

# **U.S. Department of Education**

Washington, D.C. 20202-5335



## **APPLICATION FOR GRANTS UNDER THE**

**STATEWIDE LONGITUDINAL DATA SYSTEM RECOVERY ACT GRANTS  
CFDA # 84.384A  
PR/Award # R384A100049**

Closing Date: NOV 19, 2009

# **\*\*Table of Contents\*\***

## **Forms**

1. Application for Federal Assistance (SF-424)	e1
2. Standard Budget Sheet (ED 524)	e5
3. SF 424B - Assurances Non-Construction Programs	e7
4. Disclosure of Lobbying Activities	e9
5. ED 80-0013 Certification	e10
6. Dept of Education Supplemental Information for SF-424	e11

## **Narratives**

1. Project Narrative - (Project Narrative - Project Abstract...)	e12
Project Abstrat	e13
2. Project Narrative - (Project Narrative - Project Narrative...)	e14
Project Narrative	e15
3. Project Narrative - (Project Narrative - Appendix A, Optional Attach.....)	e45
Appendix A	e46
4. Project Narrative - (Project Narrative - Appendix B Resumes of Key P.....)	e57
Resumes	e58
5. Project Narrative - (Project Narrative - Appendix C Current Status o.....)	e118
Current Status	e119
6. Project Narrative - (Project Narrative - Appendix D Letters of Support...)	e123
Letter of Support	e124
7. Budget Narrative - (Budget Narrative - Budget Justification...)	e134
Budget Narrative	e135
8. Budget Narrative - (Budget Narrative - ED 524 Section C Spreadsheet...)	e157
Section C Maine Budget	e158

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**Application for Federal Assistance SF-424**

Version 02

* 1. Type of Submission	* 2. Type of Application:* If Revision, select appropriate letter(s):	
<input type="checkbox"/> Preapplication	<input checked="" type="checkbox"/> New	
<input checked="" type="checkbox"/> Application	<input type="checkbox"/> Continuation	* Other (Specify)
<input type="checkbox"/> Changed/Corrected Application	<input type="checkbox"/> Revision	

* 3. Date Received:	4. Applicant Identifier:
12/4/2009	

5a. Federal Entity Identifier:	* 5b. Federal Award Identifier:
	CFDA 84.384A

**State Use Only:**

6. Date Received by State:	7. State Application Identifier:

**8. APPLICANT INFORMATION:**

\* a. Legal Name: Maine Department of Education

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
016000001	809045545

**d. Address:**

* Street1:	23 State House Station
Street2:	
* City:	Augusta
County:	
State:	ME
Province:	
* Country:	USA
* Zip / Postal Code:	04333

**e. Organizational Unit:**

Department Name:	Division Name:
Maine Department of Education	School Finance and Operations

**f. Name and contact information of person to be contacted on matters involving this application:**

Prefix:	Mr.	* First Name:	William
Middle Name:			

\* Last Name: Hurwitch

Suffix:

Title: SLDS Project Director

Organizational Affiliation:

\* Telephone Number: (207)624-6816 Fax Number: (207)624-6791

\* Email: BILL.HURWITCH@MAINE.GOV

**Application for Federal Assistance SF-424**

Version 02

**9. Type of Applicant 1: Select Applicant Type:**

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

**10. Name of Federal Agency:**

U.S. Department of Education

**11. Catalog of Federal Domestic Assistance Number:**

84.384A

CFDA Title:

Statewide Longitudinal Data System Recovery Act Grants

**\* 12. Funding Opportunity Number:**

ED-GRANTS-072909-001

Title:

Statewide Longitudinal Data Systems Grants under the American Recovery and Reinvestment Act of 2009 CFDA 84.384A

**13. Competition Identification Number:**

84-384A

Title:

**14. Areas Affected by Project (Cities, Counties, States, etc.):**

**\* 15. Descriptive Title of Applicant's Project:**

TEAchME - Tools for Educational Achievement in Maine

Attach supporting documents as specified in agency instructions.

**Attachment:**

Title :

File :

**Attachment:**

Title :

File :

**Attachment:**

Title :

File :

**Application for Federal Assistance SF-424**

Version 02

**16. Congressional Districts Of:**

\* a. Applicant: ME 1

\* b. Program/Project: ME 1

Attach an additional list of Program/Project Congressional Districts if needed.

**Attachment:**

Title :

File :

**17. Proposed Project:**

\* a. Start Date: 7/1/2010

\* b. End Date: 6/30/2013

**18. Estimated Funding (\$):**

a. Federal	\$ 9531000
b. Applicant	\$
c. State	\$ 3800000
d. Local	\$ 0
e. Other	\$
f. Program Income	\$
g. TOTAL	\$ 13331000

**\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on .

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

**\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**





**U.S. DEPARTMENT OF EDUCATION**

**BUDGET INFORMATION**

**NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:  
Maine Department of Education

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

**SECTION A - BUDGET SUMMARY**  
**U.S. DEPARTMENT OF EDUCATION FUNDS**

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2. Fringe Benefits	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
3. Travel	\$ 20,400	\$ 20,400	\$ 20,400	\$ 0	\$ 0	\$ 61,200
4. Equipment	\$ 120,000	\$ 20,000	\$ 10,000	\$ 0	\$ 0	\$ 150,000
5. Supplies	\$ 12,600	\$ 12,900	\$ 13,200	\$ 0	\$ 0	\$ 38,700
6. Contractual	\$ 3,513,000	\$ 2,592,900	\$ 2,406,800	\$ 0	\$ 0	\$ 8,512,700
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 20,800	\$ 20,800	\$ 20,800	\$ 0	\$ 0	\$ 62,400
9. Total Direct Costs (lines 1-8)	\$ 3,686,800	\$ 2,667,000	\$ 2,471,200	\$ 0	\$ 0	\$ 8,825,000
10. Indirect Costs*	\$ 294,944	\$ 213,360	\$ 197,696	\$ 0	\$ 0	\$ 706,000
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 3,981,744	\$ 2,880,360	\$ 2,668,896	\$ 0	\$ 0	\$ 9,531,000

**\*Indirect Cost Information (To Be Completed by Your Business Office):**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government?  Yes  No

(2) If yes, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: 7/1/2009 To: 6/30/2010 (mm/dd/yyyy)

Approving Federal agency:  ED  Other (please specify): \_\_\_\_\_ The Indirect Cost Rate is 8%

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

Is included in your approved Indirect Cost Rate Agreement? or,  Complies with 34 CFR 76.564(c)(2)? The Restricted Indirect Cost Rate is 0%



**U.S. DEPARTMENT OF EDUCATION**

**BUDGET INFORMATION**

**NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:  
Maine Department of Education

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

**SECTION B - BUDGET SUMMARY**

**NON-FEDERAL FUNDS**

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2. Fringe Benefits	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
3. Travel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
4. Equipment	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5. Supplies	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
6. Contractual	\$ 1,400,000	\$ 1,200,000	\$ 1,200,000	\$ 0	\$ 0	\$ 3,800,000
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
9. Total Direct Costs (lines 1-8)	\$ 1,400,000	\$ 1,200,000	\$ 1,200,000	\$ 0	\$ 0	\$ 3,800,000
10. Indirect Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 1,400,000	\$ 1,200,000	\$ 1,200,000	\$ 0	\$ 0	\$ 3,800,000

## ASSURANCES - NON-CONSTRUCTION PROGRAMS

Standard Form 424B (Rev.7-97)

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

**NOTE:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management, and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. "4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. "1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. '794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act
9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. "276a to 276a-7), the Copeland Act (40 U.S.C. '276c and 18 U.S.C. "874) and the Contract Work Hours and Safety Standards Act (40 U.S.C. " 327-333), regarding labor standards for federally assisted construction sub-agreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. "1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. "7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. "1721 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance

of 1975, as amended (42 U.S.C. " 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) " 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. " 290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. ' 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with the provisions of the Hatch Act (5 U.S.C. "1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. '470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. "469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. "2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. "4801 et seq.) which prohibits the use of lead- based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

**Signature of Authorized Certifying Representative:**

**Name of Authorized Certifying Representative:** Susan A. Gendron

**Title:** Commissioner

**Date Submitted:** 12/04/2009



## CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements.

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal Loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance.

