiccolab.org/resources/documents/HalversonGriggPrichettThomas%20NCPEA.pdf>

Presentation from the Data and Learning Summit. [http://www.sifinfo.org/upload/presentations/F2E9AD\\_curriculum.pps](http://www.sifinfo.org/upload/presentations/F2E9AD_curriculum.pps)

Using the data in the right context, or the story behind the numbers, is critical to getting the right answers to your questions.



## data reporting

When building the longitudinal data system there are several things to mull over.

1. Think about user friendly navigation for data entry and data reporting.
2. Determining the focus of control for reporting plays a role in the process.
3. Customize the different views of data – including disaggregation.
4. Create an internal messaging system with the reporting tool to notify users of reports.
5. Build parent portals with simplified views.
6. Generate metadata components to ensure users understand what the calculations mean.
7. Build reporting tools that are customized to education and aligned with NCES data definitions.
8. Increase collaboration on query creation.
9. Compare data based on similar demographic characteristics.
10. Generate audit reports on the usage of reports, and which functions are used most.

Data reporting comes in many forms. In the current education marketplace, one often thinks first of accountability reporting for *No Child Left Behind*. This is a reality and one that needs attention. Other forms of data reporting include report cards to benchmarking data for improving and aligning curriculum to attendance. With each type of data reporting it is important to consider the needs of all stakeholders.

Reflect on these additional questions:

- What are some of the drivers of change for beginning the conversation around systemic data reporting?
- How can you address these drivers?
- How can you begin to write and inform policy around data reporting?
- Who are some of the individuals involved in planning policy and how can you get them to take part?
- How can you provide guidance to LEAs?
- How does a focus on data reporting impact data quality?

## CASE STUDIES

### Tennessee Department of Education

The Tennessee Department of Education received a longitudinal data system (LDS) grant in November of 2005. The first phase of the grant focused on data management and the infrastructure. As a part of this phase, data managers were identified and a Data Management Committee was established. The construction of the data warehouse began in October 2006. To date, the completed subject areas include exit status, assessment, attendance, truancy, discipline, teachers and course enrollment. Building the longitudinal data system in Tennessee created several opportunities for the state department of education.

First, it provided a process for engaging SEA program areas in report creation out of the warehouse. The SEA data managers that were identified became involved in the process of defining reports out of the LDS. The first step included meeting with program area staff to explain the warehouse project, scope and goals. Next, an identification and focus was placed on generating questions from the program areas as to questions they wanted to answer but currently could not. After the questions were identified, data contents and structure validation with the program areas occurred. After validation, the initial group of reports was defined, draft reports were created and validation transpired. Training proved invaluable with staff on the warehouse and reports. An iterative process allows the Tennessee Department of Education to consistently update and validate the reports and ensure questions identified are being answered.

Next, new reports for SEA program areas were generated. The new reports generated for program areas include teacher licensure and automating Highly Qualified Teacher state and federal reporting. In addition, reports implementing Tennessee's truancy definitions at the student level. Another report includes graduation rate and the use of the National Governor's Association Graduation Rate. Cohort reports will be preceding the first official rate in 2009-2010. Finally, significant new data auditing power across areas have been capable. For example, ready comparisons across districts to flag outliers and changes in data coding within a district over time are now possible.

Finally, the Tennessee Department of Education leveraged the reporting power of the longitudinal data system and provides districts resources to better educate students. A focus placed on digging deeper into the data and shifting from compliance to performance reporting has been garnered. Focusing on an inclusive view of the relationships among data and the power of student-level data allows powerful decisions to be made. This shift from reactive to proactive analysis of data provides opportunities to identify and report leading indicators as well as serve as a resource for district improvement planning.

### Virginia Department of Education

The State of Virginia contains 132 school divisions ranging in student population from 303 students to 163,971 students. Strong local control prevails yet a strong collaboration has been fostered between the divisions and state.

The Virginia Department of Education began building a longitudinal data system in 2003. There is student-level record collection and unique identifiers have been assigned. This is the 8th year of the state-level assessments housed in the data warehouse and there are over 17 million records. A strong focus has been placed on training in using data for effective decision support. The LDS has been built on SIF and the interoperability reduces the data burden for divisions and the state. In 2007, the Virginia Department of Education received a LDS grant to expand the system.

With four years of a longitudinal data system, Virginia sees many benefits. First there has been an integration of aggregate data collections and there are fewer data requests to divisions. In addition, data quality, including student demographics, state assessment results and teacher information, has improved and the data is more current. Finally, the divisions experience savings with the implementation of the LDS. This has come about from the consolidation of reports, SIF interoperability and access to the data warehouse.

