

Public Education Department

**Performance Accountability Data Systems Project
October 22, 2004**



*Report to
The LEGISLATIVE FINANCE COMMITTEE and
The LEGISLATIVE EDUCATION STUDY COMMITTEE*

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October 22, 2004



Dr. Veronica C. Garcia, Secretary
Public Education Department
300 Don Gaspar
Santa Fe, New Mexico 87501-2786

Dear Dr. Garcia:

On behalf of the Legislative Finance Committee (Committee), we are pleased to transmit the Performance Accountability Data System Project Report. The Committee, Office of Education Accountability, Public Education Department and Legislative Education Study Committee conducted a joint needs assessment of New Mexico's performance accountability data system.

The audit team worked with and interviewed key personnel, examined documents, performed research, and interviewed select personnel at public schools districts including school personnel. The contents of this report were discussed with you and your staff on October 8, 2004. This report will be presented to the Committee on October 22, 2004.

We anticipate recommending sufficient funding of this project contingent upon PED dedicating adequate resources solely to this project and demonstrating that this project is a priority. We appreciate the Public Education Department's cooperation and assistance. As always it has been a pleasure working with your staff.

Sincerely,

A handwritten signature in black ink that reads "David Abbey".

David Abbey
Director

DA/CC;lg

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EXECUTIVE SUMMARY

Executive Summary

The Legislative Finance Committee (LFC), Office of Education Accountability (OEA), Public Education Department (PED), and the Legislative Education Study Committee (LESC) conducted a joint needs assessment of New Mexico's education performance accountability data system. The objective of this review was to identify data gaps in reporting to the federal government and at the state level. The goal of the review was to:

- inventory performance accountability data systems at the state and public school district levels,
- examine the process for gathering, interpreting and using accountability data, and
- provide recommendations to PED on how New Mexico can better meet the needs of accountability and student learning.

Prior to the No Child Left Behind Act (NCLB), data systems were designed to collect and report information. PED's current data systems were not designed for decision-making. Therefore, existing data systems do not meet current data requirements to improve student performance and meet NCLB requirements. New Mexico will face challenges meeting NCLB requirements because data collection systems were not designed to provide longitudinal performance data. Systems are not integrated and were not designed to provide timely feedback to public school districts to improve student performance. All these elements affect PED's ability to demonstrate adequate yearly progress (AYP).

A comprehensive education information system can provide many benefits for education management by using data to:

- improve student performance
- influence decision making
- target specific areas for improvement
- enhance budgetary control
- examine relationships between cost and effectiveness
- improve administrative time management and mandated reporting
- inform parents and citizens about student progress and school quality

The U.S. Department of Education is implementing the Performance-Based Data Management Initiative (PBDMI). Ultimately this initiative will result in an Education Data Exchange Network (EDEN), which will replace multiple data collections. EDEN will provide a shared data repository containing performance information about schools and federal education programs. When fully implemented, EDEN will not only provide timely performance data to aid education decision makers but also streamline the data collection process and reduce the reporting burden. It would be prudent for PED to move cautiously during development of the data collection system to ensure that the only data collected for federal reporting are what is required by PBDMI.

PED and public school districts are struggling to meet accountability data requirements mandated by the federal government and the state, and – at the same time - use data effectively to improve student achievement and financial effectiveness. PED has been working with the Council of Chief State School Officers (CCSSO) and other states in a Decision Support Architecture Consortium (DSAC)

during the course of this review. The goal is to develop a comprehensive framework of best practices to improve both technology and operational processes for decision-making to improve student performance. The cost of these systems varies widely from state to state.

States and public school districts nationwide are increasingly focusing on effective administration in education to direct the maximum funding possible to the classroom. The financial data framework, called the chart of accounts, must provide sufficient consistency and accuracy to allow conclusions to be drawn between public investment and associated gains or losses in student achievement on a local, state and national level. Public school districts must assign expenditures to programs in a consistent manner.

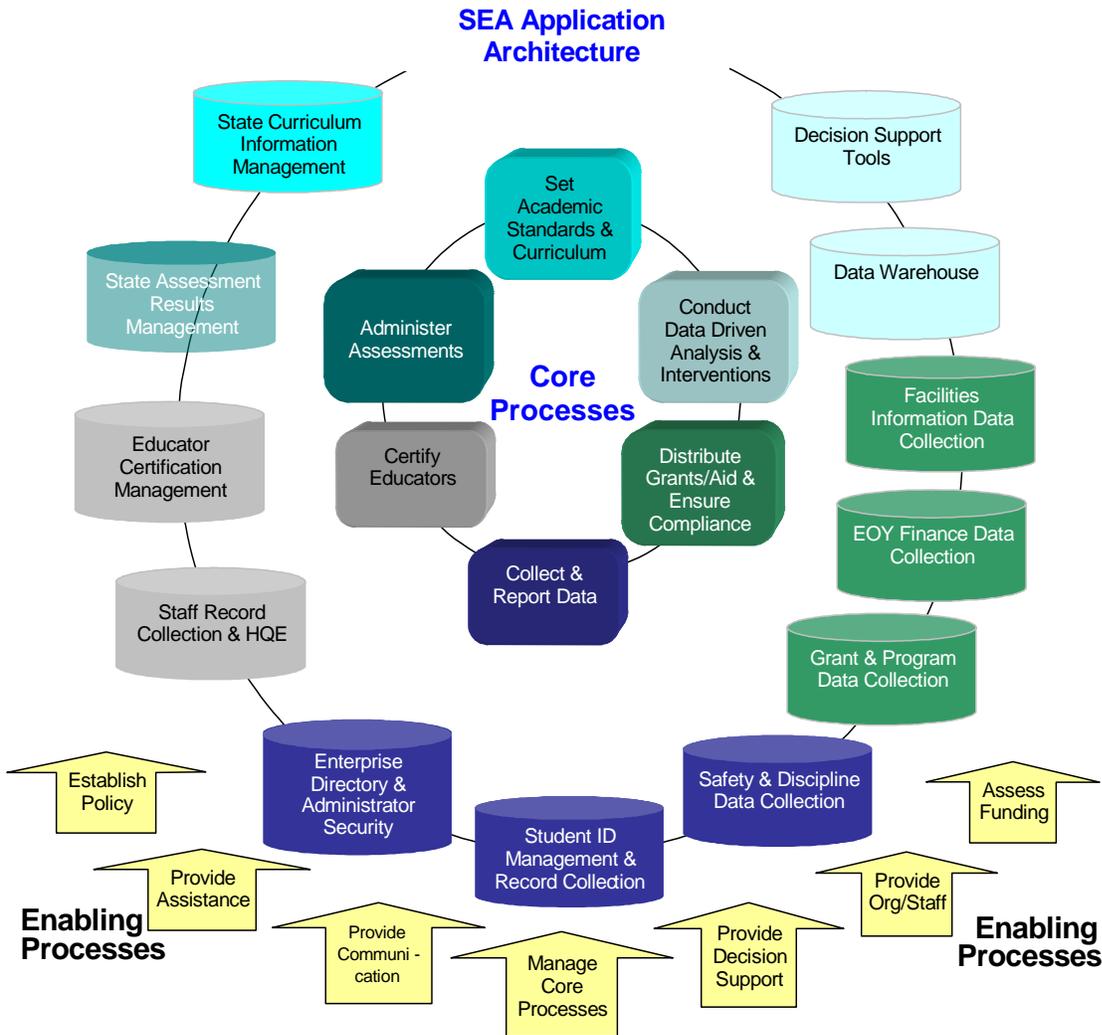
Results

- Data collection systems are not integrated which results in an inefficient, and labor intensive data collection process within the department and at public school districts, as well as inconsistent data across systems. Data needed for federal and state reporting, financial and program analysis and educational improvement is obtained in various formats - including paper. The data is then downloaded into silo databases and extracted in various formats (such as Excel and Access spreadsheets), and used for analysis and to produce reports.
- A proliferation of public school district level financial and student information systems lack standards for collection and validation of data. Revenues and expenditures are not tracked by program and public school districts are inconsistently recording expenditures that make it difficult to match resources with program outcomes and perform valid comparisons among public school districts and states.
- Data is collected in some areas because it is required; however, the data is not used or reviewed once collected.
- Internal controls surrounding data collection, analysis and reporting are weak. A written protocol for making changes does not exist, review and approval by upper management in critical areas does not exist, and a proper segregation of duties is lacking in the school budget and finance area. Also, data is not validated to ensure public school districts are properly recording and reporting financial, program, student and teacher data. Process and work-flows are not documented.
- Sufficient training has not been provided to PED and public school district staff on how to collect and use data to improve student performance. PED requires public school districts to provide data but has not sufficiently trained its staff on how to analyze the data and provide feedback to public school districts. Many public school districts report that teachers and administrators have not received training necessary to collect, analyze and use data in ways that improve instruction. Data collection in the public school districts is often assigned to secretaries and other staff who must complete these tasks while fulfilling other full-time responsibilities.

Recommendations

Consider appropriating sufficient funds and staff for a comprehensive data warehouse project, contingent upon PED using the following DSAC model as a guide for a stronger performance accountability data system. Require PED to demonstrate performance through development of a strategic action plan, assignment of additional staff totally dedicated to the project and periodic status reports prior to release of any funds.

Decision Support Architecture Consortium (DSAC) Framework



Document processes and work flows at PED to explain why data is collected; identify duplication and inefficiency; and provide an opportunity to reengineer the way PED and public school districts collect and use data. Streamline the data collection system to assist in developing and maintaining computer systems necessary for data collection.

Work with DSAC and expand their model to ensure that New Mexico develops an integrated performance accountability system that can collect, analyze and report data from early childhood programs, public schools, higher education, and the workforce to improve accountability and performance throughout a P-20 educational system.

Focus on developing and implementing a new uniform chart of accounts to ensure full implementation by all public school districts by July 1, 2006.

Provide adequate training to both PED and public school district staff. Extensive training on types of data collection, interpretation, and effective uses of accountability data to improve student achievement is essential.

Implement an integrated, paperless and web-based data collection system to bring efficiency to data collection, analysis and reporting. This type of system allows for timely data collection, retrieval, analysis and feedback to make changes necessary for improved student learning.

REVIEW INFORMATION

Background

- The push for improved student achievement in New Mexico, the influx of new educational funding, stricter federal education regulations and the desire for performance-based budgeting means that ensuring the accuracy and utility of the accountability data has never been more important.
- Consistent problems with the Accountability Data System (ADS) and other data collection systems were identified in the following audit reports issued by the LFC:
 - Data Used in Accountability Programs – October 16, 2001
 - Special Education Program – January 20, 2003
 - Public School Accountability – October 16, 2003
 - Bilingual Multicultural Education Program - January 19, 2004

Scope and Methodology

This review included:

- interviewing staff at selected public schools, public school districts administration and the Public Education Department (PED).
- focusing on what kinds of accountability data are gathered; what data systems (software and hardware) are used; what processes are used for gathering and entering data; what systems are used for processing data; how and what kinds of data reports are generated; and how these reports used.
- identifying best practices work from national education groups and other states.

The PED gathers student, staff, instructional and financial data from the following sources:

- ADS hosted on an IBM RS/6000 AIX UNIX server.
- Fox Pro database for public school district operating budget and financial reports.
- Separate stand alone databases for special functions such as nutrition, licensure, instructional materials, assessments, violence, transportation and health.
- Hard copy forms for quality of education surveys and dropouts.

The following table identifies appropriations made to PED for information technology initiatives.

