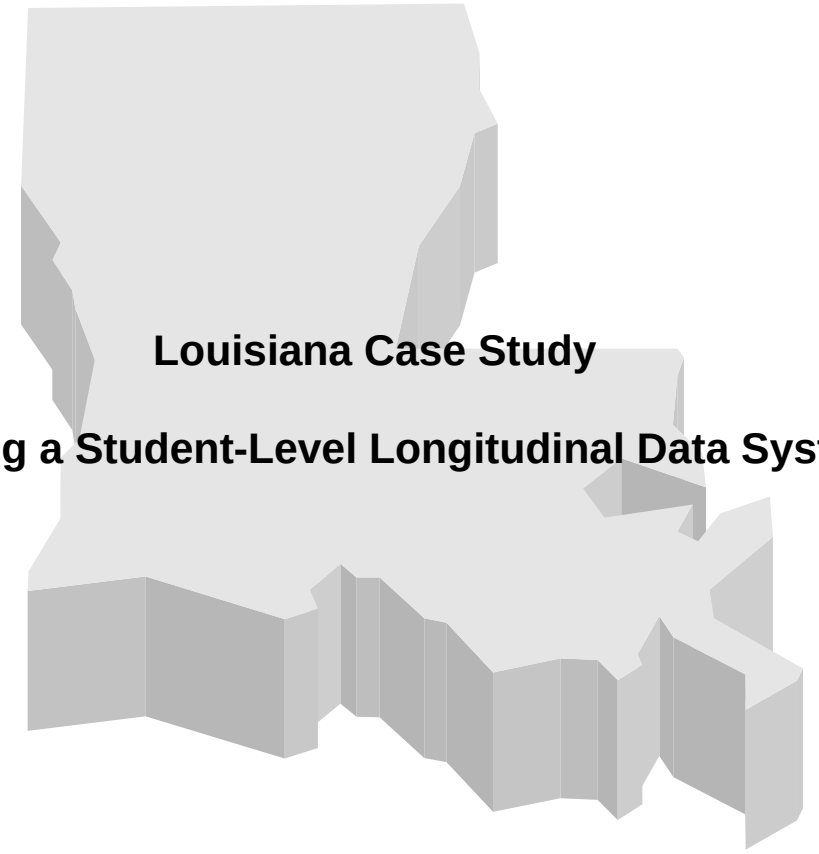
DATA QUALITY CAMPAIGN

Using Data To Improve Student Achievement



Louisiana Case Study

Building a Student-Level Longitudinal Data System

Data Quality Campaign
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The Data Quality Campaign is a national, collaborative effort to encourage and support state policymakers to improve the collection, availability and use of high-quality education data and to implement state longitudinal data systems to improve student achievement. The campaign aims to provide tools and resources that will assist state development of quality longitudinal data systems, while also providing a national forum for reducing duplication of effort and promoting greater coordination and consensus among the organizations focusing on improving data quality, access and use.

To these ends, site visits were conducted in the summer of 2008 to state education agencies (SEAs) to gather information on their experiences in developing statewide longitudinal data systems, with an emphasis on connecting to higher education data systems.

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Louisiana: A Culture of Collaboration

The Louisiana Department of Education (LDE) oversees 68 parish-wide public school districts, encompassing 1,447 schools, in which over 675,000 students were enrolled in the fall of the 2006-07 school year.

At the beginning of the 2005-06 school year, a large portion of the public school system in Louisiana was devastated by Hurricanes Katrina and Rita. In the year of these hurricanes, Louisiana lost over 70,000 students, or 10% of its public school enrollment. Approximately 146,000 public school students were displaced by Hurricane Katrina at the end of August 2005, and approximately 42,000 students were displaced by Hurricane Rita a month later. While cities struggled to recover and rebuild, the LDE focused on returning these students to school. The 56 school districts in Louisiana not severely damaged by the two hurricanes enrolled approximately 22,000 of the displaced students, while approximately 72,000 were displaced to schools outside of Louisiana in virtually every state in the United States. Texas accepted the most transplanted students, approximately 44,000. Other states accepting a large number include Georgia (8,000), Florida (5,600), Mississippi (4,800) and Arkansas (2,000). In the 2006-07 school year, enrollment in Louisiana public schools increased by just over 22,000 students, or 3.4%. This increase was most likely due to displaced students returning to Louisiana, an enrollment trend that can be expected to continue for many years (*2006-07 Louisiana State Education Progress Report, May 2008*).