One key component to focus on when considering policy is to discover if there are state laws preventing the release or merging of data among agencies. In addition, make determinations about what data will be released and to whom. Finally, determine what agreement is needed between the data provider and the recipient.

When creating data use agreements, reflect on the following questions, 1) What is the objective of the research/analysis?, 2) Why are personally-identifiable records required?, 3) What limitations are placed on disclosure?, 4) Who owns the resulting work?, 5) How will the data be protected?, 6) How will the data be retained/disposed? and 7) Who will have access to the data and are they aware of their responsibilities?

In the use of longitudinal data, the Virginia Department of Education has uncovered some insight and information. With longitudinal data you can analyze teacher and student mobility, provide teachers with their students' historical performance and their personal teaching performance, provide schools of education information on the performance of their graduates in the classroom, analyze the characteristics of successful and at-risk students, evaluate the effectiveness of state funded intervention programs and provide feedback to high schools on the postsecondary performance of their graduates.

Also, SES providers can be evaluated. A match of students who used SES providers to those that did not, can be compared using data such as similar past performance and similar demographic characteristics, and compare year-to-year performance on state assessments. For the first time, based on individual data, teacher retention rates can be determined. The estimated 4-year graduation rate, based on the National Governor's Association, for all NCLB subgroups can be concluded. A pre-K study for early reading intervention analysis can compare 3rd graders who were in public pre-K four years early. Comparisons can be drawn with performance of similar students. The final study conducted, includes LEP. Student assessment results, student demographics and postsecondary enrollment data have been gathered and studied and provide some information about graduates and predictive performance. All of these studies require longitudinal data.

### Resources

Stein, M. (2003). *Making Sense of the Data: Overview of the K-12 data Management and Analysis Market*. Eduventures Publication.

NCREL Policy Brief (2004). *State Education Data Systems that Increase Learning and Improve Accountability*.  
<http://www2.learningpt.org/catalog/item.asp?SessionID=307846926&productID=144>

Data Quality Campaign (2007). *The Right Data to the Right People at the Right Time: How Interoperable Data Helps America's Students Succeed*.  
[http://dataqualitycampaign.org/file\\_viewer.cfm?itemID=214](http://dataqualitycampaign.org/file_viewer.cfm?itemID=214)

“Because we value education, we should measure it. We owe it to all teachers, children, and the community, as well as ourselves, to continue to document the impact of media and technology programs on teaching, learning, and, ultimately, student achievement.”

IMPACT: Guidelines for Media and Technology Programs in North Carolina.



## education technology

Consider the following in approaching the use of education technology and data:

- How can you leverage federal funds to bring data into the classroom?
- What and where are the leverage points (i.e.- accountability, assessment, teacher quality, student achievement, etc.)?
- How can professional development for data analysis be addressed?
- What policies need to be considered around data analysis & reporting?
- What arguments can be made to federal legislators to ensure their support of the effective use of data and technology in the classroom?
- What are the conditions of success that you need to develop?

In looking towards the big picture of data and the use in education technology, one needs to incorporate various sources of data. These data are generated from student performance, attendance, demographics, graduation rates, teacher teaming, time management, principals' access to professional development, board mandates, program information and outside interpretations to name a few.

Determining key questions to drive the appropriate collection ensures the appropriate data are used in the appropriate circumstances. What is it about data that I need to know? Does my group/audience understand what quality decision making really is? Are our decision makers making misinformed decisions? How has federal funding systemically brought together multiple divisions of the SEA, collected data and used this data to impact change in the classroom?

By asking the right questions, collecting the right data and using education technology in reporting, analysis, assessment and instruction, a systemic approach to data use can be achieved.



## CASE STUDIES

### Johns Hopkins University Center for Technology in Education

The Center for Technology in Education (CTE) is a partnership of the Johns Hopkins University (JHU) and the Maryland State Department of Education (MSDE). The CTE was founded to combine the research and teaching expertise of JHU and the leadership and policy support of MSDE to improve student outcomes through teaching, research, and leadership in the use of technology. The CTE works closely with MSDE on the Maryland Longitudinal Data System through an IES Cooperative Agreement. CTE's role in this agreement is to: 1) conduct the external stakeholders needs assessment; 2) facilitate the development of the data collection and reporting system for students with disabilities, including an electronic Individualized Education Plan (IEP) and Individualized Family Services Plan (IFSP); 3) design and build a web-based portal, coupled with business intelligence tools; and, 4) deliver high quality professional development programs.