Laws of	IT Special Appropriations	\$ Amount (Thousands)
2001	Internal Financial System Interface	\$ 400.0
2003	State Student Identification Number System	\$ 300.0
2004	State Student Identification Number System	\$ 93.0
2004	Three-Tier Licensure Evaluation System	\$ 1,000.0
2004	Upgrading IT Infrastructure and Network	\$ 200.0
2004	Project Plan, Needs Assessment and System Requirements to Upgrade the Accountability Data System to Meet No Child Left Behind Act	\$ 500.0

Laws of	IT Special Appropriations	\$ Amount (Thousands)
2004	NCES Chart of Accounts Implementation	\$ 1,800.0
2003	Performance Based Budgeting	\$ 1,000.0
2002	Performance Based Budgeting	\$ 600.0
2001	Performance Based Budgeting	\$ 1,100.0
2000	Performance Based Budgeting	\$ 1,500.0
	Totals	\$ 8,493.0

Source: New Mexico Laws

Authority for Review

The Legislative Finance Committee (LFC) has the statutory authority under Section 2-5-3 NMSA 1978 to examine laws governing the finances and operations of departments, agencies and institutions of New Mexico and all of its political subdivisions, the effects of laws on the proper functioning of these governmental units and the policies and costs. LFC is also authorized to make recommendations for change to the Legislature. In furtherance of its statutory responsibility, the LFC may conduct inquiries into specific transactions affecting the operating policies and cost of governmental units and their compliance with state law.

Audit Team

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Maureen Davidson, PED Chief Information Officer
Frances Maestas, LESC Deputy Director

Exit Conference

An exit conference was held on October 8, 2004 those in attendance included:

Dr. Veronica Garcia, PED Secretary; Don Moya, PED Deputy Secretary, Finance and Operations; Kurt Steinhaus, PED Deputy Secretary, Learning and Accountability; Maureen Davidson, PED Chief Information Officer; Ferdi Serium, PED Program Manager Curriculum, Instruction and Learning Technology; Kooch Jacobus, OEA Deputy Director; Beata

Thorstensen, OEA Analyst; Manu Patel, LFC Deputy Director for Performance Audit; G. Christine Chavez, LFC Performance Audit Manager; Ron Segura, LFC Principal Fiscal Analyst.

Report Distribution

This report is intended for the information of the Public Education Department, Office of the Governor, Office of the State Auditor, Department of Finance and Administration, Legislative Education Study Committee, and the Legislative Finance Committee. This restriction is not intended to limit the distribution of this report, which is a matter of public record.

A handwritten signature in cursive script that reads "Manu Patel".

Manu Patel
Deputy for Performance Audit

RESULTS AND RECOMMENDATIONS

Current Accountability Data Requirements

There is a variety of educational data required both at the federal and state levels. While the majority of data collected from public school districts into ADS currently meets a variety of administrative reporting requirements, it fails to provide all of the statutorily required core student educational improvement information. State statutory and federal requirements are listed below. Most notably, the ADS system is not currently capable of housing student achievement data nor does it have the capacity to hold data longitudinally for the determination of adequate yearly progress in New Mexico.

Measure	NM State Law	Federal Law
Student Assessment of Achievement	√	√
Student Demographics Ethnicity English Language Learners Special Education Free and Reduced Priced Lunch Bilingual Education Enrollment	√	√
Attendance	√	√
Graduation and Dropout Rates	√	√
Student Course Taking	√	√
Educator Quality Highly Qualified Teachers Teachers Course Load	√	√
School Safety	√	√
Higher Ed Acceptance and Attendance		√
Parent and Community Involvement	√	√
Individual with Disabilities Education Act		√
Quality in Education Survey	√	√

Source: New Mexico Consolidated State Application and New Mexico Laws

Uniform Chart of Accounts

States and public school districts nationwide are increasingly focusing on effective administration in education to direct the maximum funding possible to the classroom. The financial data framework, called the chart of accounts, must provide sufficient consistency and accuracy to allow conclusions to be drawn between public investment and associated gains or losses in student achievement on a local, state and national level. Public school districts must assign expenditures to programs in a consistent manner.

Although conceptually it is convenient to maintain a separate financial system with well-defined elements, most of the operational and policy questions that need to be answered in this era rely heavily on data that cross into other areas as well. To be useful, definitions of school financial data must align with other aspects of the education information system. A well aligned and comprehensive education information system should provide the data necessary to answer questions about key areas of education:

- How much is spent on education by program?
- How are educational resources aligned to student achievement?
- What are the funding sources: federal, state, local?
- How are funds allocated between classroom instruction, administration and operations?

A 2004 LFC analysis of reported expenditures indicates:

- New Mexico's per-pupil costs cannot be compared with other states because the chart of accounts is inconsistent with the National Center for Education Statistics (NCES)-recommended framework; supporting documentation for the department/NCES expenditure allocation is not available; public school and public school district data is not validated; and department accounting guidelines do not provide sufficient detail for correct functional classification.
- PED has not established and does not require public school districts to use standardized program codes and does not disaggregate federal expenditure information by function and object code at the public school district level. The percent of expenditures allocated to administration by public school districts and how administration expenditures vary among public school districts cannot be compared because administration-related financial data is inconsistently classified among functions.
- Expenditures by program are not available at either the state or public school district level. A determination cannot be made regarding what programs public school districts offer or how much is spent on each program. The *Public School Accounting and Budgeting Manual* does not provide public school districts with program account codes.

In 2004, the legislature appropriated \$1.8 million to implement a uniform chart of accounts based on results of the analysis of public school district administrative costs. The proposed deadline for implementation is July 2005. However, PED is moving cautiously to ensure that this project is adequately planned and implemented to meet all required reporting needs. Appendix B provides PED's summary on the status of implementation of a uniform chart of accounts. PED needs to focus on developing and implementing a new chart of accounts to ensure full implementation by all public school districts by July 1, 2006.

Public School District Accountability Data Use

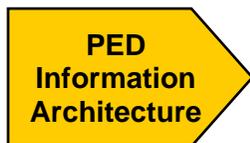
Accountability data is used in a variety of ways. Interviews with staff at selected public school districts and with PED highlighted four major uses of accountability data at the federal, state and public school district level.

- Accountability. New Mexico uses data from criterion-referenced testing and ADS to comply with federal No Child Left Behind Act (NCLB) regulations. In March, 2004, Education Commission of the States reported that New Mexico failed to meet three of the federal reporting requirements of NCLB including: disaggregating by subgroup, comparing actual and achievement targets by subgroup and the per cent of students tested by subgroup. However, in creating the school ratings released August 30, 2004, PED included all three elements, by school, in the individual school rating.

- Program Management and Improvement. By far, the majority of information gleaned from public school districts about how accountability data is used concerned issues of program management. Staff from public school districts interviewed appeared to spend a large proportion of their time gathering information related to the operation of their programs and less time gathering information around improving programs to raise levels of student achievement.
- Reporting. Public school districts generate reports for a variety of uses including: student achievement, teacher assignments and course offerings, enrollment and course scheduling, student demographics, graduation, attendance, bilingual and special education, boundary changes for schools, bus rosters, transportation, honor rolls, student eligibility for sports or federal funding, grant writing and discipline, violence and vandalism reports.
- Using Data to Improve Instruction. While the majority of public school districts interviewed were focused largely on program management, there was evidence that some public school districts are moving more and more towards using student assessment data to improve instruction. The most notable of these is the Roswell Independent School District. Roswell has embarked on an ambitious program of assessing students every three weeks, and using that assessment data to make changes in instructional programs for individual students. In addition to using the state criterion-referenced test data, Roswell is using a variety of computer-based assessments to aid in this work.

Current Accountability Data Systems: PED

The needs assessment identified the following areas in need of improvement in the PED's accountability data system:



- Stand alone databases were initially designed to manage core business processes and do not provide stakeholders with sufficient capabilities for data analysis.
- The design of the Accountability Data System (ADS) requires excessive modifications to software to keep pace with changing regulatory compliance and reporting.
- Decision support tools for analyzing data are not available. Public school districts and PED operational units cannot easily run reports on data collected in the ADS system.
- Electronic data interchange files that transfer data from public school districts are cumbersome.
- The teacher licensing system lacks automated workflow capabilities.
- Financial systems for managing agency and public school district budgets lack capabilities for efficiently communicating with public school district financial systems.



**PED
Operational
Processes**

- Leadership and guidance to public school districts and PED staff in defining policies, standards, best practices, and sustainable processes is lacking.
- Consistent processes for project management including staff training are lacking.
- A process for defining and reviewing data requirements for relevancy does not exist.
- Consistent processes for grant management and regulatory compliance are lacking.
- The teacher licensing process is cumbersome requiring up to 12 weeks for a teacher license.
- Manual templates for producing public school district report cards and adequate yearly progress reports require excessive time to prepare even though information already is in electronic format. Some public school districts expressed the need for technical assistance in generating usable reports, including the capacity to mine data and to compare data across public school districts. State assessment results are often provided in forms that require extensive time and effort to process and place into a usable format.
- Data validation and analysis process is lacking. Routine edit checks are performed; however, data collection is not validated or analyzed once received.

Current Accountability Data Systems: Public School Districts



**District
Information
Architecture**

- A proliferation of public school district level student information systems lack standards for collection of accountability data.
- A proliferation of public school district level financial systems complicates plans to achieve a common chart of accounts based on the National Center for Education Statistics.
- Public school districts must manually input financial information into a worksheet template and submit this information periodically to PED on a data disk. Frustration was also expressed by public school districts regarding PED's capability to receive data electronically.
- Not all public school districts have access to integrated student demographic and assessment data necessary to effectively conduct data-driven interventions. In many public school districts teachers do not have immediate access to data about individual students in their classrooms. This is due to many reasons including lack of training, technology or concerns over security and student privacy. Because of this lack of access, teachers in some public school districts must make special data requests of counselors or other staff. In general, public school districts have mixed opinions about allowing parents to have web-based access to their child's information. Some public school districts are in favor of giving parents password-protected access, while others only want to release summary information about public schools.

- An instructional management system does not exist to align educational resources to state standards and educational best practices.
- Presently, public school districts are at various stages of using technology for items including teacher websites, on-line report cards and progress reports, electronic/on-line assessments and software usage. The public school districts that appeared to be the most effective in their application of educational technology had dedicated resources to both staff training and technical support staff. Public school districts with well-developed technology applications had sufficient numbers of computers for both students and teachers to use. The following table provides a region comparison of technology in the classroom:

Regional Comparison of Technology in Schools (2003)					
	Arizona	Colorado	Texas	New Mexico	U.S.
Students Per Instructional Computer	4.5	4.0	3.5	3.9	4.0
Students Per Internet-Connected Computer	5.7	10.0	6.9	7.8	8.4
Students Per Instruction Computer Located in:					
Classrooms	7.8	10.0	6.9	7.8	8.4
Computer Lab	14.7	12.0	11.7	11.9	13.2

Source: PED Education Technology Coordinator



- Data validation processes are lacking. Public school districts indicated that maintaining and reporting accurate data is a concern. Public school districts feel pressure to submit data by the required time and data is often not validated or is incomplete and inaccurate. Data related to bilingual and vocational education programs were of specific concern to many public school districts.
- Consistent processes for staff training are lacking. Many public school districts reported that educators, administrators and other staff did not have the training necessary to collect, analyze and use data in ways that improve instruction. Those public school districts that addressed this problem typically had dedicated resources to an ongoing training program. Such training keeps staff informed about changes to curriculum, reporting requirements from the PED or system and software changes.
- There is a lack of data available to teachers to improve instruction. In most public school districts, student achievement data is not given to teachers in time to make instructional changes that will lead to student academic improvement. In addition, several public school districts stated that changes to curriculum or classroom instruction results from assessments that are separate from state-mandated tests and data that is separate from ADS.