Major Data Collection Systems

SIS Student level data began to be collected by LDE in 1994 in its Student Information System (SIS). Florida was a mentor in helping Louisiana with this effort. Currently data are collected five times a year to determine enrollment, class schedules, discipline, and attendance, along with historical information to identify dropouts and graduates. Prior to 2005-06, a snapshot date of October 1 was used to ascertain student enrollment counts. After Hurricanes Katrina and Rita, another snapshot date, February 1, was added to capture a count of returning students and determine changing funding needs. Schools receive funding through the Minimum Foundation Program (MFP), based on student enrollment.

SER Data on special education students are collected separately from the SIS in the Special Education Reporting (SER) system. The SIS and SER complement one another while avoiding collecting duplicative data elements and are used to cross-check student counts on the same “as of” dates. In years past, discipline data were collected on spreadsheets from districts but the SIS now collects this information for use in reporting on students served in special education. In 2005 the SER was converted to a web-based application from a mainframe environment with the help of a vendor, and more data are now collected than previously. SER data are collected year-round and are updated on a regular basis -- thus on any given date a report can be generated to obtain a picture of special education students in the state. The SER does not allow students to be enrolled in more than one district at a time and historical data for a

student is transferred when a student is transferred within the system. As of 2008 there were 12 years of data in the SER system, including information on students' Individual Education Plans (IEPs). Hurricanes Katrina and Rita highlighted the need for a statewide online IEP system, which had just begun to be implemented in 2005 when the hurricanes struck. Now that the system is in place, school districts have immediate access to a transfer student's IEP, which greatly benefits both districts and students.

Although all of the major data collection systems within the LDE are moving from a mainframe environment to web-based applications, the SER was one of the first to do so as a result of supportive funding from the *Individuals with Disabilities Education Act* (IDEA). During the development process, data elements were reviewed to determine what was actually required and what districts needed. The SER system remains open except for periodic maintenance, thus allowing districts the capability to create reports as required at the local level. Currently the SER provides almost 100 types of reports, and districts may request the creation of new reports which the LDE adds to the system if possible. Changes to the data collection occur in response to changes in state or federal mandates. Other requests for changes are deliberated as needed and regional meetings are held to get input on changes to the system, as well as data manager meetings which are held twice a year.

STS The Student Transcript System (STS) collects transcript data for students in grades 9 through 12. It was implemented in 2002 in response to a legislative mandate that students be awarded scholarships based on completion of the core curriculum. The *Tuition Opportunity Program for Students* (TOPS) created the need to have an electronic calculation of core curriculum requirement completions standardized across school districts.
Having the course code system in place at the state level facilitated the implementation of the STS. Some districts had to build crosswalk tables to align with the STS course codes but there was significant motivation to ensure quality control in this effort given that awarding scholarships to students was the ultimate goal.

Data from the STS flow from the districts to the LDE, are shared across districts when students transfer to other high schools within the state, and flow from the LDE to the Board of Regents (BOR). Upon request to the BOR, institutions of higher education (IHEs) in Louisiana are provided the data to match and merge with additional information for pre-admissions processing.

The key element of awarding scholarships to qualifying students ensured that all participants were supportive in the development of this system. All stakeholders benefit: students are identified for eligibility for scholarships, districts help their students gain access to higher education, the BOR can facilitate the pre-admissions process, and the Louisiana Office of Student financial Assistance (LOSFA), the state agency which administers the TOPS program, has an eligibility identification process that is standardized across the state.