An essential element in developing the Maryland Longitudinal Data System (MDLS) was to take the interests, needs, and concerns of potential end users into account. CTE assessed the needs of more than 700 education professionals representing 37 different stakeholder groups through 61 information-gathering sessions.

The purpose of these sessions was to determine what questions end users would like to be able to answer using a LDS, ascertain how end users would like to use a LDS to make decisions that result in better programs and improved student outcomes, identify special considerations and issues that need to be addressed and define what supports need to be in place. Two highlights from the conclusions of the needs assessment include that the greatest perceived value of a LDS is to study the effectiveness of interventions targeting specific student populations and the need for web-based tools and professional development programs.

One effort focused on the use of education technology and providing data to teachers involves the Maryland Online IEP. This online database and statewide process are for improving services for students with disabilities. A promising practice emerging involves the process of defining the issue with the use of data, identifying evidence-based practices, developing a vision, meeting through team-based interventions and embedding procedural facilitators.

Another effort between Johns Hopkins University and the Maryland Department of Education is the state curriculum browser. This tool presents teachers with professional development resources and various instructional strategies. Future features and functionalities incorporate a web portal with online professional development, empowerment evaluation and scientific research.

### North Carolina Department of Education

With competitive Title II-D funding, North Carolina set out to implement a model and study schools that had been immersed with technology. The IMPACT Model provides guidance on implementation, change management, teaching and learning, professional development, information access and delivery, program administration, system level guidelines and research and evaluation. Policies require that 25% of the grant funds be spent on professional development. The other 75% can be used for hardware, software, personnel, or other technology-related purposes. Additional North Carolina requirements consisted of participation in an external evaluation conducted by NC State University - Friday Institute, annual week-long academies, hiring a technology facilitator, sustaining a full-time media coordinator and a school-wide focus on flexible access to both computer labs and media centers in combination with collaborative planning.

Formative assessment training incorporated summer academies, quarterly meetings, monthly site visits by instructional technology consultants and site visits as requested. The initial baseline data collected included information from the IMPACT rubric and the School Technology Needs Assessment. Next, a school plan was developed. Data gathered to inform this plan included total cost of ownership, rubrics, surveys, end of grade and end of course tests, annual media and technology report, output measures and a survey called Looking for Technology Integration. Once the plan had initially been implemented, data was continuously collected, interpreted, reported, presented, communicated and the core for decision making.

In the ongoing implementation of the IMPACT Model in schools, a need for practicality around data issues exists. Getting to a better place with data at the state and district level through using the bigger picture definition of data, creating a culture and readiness and using data informed decisions at each step is crucial.

#### Resources

Wayman, J. (2005). *Involving Teachers in Data-Driven Decision Making; Using Computer Data Systems to Support Teacher Inquiry and Reflection*. *Journal of Education for Students Placed at Risk*, 10(3).

Wayman, J & Stringfield, S. (2006). *Technology-Supported Involvement of Entire Faculties in Examination of Student Data for Instructional Improvement*. *American Journal of Education*, 112(4).

North Carolina IMPACT Model.  
<http://www.ncwiseowl.org/impact/igrant/>

Presentation from the Data and Learning Summit  
[http://www.sifinfo.org/upload/presentations/36DC1Z\\_ed\\_tech.pps](http://www.sifinfo.org/upload/presentations/36DC1Z_ed_tech.pps)



The conversation around connecting pK-12 to higher education is not new; however, the need has never been greater. Solid alignment between the two systems becomes crucial as we improve the educational system.



## p20

Many guiding questions can be used in looking at what you would like your P16 or P20 system to look like. Consider the following:

- What strategies about data systems do you need to design or consider that provide information about students at all educational levels?
- What policies are in place?
- How can you begin to formulate a P20 council?
- What data can you identify that is necessary to inform higher education?
- What data can you identify that is necessary to inform pK-12?
- How can you manage Student Record Exchanges? Data flow, security, identity management?

The conversation around connecting pK-12 to higher education is not new; however, the need has never been greater. Solid alignment between the two systems becomes crucial to improve the educational system. There have been mismatches between teacher college preparation and personnel skills. In addition, the new teacher candidate numbers are declining and as the current teacher workforce ages, a gap develops between supply and demand. Finally, higher education does not often collect data at the individual level. These data could help inform LEAs and SEAs about programs and skill levels of individuals. The reverse is also true, in that if LEAs and SEAs harvest data about individuals, instructional programming could be improved.