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

<b>APPLICANT'S ORGANIZATION</b>
---------------------------------

Maine Department of Education
-------------------------------

<b>PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE</b>
--

Prefix:	First Name: Susan	Middle Name: A
Last Name: Gendron	Suffix:	
Title: Commissioner		

Signature: _____	Date: 12/04/2009
------------------	---------------------

ED 80-0013

03/04

**SUPPLEMENTAL INFORMATION  
REQUIRED FOR  
DEPARTMENT OF EDUCATION GRANTS**

**1. Project Director:**

Prefix:      \* First Name:                  Middle Name:                  \* Last Name:                  Suffix:  
Mr.          William                                                                                                    Hurwitch

Address:

\* Street1:                  23 State House Station  
Street2:  
\* City:                          Augusta  
County:  
\* State:                          ME\* Zip / Postal Code: 04333 \* Country: USA

\* Phone Number (give area                  Fax Number (give area  
code)    code)  
(207)624-6816    (207)624-6791

Email Address:

BILL.HURWITCH@MAINE.GOV

**2. Applicant Experience**

Novice Applicant                           Yes                   No                   Not applicable

**3. Human Subjects Research**

Are any research activities involving human subjects planned at any time during the proposed project period?

Yes                   No

Are ALL the research activities proposed designated to be exempt from the regulations?

Yes      Provide Exemption(s) #:

No      Provide Assurance #, if available:

**Please attach an explanation Narrative:**

**Attachment:**

Title :  
File :

# Project Narrative

## Project Narrative - Project Abstract

Attachment 1:

Title: **Project Abstrat** Pages: **1** Uploaded File: **H:\My Documents\ARRA\Final Application\Project Abstract.pdf**

## Project Abstract

The 2007 SLDS grant project TEAchME (Tools for Educational Achievement in Maine) established the core components of the Maine longitudinal data system and was designed to meet or exceed the Data Quality Campaign (DQC) Essential Elements for state longitudinal data systems, enable timely and accurate federal and State reporting, and provide training to stakeholders on collecting and reporting quality data and how to interpret data to make well-informed research-based decisions for improving student achievement.

While the 2007 SLDS grant project has provided significant value to the stakeholders in pre-k through 12 education, it does not include linkages to early childhood, postsecondary and workforce data. This inhibits the ability of educators, policy makers and researchers to conduct longitudinal studies and determine the effectiveness of early childhood programs, curriculum, teaching practices and other interventions throughout a person's life that impact education and workforce outcomes. Maine is seeking \$9,531,000 in additional funding to expand the core system to include a wider range of longitudinal data including early childhood programs, teacher effectiveness data, adult education and linkages to postsecondary and workforce data. Maine has identified the following five focus areas and key underlying components:

- 1) *Improve Teacher Effectiveness* through implementing of a new web-based **Educator Credentialing System** and a new web-based **Teacher Quality Management System**.
- 2) *Expand the SLDS Education Data Warehouse from a Pre-K through 12 to an Early Childhood through 20 system* by **Linking to Early Childhood Programs**; **Linking with Postsecondary Data** from the University of Maine System; replacing the existing **Adult Education System** with a more comprehensive centralized statewide system; and **Linking to Department of Labor Data Systems** to evaluate the relationships between student employment earnings outcomes and entry into Maine growth industries.
- 3) *Deliver Comprehensive Data Use Training Programs* by expanding the current SLDS Data Quality Certification Program to a wide range of stakeholders including the general public.
- 4) *Participate in Multi-State Collaboration Consortia* including the regional **New England Secondary School Consortium** and the national **CCSSO LEARN Consortium**.
- 5) *Partner with the Maine Education Research Policy Institute (MEPRI)* to conduct **Longitudinal Research Studies** utilizing the expanded TEAchME longitudinal data.

The 2009 grant project will be a coordinated effort that will include resources from the Maine Department of Education, the State Office of Information Technology, personnel from other State agencies, research organizations, contracted providers, local school administrative units, and public and private higher education institutions in Maine. Each component will add value to the existing longitudinal data system and address needs identified by stakeholders.

The 2009 grant components will leverage existing TEAchME capabilities including direct linkage to the education data warehouse and decision support business intelligence application and provide Maine with the tools and resources to meet or exceed the 2009 Recovery Act SLDS grant requirements. All new SLDS applications will be accessed through the education portal leveraging the State enterprise security model. Stakeholders will only need to sign-on to the portal to gain access to all the applications based on their roles and permissions.

# Project Narrative

## Project Narrative - Project Narrative

Attachment 1:

Title: **Project Narrative** Pages: **30** Uploaded File: **H:\My Documents\ARRA\Final Application\Project Narrative.pdf**

## Project Narrative

### 1. Project Need and Current SLDS Status

The 2007 SLDS grant project TEAchME (Tools for Educational Achievement in Maine) established the core components of the longitudinal data system and was designed to meet or exceed the Data Quality Campaign (DQC) Essential Elements for state longitudinal data systems, enable timely and accurate federal and State reporting, and provide training to stakeholders on collecting and reporting quality data and how to interpret data to make well-informed research-based decisions for improving student achievement. In 2007 Maine had three of ten DQC essential elements in place. Within one year of starting the SLDS project, Maine increased its number of essential elements to seven in the 2008 survey. The core components of the TEAchME system will be in place by June 2010 and the State is on track to achieving the three-year grant objectives.

A number of the TEAchME project components are operational including: the online **Education Data Dictionary** with 745 metadata elements defined, an inventory of data collections and repositories, and fully mapped NCES and ED Facts elements; a statewide **Financial Reporting System** with common codes and chart of accounts for LEA reporting; a **Statewide Student Information System** currently used by LEAs representing 40% of all students; and a **Data Quality Certification Training Program** that provides instructor-led and web-based courses on collecting, reporting and using data to improve student achievement. Additional key components including the **Education Data Warehouse/Decision Support System**, **Education Portal** and **eTranscript System** are scheduled to go live by summer 2010. Included in the TEAchME data warehouse design are a number of key data marts including: ED Facts, Essential Programs and Services, growth model, at-risk students and balanced scorecards.