OTHER data collections include the Profile of Educational Personnel (PEP), Curriculum (CUR), district and school information (SPS), planned and actual school calendars (SPS, SPC), and an Annual Financial Report (AFR).

LEADS The Louisiana Education Accountability System (LEADS) integrates a number of existing systems. It was implemented beginning in 2003 and began to be fully used across the state by 2005. LEADS replaced an earlier data collection system, the Annual School Report (ASR) which checked teacher credentials and course teaching assignments for compliance, and included a state course code system. LEADS combines class schedule information (CUR) with the Profile of Educational Personnel (PEP), the SIS, and the SER. By linking students and teachers to classes, LEADS gives the state the ability to produce, among other reports, student counts by class for monitoring class sizes, vocational education student counts by class for funding purposes, oversight to ascertain that teachers serving students in special education are certified for student exceptionality, and counts of Highly Qualified teachers for reporting under NCLB. Data are also provided to the IHEs on the percentages of students taking the core curriculum in high school (most of the graduates from Louisiana public schools stay in state to pursue higher education). LEADS also enables the LDE to work collaboratively with higher education to review and evaluate teacher preparation programs.

Connection to Higher Education

In addition to the use of data from the STS to support the *Tuition Opportunity Program for Students*, the LDE collaborates with higher education in a study which links growth in student learning to teacher preparation programs. A Blue Ribbon Commission recommended the development of a teacher preparation accountability system but indicators (outcomes and assessments) were needed in order to develop the system. In addition, the system needed to be implemented in a standardized way across the IHEs. LEADS data are used in this “value-added” initiative to determine whether graduates of teacher preparation programs in Louisiana contribute to student learning. The study is facilitated by the tendency of teachers graduating from IHEs in Louisiana to stay in the state and often to return to teach in the district where they were educated. The goal is to provide meaningful evaluation of teacher preparation programs in order to redesign and improve them based on the evaluations. This effort is intended to be long-term and sustainable and includes rewards and sanctions for the teacher preparation programs.

In addition to determining the growth of student learning, this research effort attempts to determine the how and why of improvements. There is a team focusing on the “why” questions and identifying additional qualitative and quantitative data to be collected. Goals include promoting collaboration among the teacher preparation programs to help all of them improve. Changes and improvements to this accountability system have been identified and implemented with the ultimate focus being to improve student learning.

The Importance of Collecting Social Security Numbers

The LDE conducted a study to determine the need to collect social security numbers (SSNs) as the unique student identification number and found a solid basis to justify doing so. Among the reasons were: SSNs are typically issued at birth and used nationally both by government and industry to track an individual's information; no other unique and universal individual identification number is as well regulated, maintained and issued in the country; and the use of this identification method for students brings the LDE data collections in line with almost every other centralized organization.

In addition, the LDE found that use of SSNs enables proper tracking of student movement between LEAs, especially when transmitting IEPs; enables proper longitudinal analysis; allows cross-data matching between separate systems such as the SIS, SER and STS; and enables full data integrity for any given student. It is required for the TOPS scholarship program administered by LOSFA, the Free Application for Federal Student Aid (FAFSA), and by the Board of Regents for college admissions purposes. It makes possible LDE/BOR collaborative efforts such as the teacher program evaluation initiative. And it enables sharing of student information with other agencies such as the Louisiana Department of Health and Hospitals, Department of Social Services, Department of Labor, and Department of Corrections for a variety a purposes including funding, student and family support, and policy analysis.

But as it turned out, the most crucial justification for collecting SSNs for Louisiana students became critically apparent when Hurricanes Katrina and Rita caused over 180,000 students to be displaced from their home school districts. Having SSNs for Louisiana students enabled the state to track student movement across districts both within the state and out of state during the aftermath of Katrina and Rita. It also enabled the state to provide supporting information upon request to the states enrolling Louisiana students into their school systems. Accurate state and federal allocation of student services funds depended on the accurate identification of students that SSN availability provided, as did surviving follow-up audits at both the state and federal levels. In any emergency, SSN is the one component that allows rapid and accurate identification across a variety of data collection systems.