As many P20 and P16 councils form, several things can be addressed. First, look at statutes and policy separating education entities. Governance structures may need to change. In addition, as states build longitudinal data systems, speak to the issue of unique student ID. A consistent, unique ID for every individual through their educational career provides more comprehensive data. Next, create champions in key leadership roles. These champions serve as strong advocates for the use of data across the educational systems. Finally, form collaborative committees. These committees can identify the “what’s in it for me” for all involved as well as comprehensively work on the challenges of funding and resources, technology, security and others.

## CASE STUDIES

### New York State Education Department

In November 2006, New York set out to define a plan of action for P-16 education. The plan set new aims: every child will get a good start; every child will read by the second grade; complete middle level education ready for high school; graduate from high school ready for work, higher education and citizenship; complete their higher education program and have the fullest opportunity to continue their education. In order to meet these new objectives, an Office of Education – P16 was created by combining the K12 division with the Office of Higher Education. Out of this came three major initiatives: 1) best practices in accountability and assessment, 2) organizational design to provide services to P-16 education and 3) a P-16 data system strategic system initiative. These enterprise-wide strategic planning initiatives are scheduled for completion during the 2008-2009 fiscal year.

New York envisions a P-16 data system that will provide a unified view of student achievement from year to year, support actions to raise student achievement by giving early indications both of problems and of where to apply resources, new practices and innovations, support policy changes and resource investments, identify the value added by programs at every level, build on and combine the strengths and achievements of the existing data systems and be secure, accurate and timely.

There are three phases planned for the initiative. The first phase consists of the development of a comprehensive fact-base for current data and accountability systems. The second phase comprises an assessment of current student and system performance. The final phase addresses comprehensive data system design and implementation planning.

Key considerations revealed by interviews include the technological hurdles (especially in smaller districts); convincing understaffed/overworked departments of data system relevance and value; avoiding the inclination to integrate non-essential elements; developing and maintaining consistent data definitions; the need for culture change and alignment of resources to support proactive data use; and rebuilding constituents' trust and confidence in the State Education Department after unpopular initiatives.

Finally, consistent themes from best practice states include mission-oriented culture and leadership, high data standards, organizational clarity and time and sequencing is a necessity.

Given all of the initial data collection by the New York State Education Department, the plan, goals and phases of implementation for the P-16 data system will be successful.

### South Carolina Department of Education

In South Carolina there are 85 school districts with 1,200 schools and 703,000 students. Charter schools will be added in 2009. South Carolina received a longitudinal data system grant. They have currently completed the installation of horizontal SIF in all school districts. In addition, the enterprise identity management system will be rolled out in Spring 2008. A state data manager has been secured for the vertical SIF implementation.

In addition to the longitudinal data system, the Education and Economic Development Act was passed as a program to better prepare South Carolina students for the workforce and post-high-school education through early career planning and an individualized curriculum. The LDS grant provides the longitudinal data to make this a reality. The intent utilizes this same warehouse for other demographic, medical and environmental information. In addition, the individual graduation plan ties career plans and selections to courses selected and completed.

The South Carolina Department of Education also collaborates with the Commission on Higher Education on the selection of vendors for Electronic Transcripts. The transcripts will include the pK-12 Student ID, common course codes and course articulation.

In addition to involving the pK-20 system, the integrated data system includes legal and safety services, social services, claim systems, all payer health care databases, behavioral health, health department, education, other state support agencies and disease registries. The comprehensive approach to longitudinal data, not only from a pK-20 view, but an entire system of services provides an accurate, comprehensive picture of an individual.

### Wyoming Department of Education

In 2005, the Wyoming Department of Education (WDE) created an implementation plan for a statewide data system connecting several different software systems and/or databases within local school districts. The Wyoming Integrated Statewide Education (WISE) Data System project is based on SIF standards. The infrastructure is used to assist districts in meeting requirements for collections, formatting and reporting school and district data.

In 2006, the Wyoming Department of Education implemented a transport mechanism for electronic transcripts. The transportation of electronic transcripts was necessary in aiding the Hathaway Scholarship Program. This program is for Wyoming merit scholarship recipients. The reporting requirements for this program requires that the WDE to gauge the counts of the scholarship students and their academic progress in order to make recommendations to the legislature on how the program can be adjusted to optimize the State's return on scholarship funding.

In 2007, a proof of concept for e-Transcripts was completed successfully based on the SIF Student Records Exchange 2.x objects. Districts extracted data from their student information systems, imported the data into the transcript center and then ran against a test harness to provide a gap analysis.

The Wyoming Department of Education in all of the P16 initiatives has collaborated with Wyoming community colleges and the University of Wyoming. This vital tie afforded accuracy in defining necessary data, collaboration for successful pilots and the establishment of a P16 education council.