- Responsibility for data entry into ADS is assigned to staff already overloaded with duties. Public school districts expressed a desire for dedicated staff at individual schools, separate from secretaries or administrative assistants, who would be responsible for routine daily collection and reporting of data.
- The public school district report cards required by NCLB are often seen as cumbersome, time and manpower intensive, and having limited usefulness. Public school districts expressed frustration at multiple requests from PED for identical information.
- Financial data is recorded inconsistently across public school districts that affect the ability to determine educational costs with any confidence. Public school districts also expressed frustration with the incompatibilities between their internal student information and financial systems and that of PED.

Recommendations



- PED needs to document and analyze process and work flows for each data collection point to streamline and reengineer these processes. This documentation will assist in developing and implementing an efficient and effective accountability system.
- Management must fully support recommendations from the Decision Support Architecture Consortium (DSAC) phase one assessment as well as promote statewide all levels of the DSAC model. Use the DSAC model developed by the Council of Chief State School Officers as a basis to design and develop PED's system to enable the following capabilities:
 - Either an electronic interface or web-enabled data entry to collect public school district information.
 - Data interchange on a transactional basis, public school districts only submit changes versus entire files.
 - A data warehouse that can be replicated from a version stored locally at public school districts to distribute processing loads and maximize availability.
 - Integrate stand-alone PED and public school district applications with decision support tools.
 - A web-accessible, standards-based decision support tool accessible by public school districts and public schools.
 - A comprehensive audit trail that allows data to be traced from input to reporting.
 - Student history linked to a public school unique student ID where feasible and cost effective.

- PED should coordinate with consortium members to develop a strategy to design, build and maintain shared technology solutions, rather than each state build their own separate solutions. PED should model its next accountability data system and reporting requirements on successful systems in use in other states. Information required of public school districts by PED should be automated, and public school districts should be able to access their data on-line.
- PED should use statewide enterprise architecture solutions such as shared servers, reporting tools and the potential of open source software such as web servers and databases to minimize cost and ongoing maintenance. Any system developed by PED should focus on creating an architecture that tracks student progress P-20, coordinating student ID numbers and accountability data from early childhood through higher education. It is crucial that an accountability system be able to monitor student success throughout their public education career, and be able to establish how many students go on to be successful in higher education and ideally in the workforce.
- Make funding for a decision support architecture, including a data warehouse, contingent upon using the DSAC model and demonstrated commitment by PED management to building mature, capable processes.



**District
Information
Architecture**

- Provide leadership to the public school districts in the selection of one or two student information systems that public school districts would be required to use as they replace their systems.
- Provide leadership to public school districts to minimize the number of public school district financial systems. Complete plans to align public school districts with the National Center for Education Statistics (NCES) chart of accounts.
- Train public school district staff on how to use existing systems to analyze data to improve student performance. Create regional networks to assist in analyzing data to effectively impact student performance. PED should address public school district issues in data use including accuracy, timeliness, training, access, report generation, and the use of technology. The need for training is particularly important to ensure that teachers and administrators have the skills necessary to collect, interpret and use accountability data to improve student achievement. The Security Planning Protocol flowchart issued by Mass Networks Education Partnership at Appendix F provides adequate guidelines that will enable teachers, parents and other stakeholders access to data to evaluate student progress while ensuring security over student information.
- Design and implement an instructional portal for aligning education resources to state standards, and to provide best practice examples.



Operational Processes

- Implement processes for project management based on State Chief Information Officer guidelines.
- Implement an advisory committee for data standards and data warehouse, including a data dictionary that is reviewed for relevancy by data owners on a routine basis. PED must ensure that any new or improved accountability system can be used effectively to fulfill the purposes of accountability, program management, program improvement and instruction. To this end, PED could develop advisory councils and other processes to ensure that consumers of the accountability data are being served effectively.
- Establish processes and tools for grant management, communication, tracking, and reporting.
- Evaluate the licensing system managed by the Regulations and Licensing Department to determine if it can be used to receive teacher license applications, issue licenses and make licensure application more accessible to teachers via a web-based interface. Approval of the application would remain with PED.
- Automate the process to generate public school district report cards and adequate yearly progress reports from standardized testing data stored in a data warehouse.
- Establish a process to populate standardized test bubble sheets with student demographic data validated in a data warehouse.

National Models, Best Practices, and DSAC.

The number of for- and non-profit companies catering to schools, public school districts and systems is overwhelming. An initial scan of the field netted over 180 companies and organizations offering products and services. These products vary from full-service student information and human resources software and hardware to stand alone databases designed to serve a single function, such as grade books, transportation or school lunch.

Two of the largest public education data initiatives-Just for the Kids and Standards and Poor's have received national and local attention. Research performed during this review and work provided by William Wanker illustrate that while each group provides differing and potentially useful services, neither offers the full scope of accountability that New Mexico requires, and both require that PED provide student accountability data that PED cannot collect without the investment of significant staff resources. Before PED can consider efficiently participating in these initiatives, an improved accountability system must be developed and put into place to effectively serve PED and New Mexico's public school districts.

In 2004 the PED began participating in a Decision Support Architecture Consortium (DSAC) sponsored by the Council of Chief State School Officers (CCSSO). A team of system experts from the CELT Corporation conducted an assessment of where New Mexico stands in its efforts to establish a framework for decision-making. Appendix D provides DSAC's executive summary which identifies gaps across six core processes of the DSAC model. The recommendations are organized by the six

core processes. The DSAC model represents an industry best practice for establishing a framework for decision-making to improve student performance.

As the PED explores the creation of a system that meets the data needs for all users, it is important to take into consideration that many states are struggling with implementing similar systems. The No Child Left Behind Act has altered the ways in which states are required to think about data, and how they are required to report it. To that end, a number of states, national education organizations and private companies have begun exploring how best to meet these new data challenges. As this exploration unfolds, a number of best practices have emerged. Appendix A highlights these basic best practices which should be considered by PED during the development stage of this project. Recommended best practices were gathered through references published in the State Educational Technology Directors Association's National Leadership Institute Toolkit 2003 as well as individual interviews with state contacts. Most states are still in the development and implementation stage and the identified best practices are based on active efforts being initiated by states and not necessarily based on results achieved.

**PUBLIC EDUCATION DEPARTMENT
UNDERSTANDING THE COMPUTING ENVIRONMENT**

System: Accountability Data System (ADS)
Application
<ul style="list-style-type: none"> • ADS is a client-server application developed and maintained by Orion International Technologies. Users are restricted to PED administration staff.
<ul style="list-style-type: none"> • ADS is written in the Sybase PowerBuilder application development framework.
<ul style="list-style-type: none"> • ADS Modules. The ADS software application gathers the following types of data from all public schools: 1) Student Demographics, 2) Class Data, 3) Staff, 4) Special Programs: bilingual education, special education, vocational education.
Database
<ul style="list-style-type: none"> • The database is Sybase. Ad hoc database queries must be run by the database administrator.
<ul style="list-style-type: none"> • Access Control - The ADS application requires each user to have a unique database ID in addition to an application ID.
Platform
<ul style="list-style-type: none"> • ADS runs on an IBM RS/6000 server.
<ul style="list-style-type: none"> • A formal change control process is in place for modifications to the application system. Orion Technologies, Inc. was contracted to implement all modification to the application system and database structure until July 2004.
Network
<ul style="list-style-type: none"> • All ADS users are physically located within the state education building in Santa Fe, NM. Clients are installed on each user's PC, access is granted through a virtual local area network.
<ul style="list-style-type: none"> • Data files are transmitted from public school districts in ASCII file format via file transport protocol (FTP).
<ul style="list-style-type: none"> • Connectivity from public school district is through the General Service Department state network and remote access dial up networking.
<ul style="list-style-type: none"> • Electronic data interchange files that transfer data from public school districts are excessively cumbersome since entire data files must be transmitted every 40 days. Data file transmission from public school districts must be scheduled around periods of peak use.
Physical
<ul style="list-style-type: none"> • The PED data center is physically restricted to only authorized technical support personnel. Power backup and surge protection devices minimize impact of disruption of power. Environmental controls include dedicated air conditioning.
<ul style="list-style-type: none"> • Data is backed up nightly, backup tapes are stored offsite daily and tested regularly to ensure they are useable in an emergency.

Appendix C lists PED's software application inventory.

Current Data Systems: PED

The application flow diagrams on the following pages provide an understanding of the computing environment at the Public Education Department in Santa Fe, New Mexico for managing accountability data. Diagrams at Appendix E provide detail workflow for core processes.

Legend

The application flow diagram uses the following icons:



Control Points – Process, procedure or automated mechanism that helps the organization meet control objectives



Control Weaknesses – Lack of adequate controls or process inefficiencies that do not support control objectives control weaknesses cross-reference to the Action Item Summary on Page 21.



Main flow of transactions



Computer reports / outputs



Computer systems

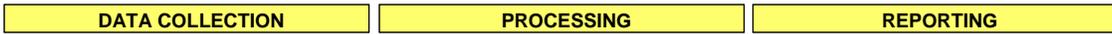
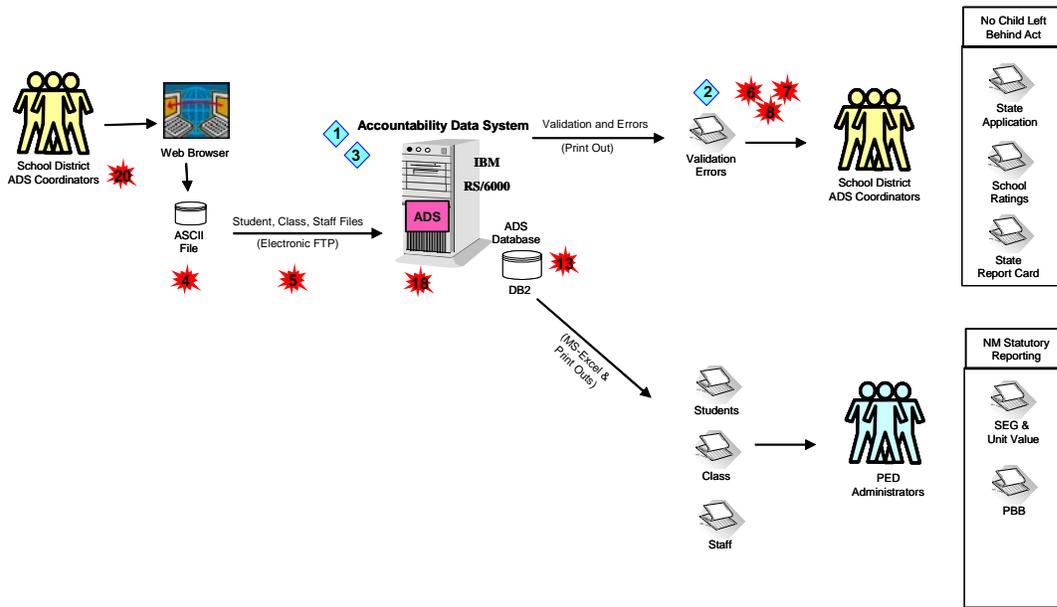