The LDE is fully aware of its obligation to protect and secure the SSN data and other identifying information under the Family Education Rights and Privacy Act (FERPA). To meet this obligation, detailed security measures are taken by the state and districts following guidelines provided by the LDE (see Appendix A).

Implementation Issues

Staff stated that they "use a lot of duct tape" to connect systems and build interfaces as data files are created and modified to meet the needs of projects as they are developed. Most of the systems have been developed in-house which provides more control in meeting the needs of the LDE and the LEAs. Additional funding for staff time is not available: they "just work it in" as needed. Support is provided by the commissioner, who is an avid user of data and information. Elected officials do not get involved in this

aspect of LDE activities; they do not dictate which vendors to use or how to structure data collections.

Data are shared both ways between the requestor (for example, the BOR or LDE) and the contact person who extracts the data and puts in a format that can be used by the requestor for their purposes. Over time the data collection systems have evolved to provide the data needed, which usually just involves a telephone call to get it done.

"We build bridges to the data depending on the need. If it is a good thing for students, efforts are made to make it happen."

Costs

IDEA funds were used to implement the SER (vendor development = $834,000, maintenance and IEP enhancement = $1.1 million) and funding was received for the TOPS program ($600,000). Otherwise, the LDE staff are "doing it for what it can be done for." Labor costs are lower in Louisiana compared to what would be incurred by using an external consultant where margins can exceed 100% of the actual costs. In general, the big ticket item in the state is the cost of testing.

School districts absorb the costs of data collection and reporting. Although state reporting in any district can be a full-time job, many LEAs do not have a dedicated state reporting person on staff. Although district representatives felt that software companies charge a lot of money, they wouldn't want the state to dictate or create an RFP to standardize systems across the state. Costs to the districts were estimated at $1.1 million for initial purchase, with maintenance ranging from $113,000 to $130,000, depending on the size of the district.

With regard to the "value-added" research, the major costs were absorbed by the LDE as they created the data collection systems. The costs of the research contracts involved have varied but have been much less than if the project had been contracted with someone from outside the state.

Data Quality

- Reporting of data is helpful in improving quality.
- Auditing of data is also needed.
- Making data as related to policy a part of all discussions is critical. Collaboration in this area is ongoing in Louisiana and has been for years. "Data people are not separated from policy and program people. We must be clever in doing this to keep the conversation going."
- There is a learning process about data quality within the higher education community. Policies and effectiveness of programs are being evaluated in reports that lead to data quality improvements as IHEs realize how data are used and what internal consistency checks look like.
- At the LEAs, data quality ensures that appropriate funding is received. The LDE provides districts with reports showing three years of historical data, and values that are low compared to prior years are flagged. These diagnostic reports were

initially written for use by LDE to find invalid data but are now used at the local level for data integrity checks.

- LDE staff monitor data collections. If a district is late or falling behind, the LEA will be contacted to ask how LDE staff can help the district meet the submission deadline.
- Within the LEA, mismatches across collections such as the SER and SIS are resolved by collaboration among the appropriate staff members.

"You have to lose the mindset that 'these are not my data' or 'these data don't count for anything so why should I care what I submit?' If it can help the students, people invested in education will work together to make changes for the better. "

Data Use

In addition to the uses of data previously described are the following:

- Teachers are using data more as a result of the state accountability system. For example, they have a heightened awareness of the impact of students coming in mid-year and the need to know where they are when they arrive in terms of their knowledge and skills.
- The Louisiana Educational Assessment Program (LEAP) data system and query system provide students' test scores and profiles of strengths and weaknesses to their teachers.
- The LDE can create quick profiles for leadership to get an overview of where a district or school is in terms of achievement and qualified teachers.
- Education Leadership programs in the state include training in the use of data to identify problems within their district and to work in implementing a remedy. Completers are just now coming out of these programs and it is hoped they will have a better understanding of how to use data at the local level.
- The STS database is shared with the higher education data base to combine information for first-time students. The FTF (first-time freshman) program checks for enrollment in developmental courses, and the eventual "standing" the student has with the IHE.
- Aggregate-level reports are provided to schools to show that "your graduates attended these college and universities." However, the reports are not considered to be very timely given that data from a whole first year of college must be accumulated before the reports are generated.