The Wyoming P16 Education Council began in 2006. The overall mission includes the development of a seamless statewide system of education in which all levels of education coordinate, communicate and education as one system rather than several. This effort, based on the use of data, will aid the continuous, coordinated evaluation and improvement of academic standards, curricula, assessments, instructional quality and system accountability.

### Resources

*Education Commission of the States (2008). P-16/P-20 Councils*  
[http://www.ecs.org/html/educationissues/HighSchool/highschooldb1\\_intro.asp?topic=p-20](http://www.ecs.org/html/educationissues/HighSchool/highschooldb1_intro.asp?topic=p-20)

*Data Quality Campaign (2008). Developing and Supporting P-20 Education Data Systems: Models that Work.*  
[http://dataqualitycampaign.org/file\\_view.cfm?itemID=369](http://dataqualitycampaign.org/file_view.cfm?itemID=369)

*Presentation from the Data and Learning Summit.*  
[http://www.sifinfo.org/upload/presentations/CZD163\\_P20.pps](http://www.sifinfo.org/upload/presentations/CZD163_P20.pps)

*Southern Regional Education Board (2007). High School to College and Careers: Aligning State Policies.* Retrieved: June 6, 2008.  
[http://www.sreb.org/main/Goals/Publications/06E20\\_Aligning\\_2007.pdf](http://www.sreb.org/main/Goals/Publications/06E20_Aligning_2007.pdf)

“Using data-informed mindset for the whole team enables a more efficient use of time, money and energies.”

**CHRIS O’NEAL**  
University of Virginia



## using data for transformation

As you begin thinking about how data can be used for transformation, consider the following:

- How can SEAs assist LEAs in improving their infrastructure for a more efficient and effective path to data analysis?
- Based on your goals with the other areas, what improvements and strategies need to be in place for the infrastructure and the use of data?
- How is data quality impacted?

The use of data for transformation of the educational system is no small task. All aspects of the system need consideration including technical, professional development, curriculum, assessment, data reporting and many others. We want to change from what we have done to what we want to be able to do.

Realizing this potential can transform the organization. It becomes necessary to function together – to use data to facilitate change, every school is unique and technology should not be a barrier. As the data is tied closely to the technology, an understanding must be developed as to how you want to use the data and find the tools to accomplish this goal.

As a unifying understanding develops, continue to provide an awareness of data and make data a part of the culture. Along with this, provide a measure for timely access to the data. In addition, make sure access to data experts and use of the data becomes a part of the process. Providing the building blocks in the use of data can make transformation a reality.



## CASE STUDIES

### Blue Valley USD #229, Kansas

Blue Valley USD #229, located in the Kansas City metropolitan area, is a school system that has seen annual steady increases in student enrollment since 1975. The student population consists of 21,000, the staffing includes over 3000 and there are 31 buildings.

An overarching vision of Blue Valley USD #229 focuses on connecting the strategic plan to each student. This pyramid approach mandates alignment from the classroom to the board room. The district strategic plan is comprised of the district mission, vision, goals and targets. Each school improvement plan then contains a mission, vision, SMART goals, initiatives and interventions. Finally, within the school building, there are grade level teams, department collaboration, team protocols, goal and interventions and essential questions for professional learning communities. The plans inform each other from the bottom up and from the top down.

Professional Learning Communities (PLC) are based upon teacher data including formative assessments, student work and the like. The PLCs are then formed by grade and/or department and create department and grade level goals. This data also becomes utilized to inform instruction, literacy, unit design and interventions. The department and grade level goals inform the school improvement plan. In addition, the school data informs the school improvement plan. This then may lead to school interventions. Finally, the strategic plan, personalized learning and academic growth plans are informed by the school improvement plan. District data becomes utilized to inform district interventions and the overall strategic plan. All of the data and information creates the opportunity for strategic, systemic alignment all based on data.

Given this alignment, there has been an increase in mathematics assessment scores by 35.6% in the last seven years. Reading has seen an increase of 24.4% in the same timeframe. In addition, Blue Valley USD #229 attained the highest level of academic achievement in the history of the school district, more than 90% of students were at standard or above in both mathematics and reading, composite ACT scores now are at 24.1 and the number of AP exams taken has increased by 11.6%.

### Chicago Public Schools, Illinois

Several initiatives on the use of data in Chicago Public Schools exist. This systemic, comprehensive approach to data-driven decision making provides unique opportunities and solutions for a large, urban district.