Databases

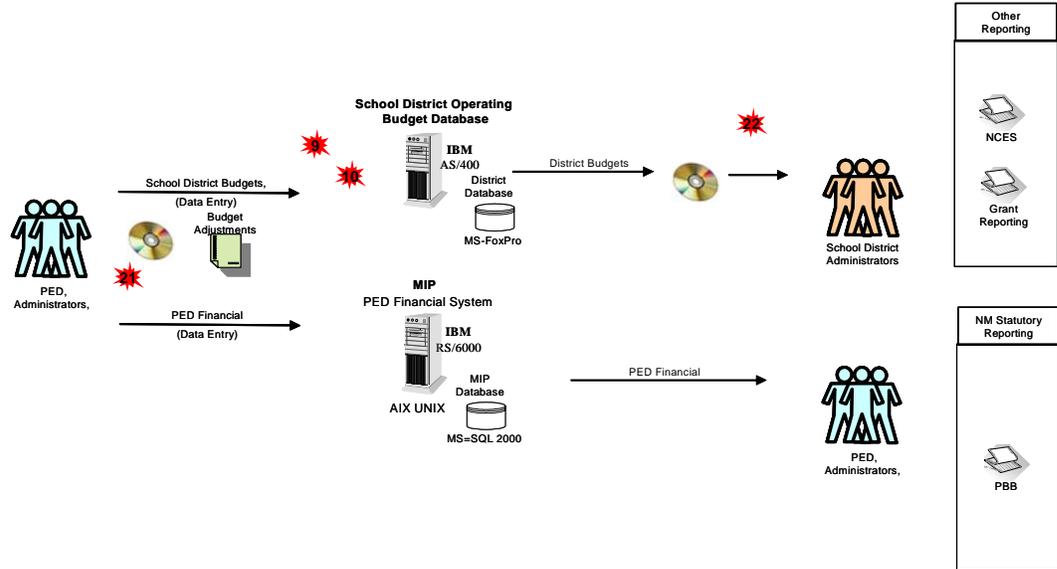


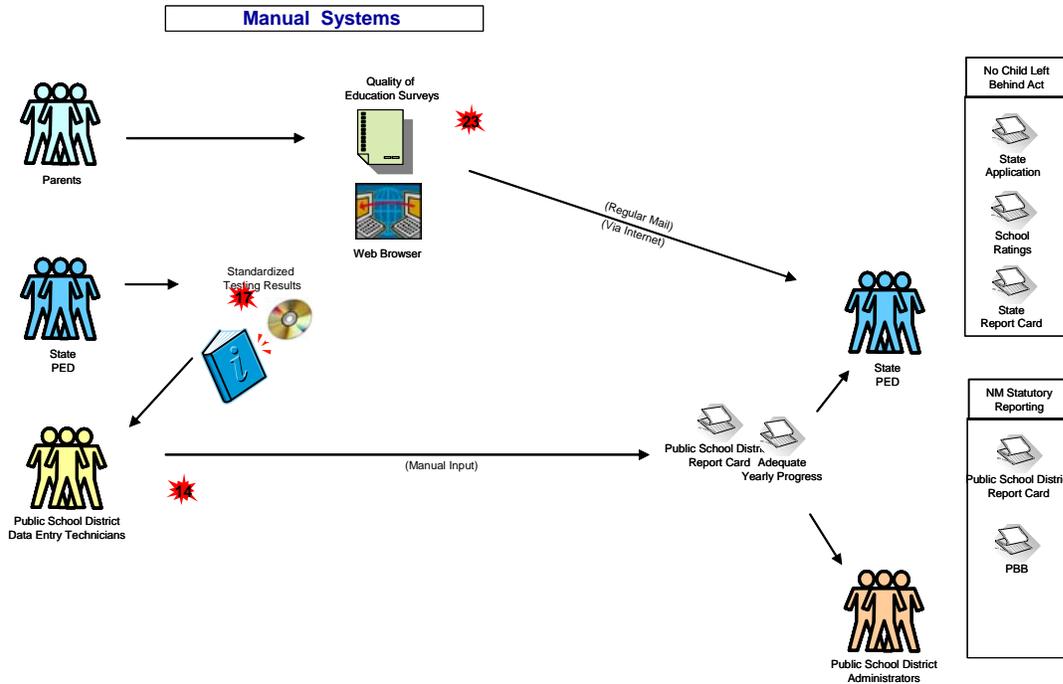
Administrators, educators, staff, parent

Accountability Data System

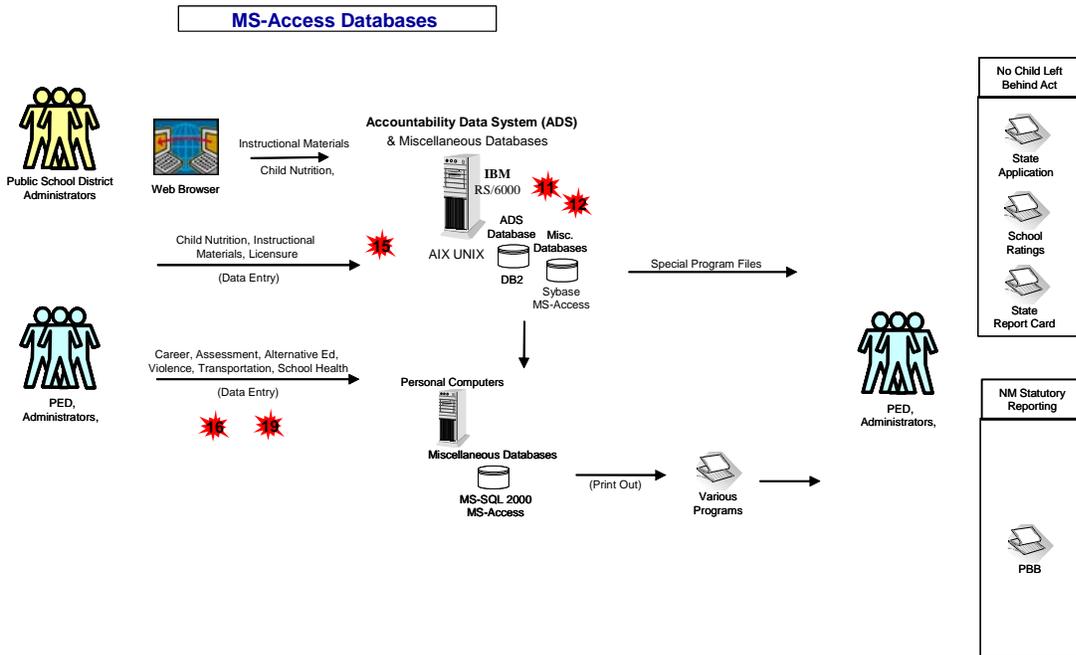


School District Operating Budget Database & District Financial System





DATA COLLECTION PROCESSING REPORTING



DATA COLLECTION PROCESSING REPORTING

Action Items Summary

Weakness 	Recommendation
4. Electronic data interchange files that transfer data from public school districts are excessively cumbersome and cause congestion and overload at PED. Critical systems such as licensure have been severely affected.	Design and implement a decision support architecture based on the Council of Chief State School Officers model. Public school districts only submit changes versus entire data files.
6. Decision support tools for analyzing data are not available. Operations such as internal audit do not have capabilities to analyze ADS data on an ad hoc basis.	Design and implement a decision support architecture based on the Council of Chief State School Officers model that includes a data warehouse and robust reporting tools.
7. Public school districts do not have the ability to run reports on public school district data input into the ADS system for validation, verification and analysis.	Design and implement a web-accessible, standards-based decision support architecture based on the Council of Chief State School Officers model that is accessible by public school districts including schools.
8. Not all public school districts have access to integrated student demographic and assessment data necessary to effectively conduct data-driven interventions.	Train public school district staff on how to use existing systems to analyze data to improve student performance. Create regional networks to assist in analyzing data to effectively impact student performance.
9. Separate data bases are maintained to manage public school district budgets and finances. Public school district operating budget database does not efficiently communicate with public school district financial systems	Design and implement a decision support architecture that includes a data warehouse to collect public school district financial information through either an electronic interface or web-enabled data entry.
10. A proliferation of public school district level financial systems complicates plans to achieve a common chart of accounts based on the National Center for Education Statistics (NCES).	Provide leadership to public school districts to minimize the number of public school district financial systems. Complete plans to align public school districts with a common chart of accounts based on NCES.

Weakness 	Recommendation
11. A proliferation of public school district level student information systems lack standards for collection of accountability data.	Require small and medium public school districts use a common software or have PED host small public school districts to help reduce the proliferation of systems and minimize the cost of software and maintaining the system.
12. Stand-alone databases initially designed to manage core business processes do not provide stakeholders with sufficient capabilities for data analysis.	Design and implement a web-accessible, standards-based decision support architecture based on the Council of Chief State School Officers model to integrate agency applications with data analysis tools.
13. A process to create and manage a comprehensive data dictionary for all accountability data elements does not exist. Data elements are not reviewed for relevancy on a routine basis.	Implement an advisory committee for data standards and data warehouse. Data warehouse development should define data owners and publish a standardized, documented, data dictionary that is reviewed for relevancy by data owners on a routine basis.
14. Data must be manually input into a template for public school district report cards and adequate yearly progress reports.	Automate the process to generate public school district report cards and adequate yearly progress reports from standardized testing data stored in a data warehouse.
15. The teacher licensing system lacks automated workflow capabilities and duplicates a similar system available through the state Regulations and Licensing Department. The process to license a teacher can take up to twelve weeks.	Evaluate potential to adopt a statewide licensing system managed by the Regulations and Licensing Department to register and license educators, maintain licensure information, and to make licensure application more accessible to teachers via a web-based interface. Application review and approval would remain with PED.
16. Consistent processes and technology for grant management and regulatory compliance are lacking.	Establish a consistent process and set of tools for grant management, communication, tracking and reporting.
17. Demographic information coded on student assessment bubble sheets is prone to errors.	Establish a process to populate standardized test bubble sheets with student demographic data validated in a data warehouse.

Weakness 	Recommendation
18. The ADS system does not maintain an audit trail of modifications to data by PED administrative staff.	Design and implement a decision support architecture that includes comprehensive audit trails which allows an item to be traced from input to reporting.
19. An instructional management system does not exist to align educational resources to state standards, training and industry best practices.	Design and implement a decision support architecture that includes an instructional portal for aligning education resources and training to state standards and provides best practice examples.
20. Student history is not linked to a unique student identification number (ID) recently implemented by PED. A public school district ID is required to analyze student history through higher education.	Design a crosswalk for elementary and middle school students. It may not be cost effective to design a crosswalk for all students. Access to student history is enabled via the crosswalk.
21. Public school districts must manually input financial information into a worksheet template and submit this information periodically to PED on a data disk.	Automate the process to electronically transmit financial data directly from public school districts to the PED.
22. PED sends district financial budgets on data disks, these district budgets must be manually input into district financial systems by school district staff.	Automate the process to electronically transmit financial data directly from PED to public school districts.
23. Parents submit Quality of Education Surveys manually prepared to school district offices rather than directly to the State PED.	All quality of education surveys completed by parents should be sent directly to the State PED for summarization to school districts.