While the 2007 SLDS grant project has provided significant value to the stakeholders in pre-k through 12 education, it does not include linkages to early childhood, postsecondary and workforce data. This inhibits the ability of educators, policy makers and researchers to conduct longitudinal studies and determine the effectiveness of early childhood programs, curriculum, teaching practices and other interventions throughout a person's life that impact education and workforce outcomes. In order for TEAchME to provide value to all stakeholders, the scope of the core system needs to be expanded to include a wider range of longitudinal data including early childhood programs, teacher effectiveness data, adult education and linkages to postsecondary and workforce data. The core system is designed to scale to an early childhood through workforce data system and can leverage the existing data dictionary, data warehouse, decision support system, education portal, and data quality training program.

In 2009 the Maine Department of Education received strong support from the State legislature with the passage of Public Law 2009, Chapter 448, *An Act To Improve the Ability of the Department of Education To Conduct Longitudinal Data Studies* (see Appendix A). The new law enables the Department of Education to collect student Social Security Numbers in order to link to postsecondary and workforce data.

The table below displays the results of an evaluation of Maine's current SLDS capabilities measured against the 2009 Recovery Act SLDS grant requirements and the plans to address the gaps with the 2009 grant application to meet Maine's needs.

## Required Data System Capabilities

<i>SLDS RFA</i>	<i>Maine SLDS</i>
<p><b>1</b> - The system must enable States to examine student progress and outcomes over time, including students' preparation to meet the demands of postsecondary education, the 21<sup>st</sup> century workforce, and the Armed Forces. Such a system must include data at the individual student level from preschool through postsecondary education and into the workforce (e.g., employment, wage, and earnings information).</p>	<p><i>Existing Capabilities:</i> The current SLDS is designed to track individual student enrollment, program participation and assessment data from pre-kindergarten through secondary education.</p> <p><i>Proposed Capabilities:</i> Linkages with early childhood, postsecondary, adult education and workforce data systems through cross agency client index tables with measurable outcomes established at all levels.</p>
<p><b>2</b> -The system must facilitate and enable the exchange of data among agencies and institutions within the State and between States so that data may be used to inform policy and practice. Such a system would support interoperability by using standard data structures, data formats, and data definitions to ensure linkages and connectivity among the various levels and types of data.</p>	<p><i>Existing Capabilities:</i> All students enrolled in publically funded pre-k through 12 programs as well as all staff employed by school units are assigned unique identifiers. Maine has developed a data dictionary with standard definitions that can be shared with other agencies and institutions.</p> <p><i>Proposed Capabilities:</i> Interoperability through data standards, SIF, PESC transcript standards and linkage of State agency systems (vertical expansion of data warehouse). Multi-state collaboration with partner New England states and participation in the CCSSO LEARN Consortium.</p>
<p><b>3</b> - The system must link student data with teachers, i.e., it must enable the matching of teachers and students so that a given student may be matched with the particular teachers primarily responsible for providing instruction in various subjects.</p>	<p><i>Existing Capabilities:</i> School units representing over 40% of Maine's students are using the statewide SIS with extensive teacher/student matching capabilities.</p> <p><i>Proposed Capabilities:</i> Continued expansion of statewide SIS (State-funded) and expanded local and State teach/class/student data collection.</p>
<p><b>4</b> - The system must enable the matching of teachers with information about their certification and teacher preparation programs, including the institutions at which teachers received their training.</p>	<p><i>Existing Capabilities:</i> Legacy credentialing system.</p> <p><i>Proposed Capabilities:</i> New self-service credentialing system linked with a new Teacher Quality Management System and collaboration with post-secondary teacher preparation programs.</p>
<p><b>5</b> - The system must enable data to be easily</p>	<p><i>Existing Capabilities:</i></p>

<p>generated for continuous improvement and decision-making, including timely reporting to parents, teachers, and school leaders on the achievement of their students.</p>	<p>TEAchME pre-k through 12 education data warehouse and decision support system with school improvement, balanced scorecards and growth model data marts linked to the education portal with public and secure access. <i>Proposed Capabilities:</i> Expansion of the scope of the data warehouse and creation of new data marts supported by education research partners.</p>
<p><b>6</b> - The system must ensure the quality and integrity of data contained in the system.</p>	<p><i>Existing Capabilities:</i> Maine business rules require validation of data before being loaded into the staging area and the data warehouse and regular data cleansing routines are scheduled. Users are encouraged to attend SLDS data quality certification training. <i>Proposed Capabilities:</i> The data quality certification training program will be expanded to a wider range of stakeholders as the sources of longitudinal data are increased.</p>
<p><b>7</b> - The system must provide the State with the ability to meet reporting requirements of the Department, especially reporting progress on the metrics established for the State Fiscal Stabilization Fund and the reporting requirements included in the EDFacts data collection and reporting system.</p>	<p><i>Existing Capabilities:</i> The SLDS data warehouse has an EDFacts data mart for federal reporting and an Essential Programs and Services (EPS) data mart for State reporting. All EDFacts and EPS data elements are defined and mapped in the data dictionary. ARRA data are maintained in the existing State system. <i>Proposed Capabilities:</i> A SFSF data mart will be created for reporting and analysis.</p>

**Required Data System Elements (America COMPETES Act):**

<i>SLDS RFA</i>	<i>Maine SLDS</i>
<p><b>8</b> - A unique statewide student identifier that does not permit a student to be individually identified by users of the system (except as allowed by Federal and State law).</p>	<p><i>Existing Capabilities:</i> All students enrolled in publically funded Pre-K through 12 programs are assigned unique identifiers. <i>Proposed Capabilities:</i> Linkages to identifiers used by other State agencies will be created through cross-agency client index tables.</p>
<p><b>9</b> - Student-level enrollment, demographic, and program participation information.</p>	<p><i>Existing Capabilities:</i> All student-level information including demographics and program participation are</p>

	<p>collected.</p> <p><i>Proposed Capabilities:</i> Expanded local and State teacher/class/student data collection.</p>
<p><b>10</b> - Student-level information about the points at which students exit, transfer in, transfer out, drop out, or complete P-16 education programs.</p>	<p><i>Existing Capabilities:</i> Student-level information about the points at which students exit, transfer in, transfer out, drop out, or complete PreK-12 education programs.</p> <p><i>Proposed Capabilities:</i> Measuring post-secondary matriculation and success rates are part of the planned post-secondary and multi-state collaboration.</p>
<p><b>11</b> - The capacity to communicate with higher education data systems.</p>	<p><i>Existing Capabilities:</i> A pilot program using common transcript data is a 2007 SLDS grant component.</p> <p><i>Proposed Capabilities:</i> Expanded multi-state electronic transcript system based on PESC standards and collaboration with the National Student Clearinghouse. Linkage with State postsecondary systems to measure college readiness and provide feedback to secondary schools.</p>
<p><b>12</b> - A state data audit system assessing data quality, validity, and reliability.</p>	<p><i>Existing Capabilities:</i> Data validation is built into the staging systems and verification and cleansing routines are part of the data warehouse architecture.</p> <p><i>Proposed Capabilities:</i> Additional data quality checks and reports for cross-agency and multi-state data.</p>
<p><b>13</b> - Yearly test records of individual students with respect to assessments under section 1111(b) of the elementary and Secondary Education Act of 1965.</p>	<p><i>Existing Capabilities:</i> Individual statewide assessment data are collected in the State system.</p> <p><i>Proposed Capabilities:</i> Expanded local and State capabilities to include incremental and formative assessment data.</p>
<p><b>14</b> - Information on students not tested, by grade and subject.</p>	<p><i>Existing Capabilities:</i> Information is collected on students who are not administered the statewide exams.</p> <p><i>Proposed Capabilities:</i> Expanded capabilities to collect data on the reasons why students are not tested.</p>
<p><b>15</b> - A teacher identifier system with the ability to match teachers to students.</p>	<p><i>Existing Capabilities:</i> All teachers are assigned unique identifiers.</p>