Chicago Public Schools adopted the ABC Tiers of Student Learning Data – Archival, Benchmark and Collectable. Focusing on these varied tiers, including when the data is collected, the granularity of the assessments and archival of this information, provides a comprehensive picture of the district, school, classroom and individual student.

For the first time this year, the district utilized state unique identifiers for tracking students. From this, several issues surfaced. The size of Chicago Public Schools posed challenges. For example, numerous students have the exact same first name, last name and middle initial. Keeping and assigning the unique identifier is critical in ensuring that the data about the right student becomes utilized at all times. In addition, a nightly automated delta file is transmitted and guaranteeing the accuracy of this delta and providing the information to the right individuals becomes challenging with the quantity of students.

One way Chicago Public Schools uses data for transformation is through Response to Intervention. Using learning data over time, the intervention is matched to the needs of the individual students. In addition, through the implementation of the data-driven decision making approach, numerous professional development programs emerged for district administrators,

area offices, principals and teachers. Centered on these stakeholders, a data competencies professional development framework materialized. Topics range from essential concepts to goals and budget alignment to technology access.

Data collected from multiple measures informs school and district improvement planning. This also includes the technology plans. Consistent and deliberate alignment, based on data, between improvement planning is vital.

In Spring 2008, district self-assessments will be given to determine next steps. Technical support will be provided by the Illinois State Board of Education and this data will identify targets. This data and information will also aid in developing all planning from the district to the areas to the schools and ultimately to the classrooms.

### Pennsylvania Department of Education

The Pennsylvania Department of Education focuses on addressing the needs and priorities of the state department of education and LEAs through a standards-aligned system. This system includes setting clear standards, fair assessments, big ideas (curriculum), instruction, instructional materials and resources and interventions for school districts. This system is implemented through the artful use of infrastructure, continuous learning ethics, quality teaching and quality leadership. This approach builds on data as the foundation. Data focuses broader than on just one data element, but on a collection of data elements.

The first data tool supplied by the Pennsylvania Department of Education includes the PSSA Data Interactive, an interactive tool used for analyzing PSSA data by district, school, grade, subgroup and student in addition to the reporting category information. The next tool involves the PVAAS. This value-added tool reports growth of cohorts of students and projections for individual students for performance on future PSSAs. The third tool entails a 4 Sight Member Center. This center contains the reporting site for benchmark data by grade, class, subgroup and student.

All of this data then applies to the state department in the form of the Pennsylvania Information Management System (PIMS). The state brought together local education agencies in designing from the statewide longitudinal data system that will efficiently and accurately manage, analyze, disaggregate and use individual student data for each student. When complete, PIMS intends to be an enterprise-wide data collection, data warehouse and reporting system. A unique, secure ID has been assigned to every student. In addition, automated and secure data collection from LEAs, data warehouse and the reporting and analysis tools have been employed.

Providing longitudinal data, analysis tools, digital content and assessments for LEAs, based on data collected from the LEAs, builds capacity and leverages resources for students, classrooms and teacher across Pennsylvania.

### Resources

Anderson, J. (2005). *Accountability in education*. International Academy of Education and International Institute of Educational Planning. Retrieved: June 6, 2008.

<http://www.unesco.org/iiep/PDF/EDpol1.pdf>

Consortium for School Networking (CoSN) (2003). *From Vision to action: How school districts use data to improve performance*. <http://www.3d2know.org/publications.html>

Lachat, M.A. & Smith, S. (2005). *Practices that Support Data Use in Urban High Schools*. *Journal of Education for Students Placed at Risk*, 10(3).

*Presentation from Data and Learning Summit*.

[http://www.sifinfo.org/upload/presentations/865ZDD\\_data\\_for\\_transformation.pps](http://www.sifinfo.org/upload/presentations/865ZDD_data_for_transformation.pps)

SETDA Data Driven Decision Making Toolkit.

<http://setda.org/web/guest/data-driven-decision-making>

When addressing something as comprehensive as the use of data across the entire system, messages for every stakeholder is critical.



## KEY ELEMENTS

# communication

Several solutions were identified at the Data and Learning Summit to begin tackling communication challenges.

1. Create a culture for accountability that is data driven for programs, grants, funding and the work. As this accountability derives, develop cross functional teams for the work and dialogue.
2. Build capacity for data entry and quality at the LEA level. Be clear about the expectations.
3. Create policy that continually moves the dialogue forward.
4. Generate, collaboratively, global data quality standards for the state, including social services, tied with a unique identifier.
5. Work with other state agencies for the integration of data and data systems.
6. Dialogue with state and federal policy makers and develop an understanding of what data is actually collected and policy decisions that can be made from that data.