APPENDIX

Recommended Best Practices	
A. Vision	
1.	Existence of a clear and well understood vision supported by a rationale.
B. Commitment and Intent	
2.	Exemplary commitment and intent displayed by soliciting user participation in all phases of project development to yield measurable outcomes.
C. Accountability Data Collection and Validation	
3.	Partnership with stakeholders to identify data needs and collaborate in data collection and validation.
D. Data Management and Improvement	
4.	Address data quality, portability and redundancy through a centralized data warehouse with distributed access.
5.	Assess data quality routinely utilizing data quality metrics which is a good benchmark performance measure.
E. Uniform Chart of Accounts Design	
6.	Standardized chart of accounts with periodic validation and audit to ensure consistency across public school districts.
F. Instruction Improvement	
7.	Well-defined performance standards for assessment, instruction and student work.
G. Development of Technology Leadership	
8.	Equip schools and educators with the information and tools to ensure information technology has a direct and positive impact on student learning.
H. Project Management and Improvement	
9.	Consistent project management practices based on industry standards.
I. Promising Partnerships	
10.	Leverage resources by building partnerships with businesses, organizations and community members.
J. Technology in Classrooms	
11.	Classroom are wired for Internet access.
K. System Interconnectivity	
12.	Systems enable ability to share complete student history data from PreK-12 with higher education and other state agency systems.
L. Human Infrastructure Capacity	
13.	Professional development plans for administration staff and teachers focus on best practices for use of accountability data to improve student performance.

Best Practice

A. Vision

1. Existence of a clear and well understood vision supported by a rationale.

Clear definition and publication of a vision for the future.
Vision to be a part of an overall strategic plan.
Realistic goals backed by a strong rationale.
Clearly identify steps that enable the achievement of vision.
Vision to demonstrate management support for development of a decision support architecture.

Business Value

Demonstrates management's commitment to goals and objectives.
Aligns activities with agencies goals and objectives.
Supports continuous improvement.

References

Idaho; Connections 2004 -Statewide plan for Technology in Idaho-

Minnesota-NCLB Evaluation Report, March 2004 - Office of the Legislative Auditor

Best Practice

B. Commitment and Intent

2. Exemplary commitment and intent displayed by soliciting user participation in all phases of project development to yield measurable outcomes.

The emphasis on collecting outcome data is complemented by a commitment to a systematic plan for the use of outcome data.
After investing a great deal of effort in identifying and measuring outcomes, analyzing data, and reporting results to stakeholders.

Business Value

Achievement of desired outcomes.

References

Urban Institute- <http://www.urban.org/url.cfm?ID=311040>
Michigan - survey notes

Best Practice

C. Accountability Data Collection and Validation

3. Partnership with stakeholders to identify data needs and collaborate in data collection and validation.

Plan the data collection program.

Identify various stakeholders interested in the data.

Map needs to each stakeholders role in the state education system.

Inventory the data and identify common data pool to enhance data integration.

Establish responsibility for data collection function.

Complete understanding of the applicable data definitions and the methodology for data collection plan.

Ensure data collection process repeatability, reproducibility, accuracy and stability.

Ensure data validation by an established data collection function.

Business Value

Collection of relevant and value added data.

Data validated for accuracy.

Accurate data enables right and prompt decisions.

Increase confidence in the decisions made.

References

Michigan - survey notes

Kentucky - survey notes

California - <http://www.cde.ca.gov/ds/>

SETDA National Leadership Institute Toolkit 2003

Best Practice

D. Data Management and Improvement

4. Address data quality, portability and redundancy through a centralized data warehouse with distributed access.

Omission of data duplication

Business Value

Data available to all stakeholders in a timely manner.

Streamlined data sharing.

Availability of data across platforms.

References

Michigan - survey notes

California - Presentation at NCES summer 2004 conference

SETDA National Leadership Institute Toolkit 2003

Best Practice

D. Data Management and Improvement

5. Assess data quality routinely utilizing data quality metrics which is a good benchmark performance measure.

Reported data to meet essential data quality dimensions.

Business Value

Data quality and usability is maintained at the best known standards.

References

California - Presentation at NCES summer 2004 conference

Michigan - survey notes

Kentucky - survey notes

SETDA National Leadership Institute Toolkit 2003

<http://portal.acm.org/citation.cfm?id=506010>

Best Practice

E. Uniform Chart of Accounts Design

6. Existence of a clear and well understood vision supported by a rationale.

Uniform Public School Chart of Accounts - requires public school districts and charter schools to comply with NCES established account code structure.

Requirements for implementation:

Establish work group made up of stakeholders.

Design chart of accounts to require account code structure to include:

program codes, federal grants, other grants and position control.

Identify budget and accounting software.

Business Value

Ensures financial data can be compared across districts.

Enables decisions around performance based program budgeting.

References

State of Arizona

State of California

Sound accounting and internal control practices NCES

Best Practice

F. Instruction Improvement

7. Well-defined performance standards for assessment, instruction and student work.

Clearly defined standards of achievement in reading, mathematics, and other academic areas that form the basis for instruction and assessment.

Professional development and support in using and reporting results of assessment to improve instruction.

Professional development and support in reporting results to students, parents, and administrators.

Easily accessible technology that makes using assessment easier.

Business Value

Improved student achievement.

Increased professionalism among teachers and administrators.

More informed parents and community members.

References

Education Commission of the States

Georgia <http://www.glc.k12.ga.us/>

Mississippi BellSouth Quality Classrooms of Mississippi

Missouri Technology Leadership Academy <http://successlink.org/tla/>

Maryland <http://cte.jhu.edu/mtc/>

New Mexico's Reading Initiative -

<http://www.setda.org/Toolkit2003/bplr/NMCaseStudy.rtf>

Best Practice

G. Development of Technology Leadership

8. Equip schools and educators with the information and tools to ensure information technology has a positive impact on student learning.

Technology to facilitate and enhance the learning process.

Technology to manage and support the learning process.

Development of competent leaders.

Technology to enable integration in the overall system/vision.

Adopt Standards for State Education Technology Leaders listed in the SETDA NLI

Toolkit 2003 (Adapted from National Educational Technology Standards for Administrators published by International Society for Technology in Education).

Business Value

Instructors and schools leaders are well versed in technology and its benefits.

Development of technology based lesson plans.

Time savings based on level of automation.

References

Intel - http://www97.intel.com/education/teach/us_program.htm

SETDA National Leadership Institute Toolkit 2003

Best Practice

H. Project Management and Improvement

9. Consistent project management practices based on industry standards.

Deliverables identified for each phase.

Performance measures incorporated to ensure deliverables are met.

Systemic allocation of funds and resources.

Application of necessary knowledge, skills, tools and techniques to project activities to ensure project success.

Implementation deadlines are set to achieve targets in realistic time frames.

Business Value

Project completion in a timely manner within budget.

Achievement of desired outcomes.

Optimum allocation and utilization of resources.

References

Montana - Project plan document

Guidelines Project Management Institute (PMI) <http://www.pmi.org/>

Best Practice

I. Promising Partnerships

10. Leverage resources by building partnerships with business, organizations and community members to improve access, equity and professional development around the use of technology in schools.

Consider entering into successful partnerships with local businesses such as Intel, Sandia Labs, etc.

Business Value

Mutual benefits from limited resources.

Promotes sharing of knowledge and expertise.

Mutual commitment and responsibility for project outcomes.

References

Maryland - <http://cte.jhu.edu/mtc/>

Mississippi BellSouth Quality Classrooms of Mississippi

Missouri Technology Leadership Academy <http://successlink.org/tla/>

SETDA National Leadership Institute Toolkit 2003

South Dakota's MAPLE partnership focused on professional development.

<http://www.setda.org/Toolkit2003/bplr/SouthDakotaMAPLEOrganization.pdf>

Louisiana -Partnering with Corporations, Foundations and Non-Profits -

<http://www.setda.org/Toolkit2003/bplr/LouisianaVideoStreamingPartnership.doc>

Best Practice

J. Technology in Classrooms

11. Classroom are wired for Internet access.

Students exposed to a vast knowledge resources.
Technology enabled learning.
Equal opportunity to all students to build digital skills.
Wiring each classroom for direct Internet access, email and phone connection. Data presentation by Idaho Council for Technology in Learning on their Phase I implementation show 99% of schools are connected to the internet and 98% of classrooms connected.
One to one computing initiative: An elaborate textbook replacement program by a new high school to exploit the educational value of Internet.
One to one technology plan.

Business Value

Improves student engagement in the learning process.
Helps enhance the development of new methods for instruction and learning.
Helps address the issue of significant digital divide in the school system.
Reported rise in academic success rate.

References

Idaho- three year District Technology Plan 1999-2001; Presentation on Phase 1 2003 <http://www.sde.state.id.us/bots/IDK12Tech/default.htm>
Empire High School, Vail School District, Arizona -
Henrico School District, Virginia
http://www.education-world.com/a_tech/tech/tech197.shtml
<http://www.apple.com/education/onetoone/research.html>

Best Practice

K. System Interconnectivity

12. Systems enable ability to share complete student history data from PreK-12 with higher education and other state agency systems.

Business Value

Provides stakeholders in public education-including administrators, educators, parents, students, state leadership, and professional organizations-with the capability of receiving timely, efficient, consistent responses to inquiries into kindergarten.

References

<http://edwapp.doe.state.fl.us/doe/>

Best Practice

L. Human Infrastructure Capacity

13. Professional development plans for administration staff and teachers focus on best practices for use of accountability data to improve student performance.

Business Value

Understanding and use of accountability information can inform instruction to improve academic achievement.

References

<http://www.mdrc.org/publications/47/summary.pdf>

<http://www.ccsso.org/Publications/Download.cfm?Filename=CASWinter.pdf>

Implementation of the
Uniform Chart of Accounts
in
New Mexico

Legislative Education Study Committee
October 7, 2004

Don Moya
Deputy Secretary for Finance and Operations
New Mexico Public Education Department

Background

- LFC audit of New Mexico school district administrative expenditures during 2003 Interim.
 - Large inconsistencies in how school districts classify expenditures

Makes comparison to other districts and states difficult

- Recommended to the PED adoption and implementation of the NCES Chart of Accounts
- LESC staff conducted a series of meetings to begin discussion of conversion to the NCES chart of accounts. The group consisted of various stakeholders.

The group developed the following goals:

- Develop a seamless and consistent reporting system
- Implement a standard statewide chart of accounts that also provides flexibility at the school district level
- Support local autonomy while meeting the reporting needs of the state
- Design a system that is sufficiently flexible to accommodate future requirements
- Comply with the NCES requirements

The group identified the following activities critical to a successful conversion:

- Identifying state and federal reporting requirements, including the elimination of duplicative efforts and reports that are no longer necessary
- Defining the “string” or the structure of the chart of accounts to include the codes to be used statewide for identification of fund, function, program and object code
- Complete a detailed analysis of the NCES chart of accounts versus New Mexico’s current chart of accounts
- Revise the current *Supplement 3* of the *Manual of Procedures* to reflect changes.