	<p>The rollout of the statewide SIS has increased the number of school units with extensive teacher/student matching capabilities.</p> <p><i>Proposed Capabilities:</i> Continued expansion of statewide SIS (State-funded) plus greater integration of local systems with the State data warehouse.</p>
<p><b>16</b> - Student-level transcript information, including information on courses completed and grades earned.</p>	<p><i>Existing Capabilities:</i> The statewide SIS produces student-level “official” transcripts for transmission to postsecondary institutions as well as the ability to electronically move student records between schools within and outside the State.</p> <p><i>Proposed Capabilities:</i> Development of electronic transcripts based on PESC and multi-state standards and expansion of horizontal and vertical records exchange.</p>
<p><b>17</b> - Student-level college readiness test scores.</p>	<p><i>Existing Capabilities:</i> All Maine students take the SAT in 11<sup>th</sup> grade and the PSAT twice in 10<sup>th</sup> grade.</p> <p><i>Proposed Capabilities:</i> Proposed regional multi-state college readiness data including ACT and SAT benchmark comparisons.</p>
<p><b>18</b> -Data that provide information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework.</p>	<p><i>Existing Capabilities:</i> Data received from National Student Clearinghouse.</p> <p><i>Proposed Capabilities:</i> Proposed regional multi-state postsecondary matriculation and success rates data collection and reporting.</p>
<p><b>19</b> - Data that provide other information determined necessary to address alignment and adequate preparation for success in postsecondary education.</p>	<p><i>Proposed Capabilities:</i> Proposed NESSC multi-state postsecondary college success criteria in addition to college readiness data project with University of Maine System.</p>

**Other Application Requirements:**

<i>SLDS RFA</i>	<i>Maine SLDS</i>
<p><b>20</b> - States are encouraged to include or integrate data from special education, programs for English language learners, early childhood programs, human resources, finance, health, postsecondary, and other relevant areas, with the purpose of allowing important questions</p>	<p><i>Existing Capabilities:</i> Data on ELLs, early childhood, all school staff, finance and health are collected.</p> <p><i>Proposed Capabilities:</i> Expansion of early childhood data to include additional programs and linkage with</p>

<p>related to policy or practice to be asked and answered.</p>	<p>postsecondary and workforce systems. Multiple research projects are planned.</p>
<p><b>21</b> - States are also encouraged to work together to adapt or adapt their statewide, longitudinal data systems to meet multiple States' needs.</p>	<p><i>Existing Capabilities:</i> Multi-state collaboration through the New England Secondary School Consortium (NESSC). <i>Proposed Capabilities:</i> Expansion of NESSC collaboration and participation in the CCSSO LEARN Consortium on cross-state data sharing and regional research projects.</p>
<p><b>22</b> - Systems must be designed to meet the standards and guidelines of the National Center for Education Statistics to the maximum extent feasible.</p>	<p><i>Existing Capabilities:</i> NCES guidelines with crosswalks are documented in TEAchME data dictionary. <i>Proposed Capabilities:</i> Expansion of NCES standards with LEAs and work with the National Education Data Model (NEDM) through the CCSSO LEARN Consortium.</p>
<p><b>23</b> - States should include in their applications and plans for developing robust, statewide, longitudinal data systems concrete strategies and steps to ensure that the data will be used to support continuous improvement, especially instructional improvement, and informed decision-making by school and district leaders, as well as by State officials.</p>	<p><i>Existing Capabilities:</i> SLDS data quality certification training includes collection, reporting and using data at all stakeholder levels for student and school improvement. <i>Proposed Capabilities:</i> The data quality certification training program will be expanded to a wider range of stakeholders as the TEAchME scope increases to incorporate additional courses focused on utilization of the growth model and school improvement data marts.</p>
<p><b>24</b> - States are encouraged to pursue the seamless integration of district systems with the State system and to leverage available resources by establishing partnerships with other States and among institutions and agencies within the State that hold data to be included in the statewide, longitudinal data system.</p>	<p><i>Existing Capabilities:</i> Pilot programs with State higher education institutions. <i>Proposed Capabilities:</i> Expansion of SLDS to include cross-agency data linking and sharing from early childhood programs to postsecondary and the workforce.</p>
<p><b>25</b> - States are encouraged to develop partnerships with State workforce agencies and the workforce investment system to build a data system that can provide information to inform complex policy questions that cut across education, the workforce, and economic development context.</p>	<p><i>Existing Capabilities:</i> Ability to collect SSN for linkage to postsecondary and workforce systems. <i>Proposed Capabilities:</i> Expansion of SLDS to include cross-agency data linking and sharing to develop workforce and economic development analytics.</p>

<p><b>26</b> - States are encouraged to develop partnerships with external research organizations and must include in their applications and plans strategies for providing researchers access to State data for evaluations of policies and programs within the State, with appropriate safeguards to protect student confidentiality.</p>	<p><i>Existing Capabilities:</i> Research projects with Maine Education Policy Research Institute, and the Northeast &amp; Islands REL.</p> <p><i>Proposed Capabilities:</i> Additional research analytics and projects with existing relationships plus additional multi-state collaborative research with NESSC partners.</p>
<p><b>27</b> - In developing applications for this competition, States are encouraged to consult with key stakeholders such as superintendents, educators, and parents as well as teacher unions, the business, community, and civil rights leaders.</p>	<p><i>Existing Capabilities:</i> Regular meetings with 21<sup>st</sup> Century Advisory Council that includes over 60 stakeholders representing State agencies, superintendents, principals, educators, and parents as well as teacher unions, the business, community, and civil rights leaders.</p> <p><i>Proposed Capabilities:</i> Relationships with key stakeholder groups will continue beyond the grant application. The focus of the meetings will be on sustainability and promoting the use of longitudinal data for program evaluation and improvement.</p>

## 2. Project Design and Outcomes

Maine proposes a three-year plan to enhance and add key components to the current TEAchME longitudinal data system through a coordinated multi-State agency effort along with collaboration with regional state partners and the CCSSO LEARN Consortium. The current SLDS project initiatives will continue as planned through August 2010. Maine is committed to continued funding of the expansion of the State-funded statewide student information system as well as funding of the support and maintenance of the systems implemented through the TEAchME initiatives. The State is also investing in upgrades to the Maine Education Data Management System (MEDMS) Financial System to support changes due to school unit consolidations. The current and planned State-funded projects are described in Section 4 of this narrative. The total system approach, including State and grant-funded components, will enable Maine to meet or exceed all of the Statewide Longitudinal Data System Recovery Act objectives in the three-year grant period. The proposed components will build on the Education Data Warehouse/Decision Support System and Education Portal funded through the 2007 grant that will go live in summer 2010. The MEDMS Financial System upgrade is expected to be completed by January 2010. Waves 1 and 2 of the statewide student information system rollout are complete and Wave 3 is scheduled to start in December 2009 and Wave 4 in April 2010. Two other State-funded initiatives, the School Bus Routing and Student Transportation System and the School Facilities Management System, will be operational in the current school year.