Lessons Learned

- In order to get support for implementation of any data system, there must be a clear need for the system.
- Over the long term, buy-in is achieved by showing the benefits and consequences of having accurate data. Examples include: using the data as a basis for funding; imposing consequences such as exist in accountability reporting; having clear objectives that are widely supported such as the TOPS

program and the “value-added” research; producing reports that otherwise would have to be compiled manually; consolidating data collections to obtain only what is needed, not what is “nice to know” thereby saving resources at the district level, and; providing reports to inform decisions and provide tracking (for example, of dropouts).

- Longevity of staff is very helpful, as are maintaining positive relationships and good networking across all K-20 staff involved in data collection and reporting efforts.
- Maintaining a culture within the department that attracts the right type of people is essential. This is exemplified by both staff and directors who work well together and are willing to pick up the telephone and begin conversations to make things happen because they are good ideas, not because they are required by statute.
- Once the culture of data use and collaboration has become ingrained, persons new to the culture will become quickly assimilated.
- Starting small and achieving small successes while implementing a larger vision is helpful.
- The ability to accommodate changes and maintain flexibility while making forward progress is critical.
- Statewide data collection of information that is useful to both districts and the state is the ideal goal. Although real-time data would be great to have, there are district-specific needs that do not need to be met at the state level.
- District staff can call state department staff, who are responsive to district suggestions and requests for help. “That makes a huge difference when you have a listening ear, never a cold shoulder.”
- There is a need to generate buy-in at the LEA. If local needs are already being met, then the state needs to show how reporting data to the state will ultimately benefit the LEA. The state also needs to understand what it will cost in terms of staff and resources at the local level.
- At the LEA level, the choice of which software to purchase is critical, as most districts do not have the benefit of programmers on staff. Support from the top level in the district is needed for all aspects of this effort.
- Having a data reporting system that district staff can access it at all hours is very helpful.
- There must be a collaborative will for long term sustainability. Although all stakeholders do not always agree, it is clear who needs to be at the table to begin the dialogue. If efforts are made to reach consensus then support for implementation is maximized. It is also important to be able to recognize when things don’t work and discontinue that effort.

Critical to the culture of collaboration between K-12 and higher education have been:

- Having both higher level and mid-management participants work together. People at all levels take initiative to make things happen – efforts that are not in their job descriptions but also are not prohibited. For example, connecting teachers to students was not required but was a very useful initiative that has had long term benefits that led to creating more connections.
- A shared understanding of the importance of having high school graduates prepared to enter postsecondary education.
- Ongoing collaboration between the BOR and BESE, supported by being housed in the same building and holding quarterly meetings.
- An ongoing and productive Blue Ribbon Commission. The Commission convened in 1999-2000 was co-chaired by a member of BOR and BESE and housed in the Governor's office. Initially the purpose was to examine how to improve teacher quality and educational leadership for the purposes of improving student achievement. It was developed informally, not through legislation, and still exists. As a result of actions in terms of collecting data this group has been productive, so there is impetus to continue it. A recent review resulted in a recommendation that the Commission continue, with increased staff collaboration. Strategies and activities put in place in the initial plan are still relevant today. The Commission did not just write goals and objectives but actively implemented processes, such as establishing college admissions criteria. The Commission is now setting out to write a second plan.
- When funding has been pursued based on recommendations of the Commission, staff saw the funds as useful for creating systemic change, rather than as a project with a beginning and ending time. Such changes became part of the normal scope of responsibilities and workload.
- Recommendations do not go on the shelf, but are presented to both boards to get buy-in. Conversations start with data, move to a recommendation that goes back to the boards, which leads to further efforts to improve instruction.
- Participants have developed a shared understanding of the issues and how they overlap from K-12 to higher education. This creates a culture of helping one another as needed to move things forward**.**
- Small steps of success breed more success, and pockets of collaboration that are successful have a snowball effect.