- Determine the cost of conversion including hardware, software, staffing and training needs
- In a letter dated December 17, 2003, Representative Rick Miera, Chairman of the LESC requested Secretary of Education Dr. Veronica C. Garcia continue the work begun by the LESC staff during the 2003 Interim. The letter also referenced of deadline of June 30, 2005 for the project.
- The Legislature appropriated \$1.8 million to the PED to begin the implementation of the NCES chart of accounts

Current Status

- Beginning in April of 2003, staff of the PED, LESC and the LFC began meeting to further discuss and research the implications of the conversion of the NCES chart of accounts. For purposes of clarification, this group will be call the Chart of Accounts Planning Group.
- The Chart of Accounts Planning Group recognized the conversion to the NCES chart of accounts has far reaching implications for New Mexico's School Districts, Charter Schools and the PED.
- Many of the members of the group are also participating in a data assessment audit currently being conducted by the LFC. The Audit is looking at the alignment of the various types of data collected at the PED as well as the creation of a data warehouse.
- School district financial data is a key component of the data warehouse
- The group discussed the current technological infrastructure and its limitations with respect to school district financial data:
 - How data is currently collected
 - The budget database

The Arizona Approach

- Rather than re-invent the wheel, the Chart of Accounts Planning group looked to other states who have converted to the NCES chart of accounts.
- The Arizona Conversion took 3 years:
 - Year 1 - Design the chart of accounts. The State Department of Education in Arizona shared many duties with the Auditor General which would be equivalent to the Office of the State Auditor.
 - Year 2 - Training the school districts on the new chart of accounts
 - Year 3 – Implementing the New Chart of Accounts
 - The role of the State Auditor in the conversion process is important
- Training is very important for the successful implementation of the chart of accounts. One financial software vendor agreed to provide estimates for key components of training:

• Conversion Routine	\$75,000 - \$100,000
• Crosswalk to create a data base against the current chart of accounts	\$25,000
• Help Desk	\$100,000 - \$125,000
- Delivery of the training for school districts and charter schools was also discussed
 - PED does not have the staff nor the infrastructure to conduct the training
 - NMASBO has offered to assist in the training efforts
 - Accounting firms and/or others should be considered

Additional Activities

- Information has been collected regarding the type of financial software currently used by school districts and charter schools.

Visions	62	70%
Triadic	5	6%
Lawson	1	1%
CIMS	14	16%
Javelan	7	8%
Total	89	100%

- Vendors were contacted to discuss the implications with respect to cost to districts of changing the chart of accounts
- Examples of the account code layouts of the various software used has also been collected and studied
- A comparison of New Mexico's current chart of accounts with the NCES chart of accounts has been performed.

Next Steps

- Update original group formed by the LESC during the 2003 interim
- Identify additional stakeholders to participate in the implementation keeping in mind the size of the group and the task at hand.
 - Formation of a smaller group or groups to do the following prescribed by NCES:
 - Determine Reporting Requirements
 - Develop the Chart of Accounts
 - Determine the Needed Accounts and Dimensions
 - Develop the Expenditure Code Structure
 - Adapt Recordkeeping Systems
 - Preparing the Budget
 - Redesign Forms, Procedures and Record Systems
 - Converting Master Files and Records
 - Automation
 - Training
- Develop a realistic work plan and cost estimates based on the goals and activities developed by the original group and the findings of the data assessment audit currently being conducted.
- Simultaneously, this initiative must also consider the work of the Data Assessment Audit as well as the current legislation as it relates to performance based program budgeting.

PED Application Inventory

Application Name	Application Software	Hosted on Server	Server Hardware	Server OS
Accountability Data System	Sybase/Powerbuilder	six003	IBM RS/6000	AIX
Child Nutrition Database	Sybase/Powerbuilder	six003	IBM RS/6000	AIX
Instructional Materials Database	Sybase/Powerbuilder	six003	IBM RS/6000	AIX
Licensure	Sybase	six003	IBM RS/6000	AIX
MIP financial system	Visual Basic	SDE-EDS	IBM/X-series	Windows AS-2000
Electronic Time Sheets	Visual Basic	SDE-AS2000-1	IBM/X-series	Windows AS-2000
School Budget System	DB2	AS/400	as/400	Proprietary
Career, Technical and Community Services Database	SQL/Crystal Reports	Standalone PC	IBM or compatible	Windows
Assessment and Evaluation Database	SASS/Crystal Reports	Standalone PC	IBM or compatible	Windows
Alternative Education Database	MS Access	Standalone PC	IBM or compatible	Windows
Violence and Vandalism Database	MS Access	Standalone PC	IBM or compatible	Windows
Transportation 40-day Database	MS Access	Standalone PC	IBM or compatible	Windows
School Health Nursing Database	MS Access	Standalone PC	IBM or compatible	Windows



*CCSSO/CELT Decision Support
Architecture Consortium (DSAC)*



July 20, 2004

This report was prepared for the



*Prepared by
CELТ Corporation for submission
under contract with
the Council of Chief State School Officers*

July 2004

Publication of this document shall not be construed as endorsement of the views expressed in it by the Council of Chief State School Officers.

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New Mexico Public Education Department

Phase I ~ Decision Support Architecture Consortium (DSAC) Report

- *LESC*
- *NAEP*
- *NCLB*
- *NMPED*
- *NWEA*
- *OEA*
- *PMO*
- *PSC*
- *PSFA*
- *REAP*
- *RESA*
- *SIF*
- *SIS*
- *SEA*
- *SMS*
- *SPSS*
- *T&E*
- *WAN*
- *XML*
- *Legislative Education Study Committee*
- *National Assessment of Educational Progress*
- *No Child Left Behind*
- *New Mexico Public Education Department*
- *Northwestern Wisconsin Education Association*
- *Office of Education Accountability*
- *Project Management Office*
- *Professional Standards Commission*
- *Public Schools Facilities Authority*
- *Regional Educator Applicant and Placement program*
- *Regional Education Service Agency*
- *Schools Interoperability Framework*
- *Student Information Management System (SIS)*
- *State Education Agency*
- *Systems Management Server*
- *Statistical Package for the Social Sciences*
- *Training and Education*
- *Wide Area Network*
- *Extensible Markup Language*



Executive Summary

Introduction

Primary Guiding Strategy: To build the systems, policies and feedback mechanisms that will support districts in improving instruction and student achievement. The internal strategy is to improve customer service – and districts are the customers – and to exercise both a support and compliance role.

Deputy Secretary for Learning and Accountability

The New Mexico Public Education Department (NMPED) is an organization in transition. Despite the adoption of rigorous standards and four years of increasing school accountability, the achievement gap continues to widen. In September of 2003, New Mexico voters approved Constitutional Amendment 1 to change New Mexico's public education leadership from a state school board and superintendent to a public education commission and a cabinet position (Secretary of Education). In November 2003, Governor Bill Richardson appointed Dr. Veronica C. Garcia as the State's first Secretary of Education. Also appointed was Dr. Kurt Steinhaus as the first Deputy Secretary for Learning and Accountability. Dr. Veronica Garcia has a broad range of administrative and regulatory powers and an advisory Public Education Commission. Together their goal is to significantly close the achievement gap.

Governor Richardson has made education a focal point for his administration. The recently completed legislative session provided a large amount of additional non-recurring funds to help the NMPED with new programs. House Bill 212, passed in 2003, was part of an 18-piece education improvement package that covered a broad array of education issues, ranging from teacher salaries to local school district governance. The Governor's Progress Agenda (GPA) Task Force, appointed in October of 2003 is to create a road map for change in education as a whole.

The task force is composed of the following twelve work groups:

1. Structures and Governance
2. Early Childhood/School Readiness/Kindergarten
3. Quality Educators Workforce
4. Rural Education
5. Indian Education
6. Higher Education
7. Districts and School Leadership



New Mexico Public Education Department

Phase I ~ Decision Support Architecture Consortium (DSAC) Report

8. Accountability (Data Systems)
9. Assessment of and Funding for Professional Development Programs
10. School Finance
11. Charter Schools
12. Student and Family Support Programs

Work groups are charged with developing short-term and long-term recommendations. Initial recommendations have been prioritized and presented.

Until recently, the NMPED has faced major challenges in the support and confidence of the legislature to fully funding its programs and services. NMPED, with better support under the new structure, faces numerous challenges:

- New Mexico students are not performing well in NAEP tests - 50% of 4th graders scored below basic on Math; 53% of 4th graders scored below basic on reading. Much work needs to be done to help districts improve test scores.
- The SEA struggles to regain structure and focus. Funding has been frozen for several years. Open positions were left unfilled with salary money funding ongoing operations. Outstanding bills had not been paid for extended periods of time. The NMPED organization faced a complete overhaul.
- A large Native American population brings cultural, distance, and logistical issues to 41 of 85 LEAs, which are designated rural districts.

The timing of the Council of Chief State School Officers' (CCSSO) Decision Support Architecture Consortium (DSAC) is an outstanding opportunity for NMPED to assist in restructuring and other efforts and help shape strategy and projects for the near and long term. All efforts should be coordinated to ensure a consistent direction and execution.

Through NMPED's participation in the DSAC, a team of system experts from the CELT Corporation have conducted a thorough assessment of where New Mexico stands in its efforts to establish a framework for decision-making to improve student performance. The team's observations are couched in terms of an analytical framework that is detailed in Appendix B at the end of this report. In correspondence with this model, the remainder of the Executive Summary is dedicated to outlining the key recommendations and projects resulting from the DSAC team's assessment. These recommendations are organized by the six core processes of the DSAC model. The detailed findings and full set of recommendations are contained in Section II of this document. See Section 5.0, Appendix B for details about the DSAC model.



Key Recommendations by Core Process

The following are brief descriptions of the major recommendations. Please see Section 2.0 for the full list and detailed descriptions.

1.2.1 Academic Standards and Curriculum

- *Recommendations*

To move from the current to the target environment the following actions are recommended:

- **Alignment to Standards and an Instructional Portal** – There has been good progress with the Web-based MyStandards, but more work needs to be done here. There is a need for a full instructional portal that aligns resources to standards, provides best practice examples, integrates the curricular materials with diagnostic assessments, provides appropriately leveled reading material, and has supporting data analysis tools. We are recommending a system that is similar to the one in place in Wyoming.
- **Instructional Improvement** – The instructional improvement effort has to be treated as a large project with all of the appropriate funding, change management, and training on standards issues.

1.2.2 Administer Performance-based and Standardized Assessments

- *Recommendations*

The following recommendations will help New Mexico move from the current to the target environment:

- **Formative assessments** – Formative assessments need to be made increasingly available to LEAs to assist them in their instructional improvement efforts.
- **The implementation of a comprehensive Web-based assessment system** – The NMPED, with input from stakeholders, should develop a Web-based assessment platform which will deliver the annual CRT tests and provide a choice of diagnostic and formative assessments that districts can use in other areas.



1.2.3 Certify Educators

- *Recommendations*

The following are the recommendations that are necessary to support movement from the current to the target environment:

- **Technology** – Establish an automated Certification and Human Resources system which covers the full range of processes from recruitment, job posting, application processing, hiring, certification, re-certification, tracking of professional development, and verification of qualification status for all teachers in the classroom.
- **Process and Tools** – The NMPED should develop a comprehensive set of tools and rubrics for evaluating teachers and provide technical assistance and professional development for principals and vice principals with the use of these tools.

1.2.4 Conduct Data Driven Analysis and Interventions and Manage Accountability Systems

- *Recommendations*

- **Enterprise Directory and Security Portal** – The NMPED should implement a directory (residing on a relational database) that maintains core information (such as name, email address, password information, work address, phone number, school/district, etc.) for school organizations and those educators (administrators) that require personalized access to State online applications.
- **Data Warehouse and Reporting Tools** – NMPED needs a large data warehouse and robust reporting tools. The current Accountability Data System (ADS) appears to be well designed and supported. However, it was not designed for nor does it support the retention and the analysis of student demographic/assessment data necessary to plan interventions at the student and classroom level.
- **Intervention Process** – The intervention process is an area that NMPED is planning to restructure. This is currently a process that monitors school improvement plans for implementation through site visits and classroom observations rather than using data to determine the effectiveness of programs. The data warehouse tools, the formative assessments (and accompanying data), and the Instructional Management System (IMS) Portal efforts can and should be applied to the restructuring of the intervention process.