### *Objectives for the System Components to be Addressed Through This Grant*

Based on the analysis completed by the 21<sup>st</sup> Century Advisory Committee, the Governor's Workforce Cabinet and the Data Management Team, Maine has identified the following five focus areas and key underlying components and outcomes:

## 1 – Improve Teacher Effectiveness

- **Educator Credentialing System** - Replace the existing legacy certification that does integrate with the TEAchME data warehouse with a web-based credentialing application that provides on-line access for applicants, educators, school units, colleges and universities and Department staff. The current legacy COBOL/UNIX system is a green screen application that is not accessible outside the Department and is primarily paper-based, resulting in a high volume of telephone calls and time consuming processes as well as limited longitudinal data.

**Outcome:** New web-based credentialing system in place by September 2011.

**Grant requirements targeted:** 3, 4, and 12

- **Teacher Quality Management System** – Implement a comprehensive web-based system that provides self-service features for educators including career development and growth tracking, portfolio building, self-assessment and individual learning plans. Additional capabilities include integration with the new credentialing system, alignment with Maine teaching standards, mentoring, and integration with highly qualified teacher data. The Teacher Quality Management System is a key component in meeting the teacher effectiveness assurance by providing teachers and school administrators with the tools and data they need to identify areas that need improvement and develop and distribute highly qualified teachers in low performing schools.

**Outcome:** New web-based teacher quality management system in place by March 2012.

**Grant requirements targeted:** 3, 4, 12 and 15

## 2 - Expand the SLDS Education Data Warehouse from a Pre-K through 12 to an Early Childhood through 20 system

The current SLDS data warehouse is designed to facilitate data collection and analysis of publically funded students from pre-kindergarten through 12<sup>th</sup> grade. This set of components will expand the scope of the data warehouse to include early childhood to workforce data through linkages with data systems in other State agencies and postsecondary institutions.

- **Early Childhood Programs**

- Develop linkage with Department of Health and Human Services early childhood program data through expansion of DHHS Cognos Frameworks client index table to include State Student Identifier.

**Outcome:** Expanded client index tables in place by June 2011.

- Establish pilot programs to track participation in Early Head Start, Head Start and Educare. This will facilitate evaluation of the effectiveness of early childhood programs in preparing children for elementary education.

**Outcome:** Add new early childhood data to the TEAchME data warehouse by March 2012.

**Grant requirements targeted:** 1, 2, 8, 12 and 20

- **Postsecondary Programs**

Linkage with postsecondary data will be a joint effort between the TEAchME team and resources from the University of Maine System (UMS) and other postsecondary partners. UMS services the seven four-year public universities through a single PeopleSoft system called Mainstreet. Policies and processes resulting from this joint project will serve as the basis for linkages with other Maine postsecondary institutions.

- Align the identification of students in UMS' data system, Mainstreet, with the TEAchME and statewide student information systems.
- Load student transcript data from Maine high schools into Mainstreet.

**Outcome:** Postsecondary linkages with UMS in place by June 2011.

**Grant requirements targeted:** 1, 10, 11, 12, 16, 18 and 19

- **Adult Education**

- Replace the existing adult education system with a web-based statewide system that provides centralized functionality to local programs. The current adult education system is decentralized and limited data are compiled annually.
- Integrate the adult education system with the TEAchME data warehouse and other State systems to facilitate tracking adult education participation of students who drop out of high school, matriculate to GED programs or continue their education through adult education as well as transition to postsecondary institutions and the workforce. The local programs and the Department of Education need the ability to collect timely and consistent enrollment data in order to review program performance and the ability to integrate with other State systems.

**Outcome:** New adult education system in place by September 2011.

**Grant requirements targeted:** 1, 12, 20 and 25

- **Workforce Development**

- Establish linkages to Department of Labor data systems to evaluate the relationships between student employment earnings outcomes and entry into Maine growth industries by programs of study, geographic mobility and additional measures. The ability to track student outcomes after transitioning from secondary programs does not exist in the current system. There is a growing need for linking education programs to workforce development in order to inform policy making, program evaluation and economic development.
- Develop reports on employment and earnings status of graduating classes from Maine high schools, community colleges and State universities.

**Outcomes:** Linkages to workforce data established by June 2011 and annual research reports created over the three year grant period.

**Grant requirements targeted:** 1, 12, 20 and 25

### **3 – Deliver Comprehensive Stakeholder Training Programs**

- Expand current SLDS Data Quality Certification Program to include additional data warehouse resources. Develop stakeholder training programs to encourage the use of longitudinal data by the general public, educators, at-risk intervention programs, community groups and researchers for the purpose of evaluating programs and improving student achievement. This component will expand the existing training programs as new tools and reports are developed in order to ensure that the stakeholders get the most value from the longitudinal data.
- Deliver stakeholder training programs on utilization of the education data warehouse data marts and decision support components including:
  - **Growth Models** - analysis for evaluation of programs and teacher effectiveness.

- **At-Risk Students** – identification of at-risk students for intervention and remediation to reduce drop-out rates and take preventative actions.
- **Balanced Scorecards** – measure school unit and program target objectives with actual performance.

**Outcome:** Expansion of the training programs throughout the grant period.

**Grant requirements targeted:** 5, 6, 12 and 27

#### 4 – Participate in Multi-State Collaboration Consortia

- **New England Secondary School Consortium** – Participate in the five-state partnership with common metrics to accurately measure student learning and achievement. Initial focus will be on five individual state and regional goals, inter-state data sharing and collaborative research and evaluation. Participation in the consortium will enable Maine to leverage regional resources to achieve common goals and standards and perform meaningful multi-state analyses.

**Outcomes:** Establish consensus on metrics for five goals by December 2010. Create annual progress reports plus targeted research projects throughout the grant period.

**Grant requirements targeted:** 1, 10, 11, 12, 13, 16, 17, 18, 19 and 26

- **CCSSO LEARN Consortium Membership**

Participate in a multi-state national partnership that will assist Maine in transitioning to common standards for national information exchange. The current Maine SLDS is focused on State data. While participation in NESSC is focused on regional collaboration, the LEARN initiative will assist Maine with developing core national capabilities. Key components include:

- Collaboration of states to develop and implement national academic standards;
- Alignment of state systems with National Education Data Model to facilitate cross-state data sharing;
- Data store for federal EDFacts and AYP reporting;
- Secure access for researchers to early childhood, k-12, postsecondary and workforce data based on State regulations and policies; and
- Interfaces with third-party systems to provide access for small or rural school units to facilitate use of robust education applications.

**Outcomes:** Common multi-state standards and data exchange processes.

**Grant requirements targeted:** 1, 2, 3, 5, 7, 9, 12, 16, 20, 21, 22 and 23

#### 5 - Research

- Partner with the Maine Education Research Policy Institute (MEPRI) to conduct longitudinal research studies utilizing the expanded TEAchME longitudinal data. MEPRI resources currently work the Department of Education and the legislature.
- Create models and perform research and analysis on:
  - Child, School, and Community Factors Predicting Academic Performance
  - College Readiness and Transitions
  - STEM Retention in College and the Work Force
  - Education Policy and Practice

**Outcome:** Targeted longitudinal research reports throughout the grant period.

**Grant requirements targeted:** 1, 12, 17, 18, 19, 20, 21, 23 and 26

The 2009 grant project will be a coordinated effort that will include resources from the Maine Department of Education (DOE), the State Office of Information Technology (OIT), other State agency personnel, research organizations, contracted providers, local school administrative units, public and private higher education institutions in Maine, as well as the collaboration with resources from New England state partnerships and the CCSSO LEARN Consortium. Each component will add value to the existing longitudinal data system and address needs identified by stakeholders.