"At the end of the day, it is about personalization of data. How to read the data and make it meaningful and useful to the individual who needs to 'get it'."

Future Plans

- The Dropout Early Warning System (DEWS) was piloted in spring 2008. The purpose of this program is to identify students who exhibit characteristics that are likely to lead to dropping out of school, in order to work to keep them in school and increase their probability of graduation. Students at-risk of dropping out are identified by examining data on attendance, grade-point average, discipline, and student age. On the 1st and 15th of each month, districts are provided via email with alphabetical lists of their students that meet the at-risk criteria. Summary reports at the school, district, and state level are also provided. Schools participating in the pilot were required to develop an intervention program, with funding provided by an NGA grant.
- All systems are moving to web-based applications, with PEP moving in June 2008 and SIS in July 2009. Although making the move requires that systems be rewritten from COBOL to SQL, the cutover is fairly seamless as reports and edits are the same and data are replicated from the mainframe to the web-based applications. Once a conversion takes place resources are reallocated within the department for data management. Programs that are currently outsourced will be brought in-house where possible.
- A decision support system is being piloted using accountability data such as assessment results and demographic data. The goal is to find high-performing districts with high-poverty students and provide a high-level view of success to identify and share successful practices.
- Certification data will be examined to enhance more appropriate teacher assignments.
- Efforts to better display all the data collected by the LDE are planned.
- Building on past experience to learn what additional research is needed and using existing information to support future initiatives will continue.
- Examining the impact of financial aid on the progression of students through higher education will be a focus of study.
- Continuing to use data to improve education and help local decision-making to guide appropriate instruction for students will be ongoing.

“We are data rich but are not using data enough to make positive changes. We still have a lot more work to do. Although we are a data wealthy state we lack connective tissue – if we can pair with some good analysts we could do this more consistently and more responsively. We always have to go back out to the garage and get the duct tape to create a new initiative. However, we have become sophisticated enough to look critically at our data and provide useful interpretations. We have also reached a place where there are not insurmountable issues.”

Appendix A
Louisiana Department of Education
Security Measures and Guidelines
For Protecting Social Security Numbers

1) All transmission of sensitive data is conducted through Secure Socket Layer (SSL) encryption.
2) LDE data servers are all protected by multiple firewall levels and each firewall level is controlled by a different agency.
3) Security access (file and function) to LDE data applications are controlled by approved LDE and school district security administrators. Only personnel with a business 'need to know' have access to sensitive information.
4) LDE systems passwords expire and must be changed every 30 days.
5) Every district is responsible for its own data security and the LDE is proactive in educating district staff on SSN data safeguard practices by producing a best practice guide.
6) LDE has begun optionally protecting SSNs on reports by printing the last 4 digits of SSNs on Special Education records system (SER) IEP form output, and will be implementing this practice across all SER reports. LEAs can decide if they want only the last 4 digits or all of the SSNs to appear
7) Guidelines for protecting SSN data are promulgated by the LDE and include the following:
    a. Never trash and always shred discardable reports or documentation that contain SSN numbers. If you see SSNs in a trash can, treat it as your problem and shred the paper content.
    b. Never leave documentation containing SSN numbers anywhere others may see it.
    c. When printing SSN on documentation try not to use it with the individual's name unless necessary.
    d. When printing SSN documentation do not leave it unattended at your printer.
    e. Do not transmit SSNs via fax unless you are sure that the intended recipient will pick it up soon after you have sent it. Likewise encourage those submitting SSN faxes to you to take the same precaution.
    f. If you have system access to SSNs please logout of these systems when leaving your work area, and do not share your system password(s) with anyone.
    g. Do not send SSNs in plain email text. If you must transmit SSN numbers by email then do so by use of password protected attachments.
    h. Always be sure to follow US Department of Education and FERPA guidelines: http://www.ed.gov/policy/gen/guid/fpco/ferpa/safeschools/index.html.