- **Project Management Office** – The NMPED should develop a clear picture of how much the State needs to budget for NCLB over the next years for testing, teacher certification, reading first, etc. This DSAC report defines many of these efforts and costs. Through the structure of a DSAC supported project office and project management process, the remaining key projects and accompanying costs and schedules can be identified and documented. The NMPED should implement a project management office (PMO) and project management process to define the work, schedule, and costs associated with full compliance to the NCLB legislation.
- **Aligned Management Systems** – There needs to be an overall strategic plan with the vision, goals, objectives, measures, targets, and baselines defined. There needs to be a budget and a clearly defined set of projects that flows from this strategic plan and a balanced scorecard process implemented to define, collect, monitor and report the key SEA measures. A project management process needs to be implemented for the SEA for all major projects to follow (technical and non-technical).

1.2.5 Manage Grants and Monitor Compliance

- *Recommendations*
 - **Grants Process and Tools** – The overall grants process needs focus, coordination, communication, and a supporting technology system. The NMPED should designate an overall process owner for grant management. This process owner should establish a consistent process and set of tools for grant management, communication, tracking, and reporting.
 - **DSAC Resources** – Other DSAC member states have developed grant management systems. The NMPED should work with the DSAC team to investigate the appropriateness of such systems and to specify enhancements revisions required to meet their needs.

1.2.6 Collect and Report Data

- *Recommendations*
 - **Student Information Management System (SIS)** – Provide leadership to the LEAs in the selection of one or two SIS systems that LEAs would be required to use as they replace their SIS systems.
 - **IT Department Reorganization** – There is substantial fragmentation of internal technology staff. This is being



addressed and should continue to be a focus for the State as it builds its capability to collect and report data.

- **Unique Student ID** – The rollout of the unique student ID system has recently been completed. The NMPED should conduct an analysis of the effectiveness of the rollout.
- **IT Standards and Methodologies** – The NMPED should establish application methodologies, standards (for development tools, Database Management System, servers, etc.), and a consistent application architecture for the NMPED. This should include a focus on re-tooling (training) the IT shop based on the above.
- **Project Management Office (PMO)** – the NMPED should establish a project management process for the entire Public Education Department (PED) – see recommendation above regarding Aligned Management System.
- **Data Standards and Quality** – The legislative staff is involved in an effort to collect information at the LEA level to determine their ability to collect and report data in a quality manner. This effort will provide valuable information as the SEA moves forward. The quality of data should be a concern for all State agencies. There needs to be a system of accountability for data quality that goes to the district and to the principal level.
- **State WAN** – There should be a statewide Wide Area Network (WAN) to better serve the rural districts and promote distance learning.

Recommended Projects

The table below identifies and briefly describes the projects that are recommended by this report. Some of these are already underway in some manner. For example, project 5 (SAIN Phase I) is well underway. Project 1 (Standards) is an effort that is currently underway but it needs to be turned into a comprehensive project that addresses all aspects of the standards implementation.



Project No.	Project Name	Project Description
Project 1	Selection and Hosting of a Statewide Student Information Management System (SIS)	This project selects a statewide SIS vendor (or possibly two vendors) to be used by districts that are contemplating changing vendors.
Project 2	IMS Portal Project	This project selects and delivers the full range of online applications necessary for supporting instruction in the schools. It is a large project executed in phases to deliver the proper tools to the schools and districts.
Project 3	Instructional Improvement Project	This project is to focus all the instructional improvement efforts to be managed as a large project with the appropriate funding, change management, and training on standards issues.
Project 4	Certification System	This project is to specify and develop and/or purchase an automated certification and HR system which covers the full range of processes for recruitment, hiring, and certification.
Project 5	Data Warehouse and Reporting Tools	This project is to implement a data warehouse to retain historical data from ADS on student demographics, class schedules, teachers, discipline, dropouts, and additional information (such as financial, teacher certification, assessment grants and program data) that can be used to fundamentally drive student performance decisions at the classroom and student level.
Project 6	Enterprise Directory and Security Portal	The scope of this project is to implement a system to maintain contact information about NMPED staff, district and school administrators, and educators that require personalized access to State online applications.
Project 7	Project Office and Aligned Management Systems	This effort will implement a project management process, a project office, and a system of aligned management processes and accompanying measures, targets, and tracking and reporting tools.
Project 8	e-Grants Project	This project is to implement a grants management process and accompanying tools.



Summary Table of Scored Findings

The DSAC Project team has employed a rigorous, standards-based framework to assess New Mexico's readiness for statewide instruction improvement decision support. Our model is diagnostic in nature and serves as a checklist in facilitating our assessment process. The actual application of this model for the NMPED will depend upon the current state of New Mexico's policies, process, and available human, financial, and technical resources; the State's targeted objectives and its priorities in closing the gap between what is in place today and where New Mexico wishes to stand over the near term. See Section 5.0, Appendix B for details about the DSAC model.

Each dimension of the NMPED's data management and decision-support capabilities is scored on a four point scale from "0" to "3." The study team's key findings are highlighted according to a color coded of green-yellow-red to signify our understanding of their relative strength within the context of the NMPED's overall capabilities. Red indicates an area in need of redress. Yellow indicates an area where considerable progress has been made, however, more work needs to be done. Green indicates an area of commendation and best practice. In brief, the table that follows summarizes the key recommendations of your DOE study by the DSAC team. The remainder of the report provides all of the details and supporting documentation.

Kindly bear in mind that this summary table reflects the NMPED's **current** decision support capabilities **relative to its target environment** for each of the seven associated enabling processes and twelve application sub-systems within the DSAC decision support enablement model. In this model, all observations revolve around the fundamental building blocks of the NMPED's six core processes for instructional improvement, namely:

- set academic standards and curriculum
- administer assessments
- certify educators
- collect and report data
- distribute grants/aid and ensure compliance
- conduct data driven analysis and interventions

Here is our summation of the DSAC team's assessment outcomes. The DSAC team's detailed findings and recommendations follow the graphic. An explanation of the rubrics governing the scoring process is defined in the Appendix of this report.

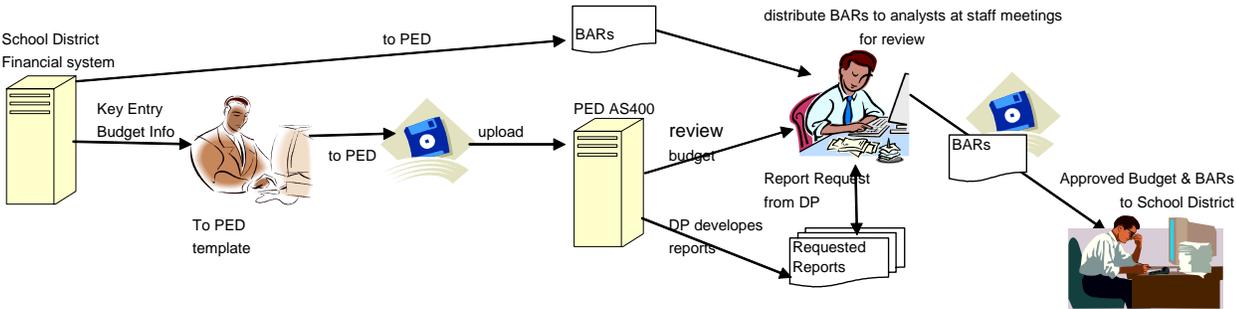


NMPED Instructional Improvement Core Process and System Review

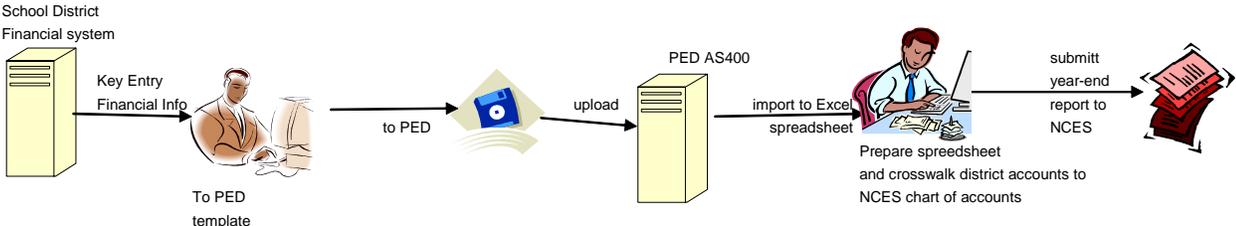
C o r e P r o c e s s	Enabling Processes							Technology	
	1. Establish Policies	2. Provide Technical Assistance and Staff Development	3. Publish Information and Communication	4. Manage Business Processes	5. Provide Enhanced Decision Support	6. Provide Organization/Staffing	7. Assess Funding Needs		
1 Set Academic Standards and Curriculum	1	1	2	2	1	1	1	1	State Curriculum Management
2 Administer Assessments	2	1	2	3	1	1	2	1	State Assessment Results Management
3 Certify Educators	3	2	2	3	1	2	2	2	Educator Certification Management
4 Conduct Analysis/Interventions	2	1	2	1	1	2	0	0	Data Warehouse
									Decision Support Tools
5 Distribute Grants/Aid and Ensure Compliance	1	1	1	1	1	2	1	0	Grant and Program Data Collection
									End of Year Finance Data Collection
6 Collect and Report Data	2	1	1	2	1	1	2	1	Enterprise Directory + Security Portal
									Student ID + Record Collection
									Safety and Discipline Information Data Collection
									Staff Record Collection & Highly Qualified Determination
									Facilities and Technology Plan Data Collection
Summary Scores									
	1.8	1.2	1.7	2.0	1.0	1.5	1.3	1.3	

As should be immediately evident, there is a substantial gap across all six core processes. In brief, this representation provides a roadmap for closing the gap in NMPED capabilities through the proposed projects described in Section 4.0 of this report. Section 2.0 of this report deals in detail with each of the six core processes and their accompanying application components and enabling processes. The structure and order follows the analytical framework that is detailed in Appendix B at the end of this report. To aid the reader in navigating this document, the DSAC framework diagram is shown below. Each core process and application in the diagram is hyperlinked to the corresponding text in the document.