The 2009 grant components will leverage existing TEAchME capabilities including direct linkage to the education data warehouse and decision support business intelligence application. All new SLDS applications will be accessed through the education portal leveraging the enterprise security model. Stakeholders will only need to sign-on to the portal to gain access to all the applications based on their roles and permissions.

## **1) Improving Teacher Effectiveness Components**

### ***Educator Credentialing System***

The existing legacy credentialing system was designed over twenty-five years ago to meet the then current needs of the Department. While the COBOL/UNIX system has been updated many times it was never designed to be accessed outside of the Department. The certification staff has established the core requirements for a new system after corresponding with other states and attending demonstrations of recently developed systems in New Hampshire and Oklahoma.

The new educator credentialing system will include the following key functionality:

- Browser independent web-based secure access for all stakeholders including Department staff, applicants and degree granting institutions. This will facilitate faster response time from application to decision;
- Self-service capabilities for applications and renewals including step-by-step wizards that will make it easier and more convenient to apply for work in Maine schools. This will also reduce telephone calls and visits to the certification office and free up staff time to process applications;
- On-line status checking, payment processing, background checking and direct email notifications that will improve workflow and communication;
- Workflow capabilities to increase certification staff efficiency and load balance application processing;
- The ability to accept test scores from vendors and transcript files directly into the system to reduce processing time;
- Integration with the SLDS data warehouse and teacher quality management system for data collection, reporting and analysis; and
- Searchable digital files that will increase efficiency, reduce the need to collect and store paper, and improve the ability research and analyze credential data.

The key deliverable in this grant component is a single comprehensive credentialing system that provides the functionality and integration listed above. Funding for this component will also include data conversion, staff training and the development of on-line help and wizards for end-users.

### ***Teacher Quality Management System***

Data for and about teachers in Maine are currently maintained in multiple disparate systems making it very difficult for individuals to manage their careers and take advantage of available professional opportunities. This component will provide a core system that educators can access for critical data they need to improve teacher effectiveness. The design of this component is based on Maine's involvement in the CCSSO Interstate New Teacher Assessment and Support Consortium (INTASC) and evaluating teacher support and data systems in other member states.

The teacher quality management system will include the following key functionality:

- Browser independent web-based secure access for teachers, superintendents and principals. Superintendents and principals will be able to monitor teacher progress and offer on-line mentoring programs;
- Self-service capabilities that assist teachers with managing their career development and helping them track their growth, build portfolios and create transcripts;
- Templates for educators to build individual learning plans aligned to SEA and LEA standards and perform self-assessments based on local, State and national standards;
- Access to professional development programs including catalogs for classroom-based and on-line courses;
- Integration with the SLDS data warehouse and education credentialing system for data collection, reporting and analysis; and
- Training for administrators and end-users.

The goal of the teacher quality management component is to provide a comprehensive on-boarding through retirement system that gives teachers a professional growth and learning community aligned to the needs of the State and LEAs. Together with the new credentialing system the proposed teacher quality management will help support the essential area of reform: *Making improvements in teacher effectiveness and ensuring that all schools have highly qualified teachers.*

## **2) Early Childhood to 20 System Components**

### ***Early Childhood Program Linkage***

The SLDS team has been meeting with early childhood program and technical staff at the Department of Health and Human Services (DHHS) to jointly develop a link between the DOE and DHHS data systems in order to monitor the effectiveness of early (birth to five) childhood programs in preparing children for elementary education. This is designed to support a number of initiatives involving the *Maine Children's Cabinet* chaired by the State's First Lady including a collaboration of seventeen states on *School Readiness Indicators*, the *CCSSO Early Childhood Workgroup* and the *National Infant and Toddler Child Care Initiative*. The Department's student information system currently collects only early childhood participation and assigns unique state student identifiers for children in Child Development Services centers and public school Four-Year-Old programs. This component will enable the TEAchME system to collect data on additional early childhood programs. This will be accomplished in two phases.

*Phase 1, Data Linkage System* – The DOE and DHHS data systems are both hosted and managed by the State Office of Information Technology. DHHS previously developed an identifier matching algorithm using their Cognos Framework running on an Oracle backend to create a DHHS "A" Number for clients in fifteen different program areas (see Appendix A). There are currently 1.5 million client records with "A" Numbers. The TEAchME team will leverage the

DHHS system by adding the DOE state student identifier (SSID) to the existing client index table. Each row on the table represents a client. The column headers include: first name, middle name, last name, birth date, mortality date, gender, ethnicity, phone number, Social Security Number, Medicaid ID, A number, and other program identifier fields.

Funding for this component will enable Maine to expand the client index tables to add state student identifiers and other State agency identifiers, perform matches using the existing matching algorithm as needed, and perform data cleansing and validation. The system's client index table will facilitate linkage to multiple DHHS programs as well as to a wide range of other State agency data systems. The system will be used to allow an agency to request data from another agency using their own identifier without the need to know the identifier of the sending system. Agencies initially participating in this system will be: Education (DOE), Labor (DOL), Health and Human Services (DHHS), Corrections (DOC) and the University of Maine System (UMS). This will enable a chain of linkages throughout a person's life in Maine.

- DOE ↔ DHHS – “A” number/SSID
- DOE ↔ DOC – SSID
- DOE ↔ UMS – SSID/SSN/Student ID
- DOE ↔ DOL – SSN
- UMS ↔ DOL – SSN

This component will also include establishing a process to document inter-agency data sharing agreements and review of any legal issues.

*Phase 2, Early Childhood Program Pilot* – The DHHS program managers selected three programs for a linkage pilot with DOE: *Early Head Start, Head Start and Educare*. The three programs represent over 3000 children. The programs currently do not maintain a State database since they are local programs that complete their own federal Program Inventory Reports. Funding for this component will be used to establish a State data repository for the three programs, assign unique program identifiers, and add those identifiers to the Cognos Framework client index table for linkage to DHHS and DOE. Queries will extract data into the TEAchME data warehouse and reports and queries will be developed using the TEAchME decision support system and published through the TEAchME portal. Researchers from the Maine Education Policy Research Institute will be involved in the pilot.

### ***Postsecondary Programs***

**Align student identifiers** - Maine high schools are in the process of adding the unique state student identifier field to their transcripts. Aligning the identification of students in the University of Maine system with the TEAchME data warehouse will require loading the state student identifier into Mainstreet. There are three steps to this component.

- Add the Maine state student identifier field in the Mainstreet tables;
- Develop a one time project to receive data from the Maine Department of Education and match it to UMS students and then load the data into Mainstreet; and
- Establish an ongoing periodic process to catch up identifiers UMS has not received through the admissions process.

The processes and policies for aligning high school and postsecondary students established with UMS will be the basis with expansion to other Maine institutions.