Communication presents challenges in every aspect of life. Developing an intentional strategy for communicating with internal and external stakeholders throughout the entire process can alleviate some of these challenges. Messaging is often one of the main issues. When addressing something as comprehensive as the use of data across the entire system, clear and understandable messages and requirements for every stakeholder are critical.

In addition, fully automating information from the LEA to the SEA and back again must be thought out. Given the “siloeed” nature of education, there are often separate offices trying to collect the same data from LEAs or separate offices collecting the data directly from LEAs instead of the central SEA data collection. Finally, given all of the LEAs in a state and all of the offices within a state department of education, it is important to get all stakeholders on the same page and moving in the same direction.



A focus needs to be placed on changing the system and changing the classroom. Changing the behavior of others and implementing ideas takes management and just does not happen.



#### KEY ELEMENTS

## change management

In order to overcome these challenges, numerous solutions present themselves.

1. Dedicated resources. It will take time and money in order to manage change.
2. Communication within the SEA. Without effective communication, change cannot occur.
3. Success stories start at the LEA level and are self-developed. These stories of success will percolate to the SEA. Leveraging these successes can simplify and enable the process to be better.
4. Start out with the idea of helping LEAs. One of the goals of state departments of education consists of building capacity of the LEAs. Utilizing this as a focal point, can aide in the implementation of change. Communication needs to be timely, often and in numerous ways. In addition, the LEA must see value in the work conducted by the SEA.
5. Data must be separated from technology. Data provides a vital component towards change. However, the technology cannot be an inhibitor to change.
6. Create a culture. This culture should embody the values established and include building a culture of data usage.
7. Training, training, training. Without appropriate training and professional development, success will be stalled and ineffective.
8. Unlearn current practices. This portion comprises one of the most difficult pieces in managing change. Focus on incremental change in practice and slowly deprecating the old practices.

Change management could easily be argued as the most difficult of any process to accomplish. Changing the behavior of others and implementing new ideas takes focus. It requires a balance between leading and managing. A focus needs to be placed on changing the system and changing the classroom.

Several challenges were identified in moving forward with change management. First, traditional approaches create barriers in the form of resistance to a new culture. These barriers often present themselves in the form of a resistance to a new culture versus the old culture. The next challenge involves strategic planning and the need for collaboration with all stakeholders. Including these changes in strategic planning is a must in making it happen. Finally, the third challenge includes establishing a new governance structure. In some cases, people will need to be given new rolls that will best meet the needs of the new organization and utilizes the strengths of the team.

“Even when the full array of resources, skills, and commitment are in place to use data effectively, school leadership initiates virtually every act of data usage.”

**SHARNELL JACKSON**  
*Chief eLearning Officer*  
Chicago Public Schools



## KEY ELEMENTS

# Leadership

As you begin your journey in the use of data, contemplate the following:

1. Set a vision.
2. Begin with the end in mind.
3. Engage all of the leaders and stakeholders.
4. Get the indicators right.
5. Consider non-traditional approaches.
6. Involve stakeholders from every aspect of the educational system and beyond.
7. Utilize experts in their field to build an entire system.
8. Place champions in key roles.

School, district and state leadership proliferate best practice in the use of data to impact teaching and learning. At the heart of any reform initiative is the leadership. Developing and finding the individual to be the champion and provide direction is critical to the success of the initiative.

Leaders focused on the use of data must be passionate. This includes staying on top of trends and emerging issues, not being afraid to take risks, having an understanding of the issues and collaborating with various stakeholders. One challenge associated with improving the longitudinal data system and data driven decision making has been the siloed nature of the IT or data director's job.

Getting appropriate governance and policies in place remain a necessary component to reaching success.



## KEY ELEMENTS

# policy

In order to resolve some of these challenges, SEAs and LEAs need to work together.

1. Work collaboratively with policy makers on developing an understanding of the challenges and the direction established.
2. Focus on partnering with the right individuals. This will ensure that all appropriate stakeholders are brought into the conversation.
3. Do not try and do all of this at once. The systems should be built incrementally and start with a blue print. Policies that help shape and define this will provide a smooth transition.
4. Garner an understanding as to the need for an increase in teacher programs and funding for training and professional development for data driven decision making.

Policy around the use of data to impact the entire system can be challenging. Policies at a federal, local and state level must be developed. Often policy makers do not adequately understand the need for data collection, reporting, analysis and the impact on teaching and learning. In addition, current rules and legislation on security and confidentiality often become the de facto argument against data collection systemically. Getting the appropriate governance and policies in place remains a necessary component to reaching success.