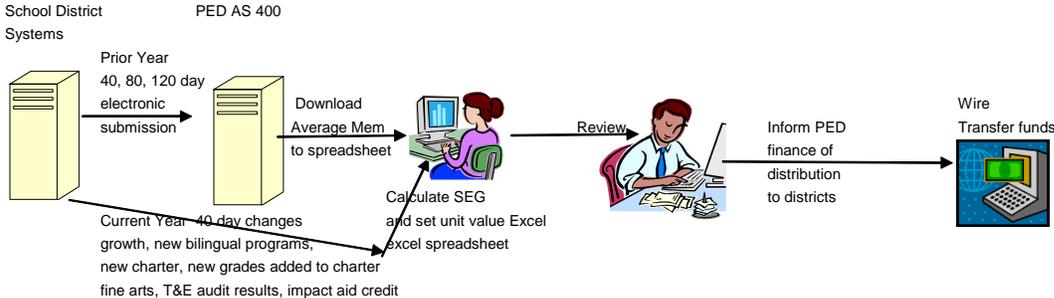
School District Budgets



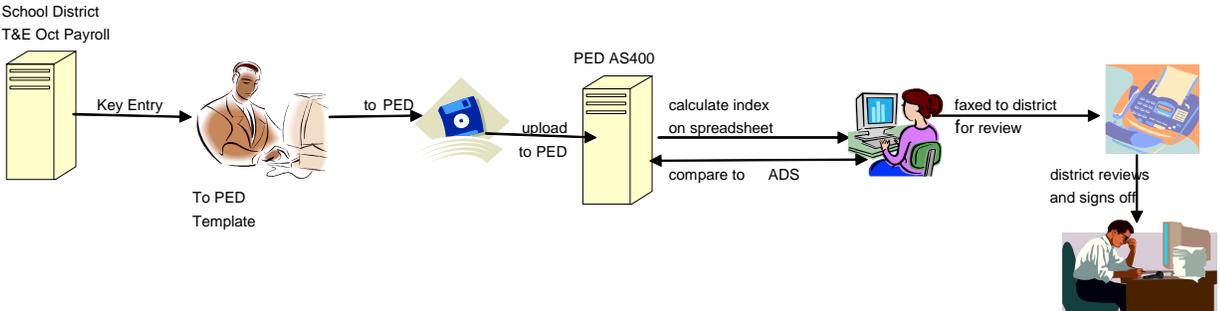
Financial Reports



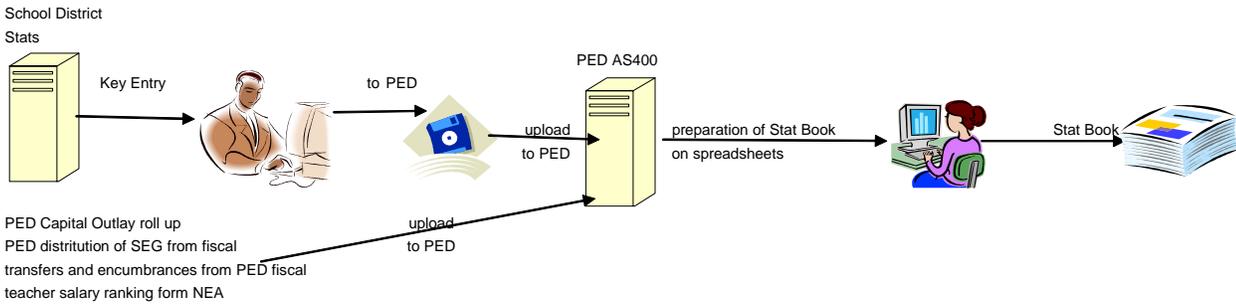
State Equalization Guarantee/Unit Value



Training and Experience

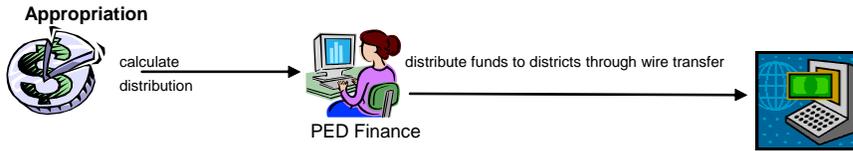


Stat Book

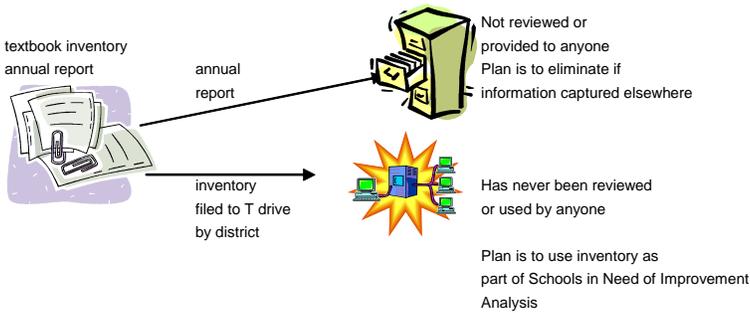


Data collection systems not depicted are At-risk and Assessed valuation these data are collected from various sources and transferred on spreadsheets to calculate At-risk and Assessed valuation getting the data to calculate these items takes a great deal of staff time. Once it's received it doesn't take much time to calculate

Instructional Materials

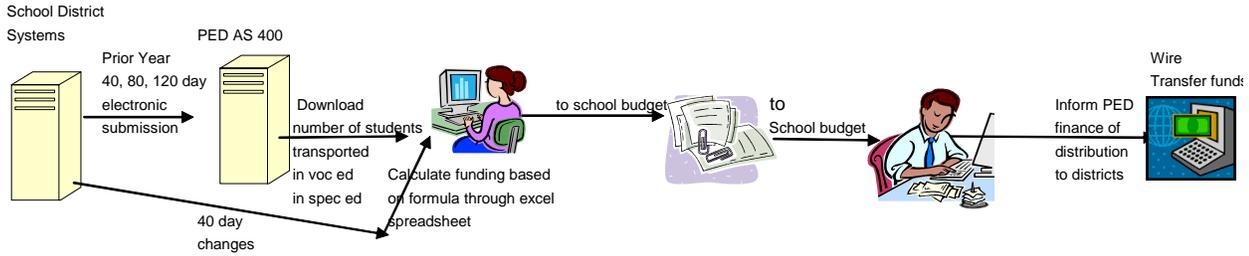


90% distributed in July and the remainder distributed in January.
 Private schools submit for a reimbursement for materials ordered from the multiple list.

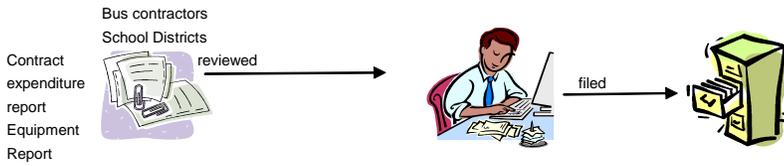


Plans are also in process to develop a book exchange system.

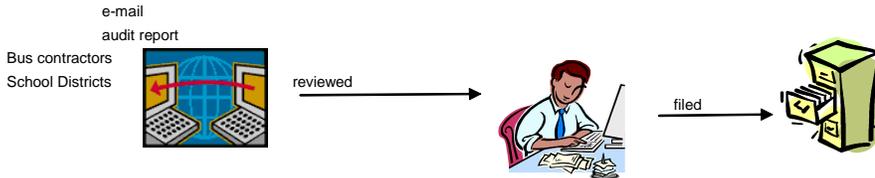
Transportation



Transportation initial budgets are based on prior year numbers. Adjustments are made at mid-year based on current year data.



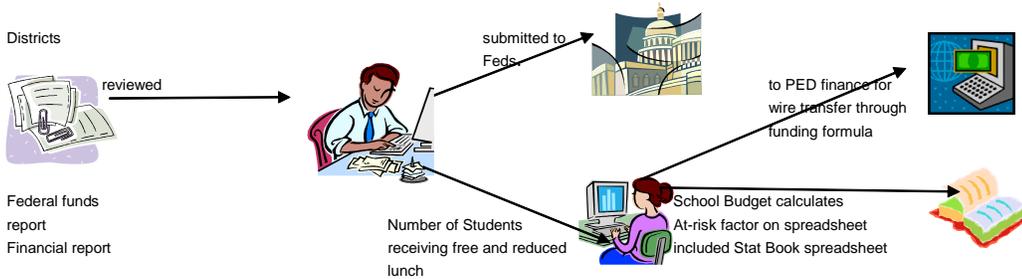
Expenditure information is used as a base in determining the legislative request.



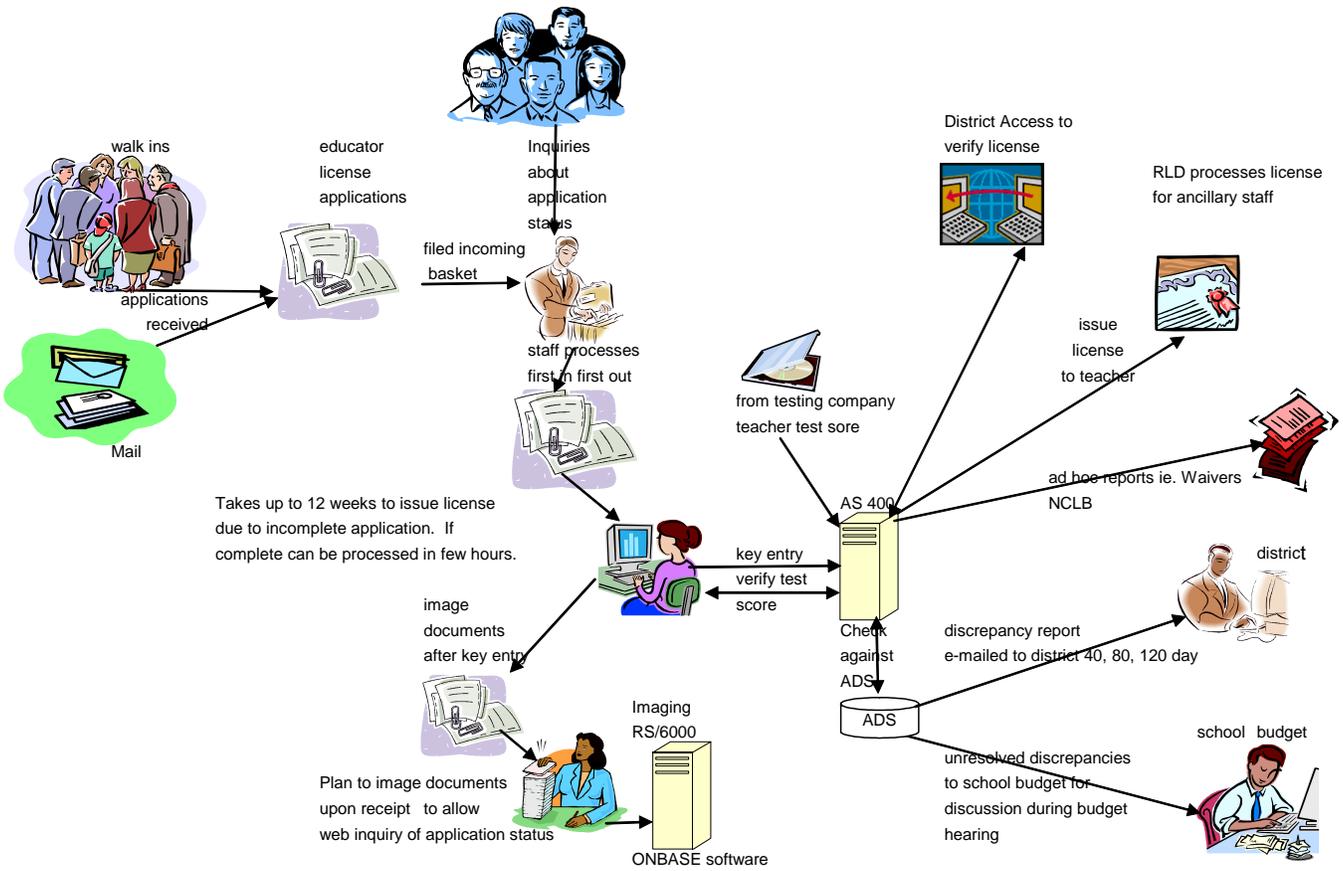
Forms are obtained via the web but information cannot be directly entered into the forms.

Plans are underway to streamline process, eliminate with information provided to school budget and create a data base for transportation want to go wireless and paperless, working with homeland security. Need \$1.2 for infrastructure.

Nutrition



Licensure



A new software package or computer system design will not improve application process time unless the process is reengineered and applicants follow instructions. Georgia and Texas were visited to review their systems which indicates the process should be fully documented and reengineered.