**Transmit and receive electronic transcripts** - The electronic transcript component is designed to facilitate transfer of student records between school units and exchange records with postsecondary education institutions and clearinghouses. There are no current statewide standards for records transfer either in format or data elements. The process is paper-based and student records are mailed or faxed to the receiving school or attached to an email. Once received, the student record data is entered manually into local information systems. This is not only time consuming but is also open to re-keying errors and lacks adequate security. Work performed under the 2007 SLDS grant includes development of an “official” high school transcript that will be generated by the statewide student information system. The State SIS vendor, Infinite Campus, plans to deliver the XML format based on PESC standards this winter. The system currently produces a PDF version. The UMS Shared Services Director will be involved in approving the data fields.

The UMS technical staff will map the fields needed by the universities’ admissions departments to fields in Mainstreet to facilitate transcript XML upload process. The project will initially focus on secondary school student records with the intention to expand the system to include middle and elementary school records at a later date. The project team will collaborate with LEAs and their local student information system vendors to extend the program to non-Infinite Campus school units.

Issues about the security of exchanging student data electronically will be reviewed and policies and memoranda of understanding will be developed. The SLDS Project Director will meet with the Maine Higher Education Council in early 2010 to discuss expanding the program with all twenty-seven public and private higher education institutions in Maine.

### ***Adult Education System***

The current adult education system was developed by a small local vendor to meet the annual reporting needs of the Department. It produces a limited number of reports from local FileMaker Pro databases and maintains limited longitudinal data in a legacy database. There is no consistency of data elements and the local and State systems have no analysis and monitoring tools. The State only receives data once a year from the local programs.

This component will replace the existing adult education system with a web-based centrally-hosted statewide system that provides functionality to both the State and local programs. The new system will integrate with the TEAchME data warehouse and other State systems. The Department of Education and programs like Jobs for Maine Graduates will be able to track adult education participation of students who drop out of high school, matriculate to GED programs or transition to postsecondary institutions and the workforce.

The Adult Education department has been doing research on commercially off-the-shelf systems used in other states to establish the requirements for this component. Core functionality will include:

- Adult education enrollment data needed by the State and local programs;
- Student demographic data in a consistent format aligned with the TEAchME data dictionary;
- The ability to track and monitor individual student progress towards degree programs and transition into postsecondary programs and the workforce;
- Participation in special education services;

- The ability to meet requirements for the National Reporting System for Adult Education and the Workforce Investment Act of 1998;
- Linkages to the TEAchME data warehouse and the Department of Labor through state student identifiers and Social Security Numbers; and
- Training for DOE staff and local program staff.

The decision was made to not try to upgrade the existing legacy system and not develop an in-house system. This decision was made after review of currently available commercially off-the-shelf systems used in other states.

### ***Workforce Linkage***

Workforce information including employment status and earnings of graduates from secondary and post secondary education systems is an integral component of State Longitudinal Data System. By joining dynamic workforce information with detailed student records, the State creates enhanced analytical opportunities for program evaluation, curriculum assessment, targeting of limited public resources and more useful education and economic development planning. Resources from this grant will assist the State of Maine in developing permanent capabilities including a Wage Records Matching Center (WRMC), Maine Education and the Economy Analytics (MEEA) and Standard Reports detailing employment and earnings outcomes for graduates from Maine's secondary schools, community colleges and state higher education institutions.

**Wage Records Matching Center** - The Center will be established within the Maine Department of Labor, Center for Workforce Research and Information (CWRI) and have primary responsibility for implementing a comprehensive matching service. This service will include the matching of secondary and post secondary student records with wage records (employment status, employment by location, employment by detailed industry description, and quarterly earnings). The primary data source will be State wage records which are updated quarterly by Maine employers covered under Maine Employment Security law (96% of Maine employers). In addition, we will consult the Wage Records Interchange System (WRIS), a collaborative wage records information exchange among states to check the employment and earnings of those working outside of the State of Maine. Maine will also be able to access the Federal Employment Data Exchange Systems (FEDES) to establish employment and earnings status for individual on federal government and/or military payrolls. CWRI is also a member of the National Student Clearing House and thus able to determine post secondary educational enrollment status.

**Maine Education and the Economy Analytics (MEEA)** - Linking secondary and post secondary student data with workforce information will not only enhance the reporting capability of these institutions but afford new opportunities to develop performance and outcome metrics supporting new avenues for research. Defining and developing these analytics must be a shared responsibility. Educators, economic and workforce development experts, business leaders and technical specialists, elected officials and policymakers must be drawn into the process of developing the new analytics. Numerous policy and advisory bodies are already established and will be enlisted to develop measures and analytics. The Maine Jobs Council and the Governor's Workforce Cabinet (cabinet level agencies including Labor, Education, Economic Development, Health and Human Services, Maine Housing, the University System and the Community College System) will contribute expertise and much needed institutional perspectives in designing

analytics. Business groups such as the Maine State Chamber of Commerce, TechMaine, the Association of Technology Employers, the Maine Manufacturers Association and representatives from other major business groups will be sought out to shape the analytics development under the leadership of the Maine Jobs Council.

**Report Development** - By linking student and workforce information in a longitudinal data system, the Maine Departments of Education, Labor, Economic and Community Development along with Maine high schools, community colleges and State universities will gain access to extensive analytical capabilities centered on student outcomes and labor market experiences. The measures will be applied to the formulation and evaluation of economic and workforce development strategies for the State of Maine. The Center for Workforce Research and Information, in cooperation with all participating entities under the State Longitudinal Data System will generate a series of annual reports. These reports will provide for a series of standards measures and indicators to be formulated throughout the grant period. Three core reports will be produced annually:

1. *A Report on the Employment and Earnings Outcomes of Graduates from Maine High Schools;*
2. *A Report on the Employment and Earnings Outcomes of Graduates from Maine's Community College System; and*
3. *A Report on the Employment and Earnings Outcomes of Graduates from Maine's State University System.*

### **3) Comprehensive Stakeholder Training Component**

#### ***Training and Professional Development***

Each of the components of the TEACHME project listed above includes stakeholder training and professional development. The long term success of the project will be measured more by the effective use of longitudinal data for data-driven decision making by stakeholders than by the ability of the project team to implement the technical components. Participation in the 2007 SLDS Data Quality Certification training program is meeting the original goals. New funding will be used to expand the training offerings and add staff capacity.

The current 2007 SLDS training is divided into two levels. The level one training focuses on the procedural aspects of data entry and an understanding of data quality at the level of data steward. While certification is available but not be required, the Department will campaign aggressively for the continued development of this capacity at the LEA level. This system of training offers all educators in the State of Maine the ability to complete an online training module, with instructor-led classes as needed.

The second level of training goes beyond the procedural knowledge in level one, and helps stakeholders review, examine and interpret their data. The skills and decisions needed for this component of the training are more complex than in level one. The TEACHME trainers ask educators to examine the quality of the information they have, form pertinent questions, and seek appropriate ways to answer those questions accurately and efficiently. Participants receive training on basic research methodology including the formation of a hypothesis, verifying data quality and choosing the right data to generate basic frequency charts and summary statistics for their schools.

With the expansion of the TEAchME project to a wider range of stakeholders new classes will be added using the SLDS ARRA grant funding. The new classes will include training on how to use data and reports generated from the TEAchME data warehouse data marts:

- **Growth Models** – Performing analysis of student, school, school unit and State growth models for evaluation of student progress, programs and teacher effectiveness.
- **At-Risk Students** – Identifying at-risk students and selecting intervention and remediation programs to reduce drop-out rates and take preventative actions.
- **Balanced Scorecards** – Measuring school unit and program target objectives and comparing with actual performance.