From a technical policy perspective, one must also take into account the need for an agreement of data standards and definitions. Without these policies determined from the onset, data will not be comparable. In addition, special focus should be paid to eliminating the collection of the same data multiple times through numerous systems. Defining the ownership of this data for the specific application will save time and money down the road.



Technical, data and political challenges and barriers exist around technology for longitudinal data systems.



## KEY ELEMENTS

# technical

These challenges and barriers can easily be overcome and addressed with careful planning and involving the right stakeholders.

1. Promote common applications and interoperability.
2. Plan for security administration. Data security policies must be established.
3. Build a SEA data warehouse. Generate an understanding around the needs for a data warehouse as the cost is high.
4. Make a determination about unique student ID. Also address how non-public schools can be brought into the process.
5. Determine what data standards to follow.
6. Evolve the many separate state level systems.
7. Create an infrastructure that supports the work. Look at bandwidth, connectivity, access to technology and technical skills at the LEA.

Copious challenges and barriers exist around technology for longitudinal data systems. Some of these involve technical challenges, including interoperability, proper use of technologies and applications, lack of data warehouses at the SEA level, infrastructure and access, storage limits and the consolidation of legacy systems. Others include data challenges that present technological trials including data security, data collection and the need for unique IDs.

Finally, political disputes exist. While the policy conversations often drive some of these decisions, many things need to be considered. Providing input into policy, based on sound decisions, can improve the longitudinal data system and overcome some of these challenges.

“Administrators also emphasized the importance of training teachers to use data to guide their own instructional planning, noting the importance of creating a modeling a culture of professional development around understanding data.”

California Comprehensive Center (2006)



In order for a successful professional development and training plan, several solutions exist.

1. Consider using a hierarchy from training to professional development. First learn how to use the technology tools and content and then move to using the tools to improve teaching and learning.
2. Gain buy-in from the right stakeholders at the LEA and SEA early on in the process. Bring these individuals early into the planning and rollout.
3. Begin comprehensive data collection, including baseline data, on professional development offered to assess efficacy and implementation – not just if they “liked it”.
4. Develop a team approach, from vertical and horizontal levels, to encourage dialogue, multiple perspectives and an overall collaborative approach.
5. View professional development as a way to make the paradigm shift from data coming from the SEA and used for compliance and accountability to data used for constructive feedback to improve practice as a resource.
6. Generate professional development to encourage a culture of data. Shift towards seeing multiple kinds of information as data, empower the use to meet their own goals and take a broad perspective.
7. Address negative connotations regarding data. It is vital to address beliefs.
8. Look at what policy implications arise: needs for SEAs and LEAs, prioritization of professional development in budgeting, focus on the instructional use of data, implications of programs to integrate the use of data for strategic planning and instructional improvement and needs for practical applications of longitudinal data systems to show the value of longitudinal data.

## KEY ELEMENTS

# training & professional development

Research shows that one of the keys to success when initiating work like this is when an initiative has comprehensive professional development. When considering a large undertaking such as using data across the organization, many types of training and professional development are necessary to build capacity and meet the many needs of the stakeholders.

Several barriers and challenges were identified that should be taken into consideration. First, most SEAs do not collect professional development data. This data mostly comes from the LEAs. In addition, the comprehensive nature of the data, from collecting continuing education units to content to evaluations, needs addressing. Next, consideration for professional development and training of teachers and administrators across the educational system is daunting. Data quality remains a challenge the accuracy and data entry around this type of data presents issues.





## conclusion

### About the Schools Interoperability Framework Association

SIFA is a unique, non-profit collaboration composed of over 1,400 schools, districts, states, US and International Departments of Education, software vendors and consultants who collectively define the rules and regulations for educational software data interoperability. The SIF Implementation Specification enables diverse applications to interact and share data efficiently, reliably, and securely regardless of the platform hosting those applications. SIFA has united these education technology end users and providers in an unprecedented effort to give teachers more time to do what they do best: teach. For further information, visit <http://www.sifinfo.org>.

As the education community moves forward in building longitudinal data systems and planning for the systemic use of data, more sound decisions can be made to impact instruction and transform teaching and learning. The potential for change is limitless.

A focus on the entire system will be the only way for success. Providing SEAs and LEAs the opportunity for collaboration, bringing all levels of stakeholders to the table, addressing professional development, creating focused policies to enable the system to change and thinking through the numerous technical issues fashions the framework for renovation. It is time for education to embrace the challenges, face the myths and fears surrounding data and make sound decisions for the future of learning.



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