Additional on-line training modules will be developed for access by the general public. This training will be posted on the public pages of the TEAchME education portal. The initial goal is to provide public stakeholders with knowledge on how to access and interpret school unit and State NCLB report cards available through the education portal.

The TEAchME project will develop a self-sustaining training capacity to support the continuing integration of disparate systems over time, long beyond the completion of this three-year project.

#### **4) Multi-State Collaboration Components**

##### ***Multi-State Collaboration***

##### **New England Secondary Schools Consortium**

In 2007, four (now five) New England states began meeting regularly to discuss high school redesign in an attempt to troubleshoot issues and learn what was working in each individual state. In 2008, the New England Secondary Schools Consortium (NESSC) was funded by the Bill and Melinda Gates and the Nellie Mae Foundations to formalize and expand the partnership to include standards and assessments, educational policy and the measurement of student learning.

*The goal of the NESSC is to ensure that every public high school student graduates prepared for success in the colleges, careers and communities of the 21<sup>st</sup> century, and that their education performance and attainment is competitive with their peers worldwide.*

With foundational support the consortium was able to capture the attention of the governors, state commissioners, state legislators and higher education leadership. Specific committees (Assessment, High School Reform, Higher Education, Research, Data, Communications, and other project-based activities) were formed to develop action plans for reaching five overarching objectives:

- Increase four-year, on-time graduation rates across the regional states;
- Decrease annual drop-out rates;
- Increase the percentage of students enrolling in two or four year college degree programs;
- Reduce the number of students required to take remedial courses during their first year of college; and
- Partner with colleagues from higher education to ensure that more students enroll in and complete a secondary degree.

Maine seeks funding, along with Connecticut, New Hampshire, Rhode Island and Vermont to arrive at mutually agreed-upon standards and data definitions for each of these indicators. Our region will then be able to track, in a uniform way, how we compare across states as well as how well we as a region compare nationally and even internationally.

Maine plans to partner with CT, NH and RI to ensure that our transcripts are portable, not only from Maine students entering regional institutions of higher education, but for our mobile students in K-12 transferring to schools both within Maine and within the multi-state region.

The TEAchME team sees a regional research approach as a way to enhance the research planned by the Maine Education Policy Research Institute. Each of our states brings a unique research perspective and specific skills to the table. We expect that this NESSC Research Partnership, which includes all NESSC states, will meet quarterly. They will, with input from Consortium members, define the three-year research agenda, develop the data-sharing agreements necessary to perform cross-state analyses, and research and develop white papers and research briefs as dictated by the research agenda and directed by policy needs.

This grant will support the NESSC efforts to develop comparable metrics across the five indicator areas, support multi-state research initiatives, develop common transcripts and establish data-sharing agreements. The five states will work together to define standards; using NCES, SIF and PESC standards whenever possible. A Multi-State Data Management Committee will be created to examine legal and policy issues involved in sharing data across states.

### **CCSSO LEARN Consortium**

The Learning Exchange and Resource Network (LEARN) will be designed to connect existing data systems in a safe, authenticated way that manages the privacy and security of records and leaves control in the hands of the participating states. LEARN plans to do this with common data and academic standards for information exchange. By making tagged data, secured identity management, and federated relationships available to third-party application developers, Maine will realize greater efficiencies and cost savings. The TEAchME team considers participation in the LEARN Consortium to be an important part of our comprehensive proposals for achieving breakthroughs in the four reform areas.

Core membership in the LEARN Consortium includes: a state data fortress, the Extract Transfer Load (ETL) between our core SLSDS and the fortress, the federal reporting module that allows us to approve the reports in aggregate before they are sent to USED, and the data utility that allows district, school, and classroom applications to access appropriate, secured, roster data and longitudinal data.

#### *State Data Fortress*

The state data fortress will be either a centrally co-located repository or a federated structure within TEAchME. This will be determined in cooperation with our internal stakeholders and our partner states. The design of the fortress will be guided by the national data standards through the National Education Data Model (NEDM) and the state partners' requirements. The system will ensure stable, secure local controls on access and use of the data. It will also ensure that Maine can enforce its own local policies and regulations inside the framework of the system, regardless of what our state partners do. The system will enable a Standards Management System allowing us to upgrade, compare, manage, jury, and distribute our academic standards in an easy, accessible way.

#### *SLDS Linkage*

The SLDS linkage of the fortress will have two primary functions: First, it will provide an easy way to access and configure ETL between the TEAchME system and the data fortress. Each type of ETL will be configured either to be a scheduled event, manually triggered, or set to go off when triggered in the data system. Second, the system will

provide a direct linkage to Maine's Active Directory authentication and authorization system. This structure will provide Automated Program Interfaces (APIs) for third-party systems (either internal, business partners or other states) to identify themselves, generate trust relationships, authenticate and granted access to the data appropriate for their role. It will also provide a user-interface for our security administrator to manage and configure this process.

#### *Federal Reporting Module*

The LEARN system will incorporate a Federal Data Store for EDFacts, the calculation of Adequate Yearly Progress (AYP), and all other official USED data collections. The system will create a secure, locally-managed record-level data store from which all EDFacts and AYP reports can be generated, will house the student and teacher portfolios, and will allow us to certify the data before the reports become "official."

#### *Secure Research Interface*

The LEARN system will provide authenticated access to researchers based on State of Maine regulations and policies. The system will also give authorized users a view of the linkage between early childhood, postsecondary and workforce systems. The LEARN consortium will aid Maine in creating the contracts and data ETL schemas with all non-K-12 entities. The TEAchME project team will work with the other consortium partners to do the same.

#### *3rd Party Interfaces*

The LEARN Consortium will publish connection interfaces (leveraging Web Services, SIF, and proprietary connections) through the platform to give access to application interfaces (LMS, Formative assessment) for small and rural districts with limited local technology systems.

### **5) Research Component**

#### ***Research***

Over the course of the grant period, and as data sets become available, a team of researchers from the Maine Education Policy Research Institute (MEPRI) will conduct a series of studies. MEPRI, a non-partisan research institute co-directed by two senior researchers from the University of Maine and the University of Southern Maine, is charged by the state Legislature to track the impacts of education programs and to conduct targeted research. Once developed, the TEAchME longitudinal data system will improve the ability of MEPRI to fulfill its legislative mandate and provide policy makers and educators alike with empirically sound evidenced based research and evaluation to guide the improvement of Maine's education system.

**General Research Methodology.** Capitalizing on a population-based, longitudinal data system, research questions will focus on growth or value-added modeling. These include hierarchical linear modeling (HLM), latent growth analyses, latent class/mixture modeling, and latent transition analysis. Reflecting the life-span data, research questions range from those focused on elementary school and K-12, through the transition into college and the workforce. In addition, questions specifically addressing fundamental policy and practice are proposed.

**Child, School, and Community Factors Predicting Academic Performance.** This first set of research questions combine the longitudinal education data with other data sources to conduct HLM analyses of child, school, and community factors predicting child outcomes. ***Level One models*** will identify individual-student characteristics (e.g., gender, free-lunch status) that may serve as risk/protective factors related to outcomes. ***Level Two models*** will identify school/teacher-level features (e.g., school resources, course offerings) that predict outcomes

