

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

**Washington, D.C. 20202-5335**



## **APPLICATION FOR GRANTS UNDER THE**

**STATEWIDE LONGITUDINAL DATA SYSTEMS**

**CFDA # 84.372A**

**PR/Award # R372A090011**

**Grants.gov Tracking#: GRANT10075855**

OMB No. 1890-0004, Expiration Date:

Closing Date: SEP 25, 2008

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This application was generated using the PDF functionality. The PDF functionality automatically numbers the pages in this application. Some pages/sections of this application may contain 2 sets of page numbers, one set created by the applicant and the other set created by e-Application's PDF functionality. Page numbers created by the e-Application PDF functionality will be preceded by the letter c (for example, c1, c2, c3, etc.).

## Application for Federal Assistance SF-424

Version 02

## \* 1. Type of Submission:

- ☐ Preapplication  
☒ Application  
☐ Changed/Corrected Application

## \* 2. Type of Application:

- ☒ New  
☐ Continuation  
☐ Revision

## \* If Revision, select appropriate letter(s):

## \* Other (Specify)

## \* 3. Date Received:

09/23/2008

## 4. Applicant Identifier:

## 5a. Federal Entity Identifier:

## \* 5b. Federal Award Identifier:

## State Use Only:

## 6. Date Received by State:

## 7. State Application Identifier:

## 8. APPLICANT INFORMATION:

## \* a. Legal Name:

Hawaii Department of Education

## \* b. Employer/Taxpayer Identification Number (EIN/TIN):

99-0266482

## \* c. Organizational DUNS:

809935513

## d. Address:

## \* Street1:

P.O. Box 2360

## Street2:

## \* City:

Honolulu

## County:

## \* State:

HI: Hawaii

## Province:

## \* Country:

USA: UNITED STATES

## \* Zip / Postal Code:

96804

## e. Organizational Unit:

## Department Name:

OITS

## Division Name:

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

## Prefix:

Dr.

## \* First Name:

Thomas

## Middle Name:

## \* Last Name:

Saka

## Suffix:

## Title: Information Specialist

## Organizational Affiliation:

Information Management Architecture Section

## \* Telephone Number:

8086927267

## Fax Number:

## \* Email:

tom\_saka@notes.k12.hi.us

## 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:

84.372

CFDA Title:

Statewide Data Systems

## \* 12. Funding Opportunity Number:

ED-CRANTS-062608-001

\* Title:

Statewide Longitudinal Data Systems Grant Program CFDA 84.372

## 13. Competition Identification Number:

84-372A2009-1

Title:

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

Hawaii

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

Enabling Effective Longitudinal Data Usage in Hawaii

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

## Application for Federal Assistance SF-424

Version 02

## 16. Congressional Districts Of:

\* a. Applicant HI-001

\* b. Program/Project HI-all

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

Add Attachment

Delete Attachment

View Attachment

## 17. Proposed Project:

\* a. Start Date: 03/03/2009

\* b. End Date: 03/30/2012

## 18. Estimated Funding (\$):

|                     |              |
|---------------------|--------------|
| * a. Federal        | 3,477,053.00 |
| * b. Applicant      | 0.00         |
| * c. State          | 0.00         |
| * d. Local          | 0.00         |
| * e. Other          | 0.00         |
| * f. Program Income | 0.00         |
| * g. TOTAL          | 3,477,053.00 |

## \* 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.)

☐ Yes ☒ No

21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

☒ \*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

## Authorized Representative:

Prefix: Dr. \* First Name: Thomas

Middle Name:

\* Last Name: Saka

Suffix:

\* Title: Information Specialist

\* Telephone Number: 8086927267 Fax Number: 

\* Email: tom\_saka@notes.k12.hi.us

\* Signature of Authorized Representative: Thomas Saka \* Date Signed: 09/23/2008

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.



**U.S. DEPARTMENT OF EDUCATION**

**BUDGET INFORMATION**

**NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

Name of Institution/Organization:  
Hawaii 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<br>(b) | Project Year 3<br>(c) | Project Year 4<br>(d) | Project Year 5<br>(e) | Total (f)    |
|--------------------------------------|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------|
| 1. Personnel                         | \$ 270,000        | \$ 270,000            | \$ 270,000            | \$ 0                  | \$ 0                  | \$ 810,000   |
| 2. Fringe Benefits                   | \$ 81,000         | \$ 81,000             | \$ 81,000             | \$ 0                  | \$ 0                  | \$ 243,000   |
| 3. Travel                            | \$ 20,610         | \$ 24,610             | \$ 15,340             | \$ 0                  | \$ 0                  | \$ 60,560    |
| 4. Equipment                         | \$ 34,000         | \$ 375,000            | \$ 225,000            | \$ 0                  | \$ 0                  | \$ 634,000   |
| 5. Supplies                          | \$ 14,600         | \$ 14,600             | \$ 10,600             | \$ 0                  | \$ 0                  | \$ 39,800    |
| 6. Contractual                       | \$ 420,000        | \$ 622,500            | \$ 322,500            | \$ 0                  | \$ 0                  | \$ 1,365,000 |
| 7. Construction                      | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0         |
| 8. Other                             | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0         |
| 9. Total Direct Costs<br>(lines 1-8) | \$ 840,210        | \$ 1,387,710          | \$ 924,440            | \$ 0                  | \$ 0                  | \$ 3,152,360 |
| 10. Indirect Costs*                  | \$ 86,542         | \$ 142,934            | \$ 95,217             | \$ 0                  | \$ 0                  | \$ 324,693   |
| 11. Training Stipends                | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0         |
| 12. Total Costs (lines 9-11)         | \$ 926,752        | \$ 1,530,644          | \$ 1,019,657          | \$ 0                  | \$ 0                  | \$ 3,477,053 |

**\*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: 7/1/2007 To: 6/30/2008 (mm/dd/yyyy)

Approving Federal agency: ☒ ED ☐ Other (please specify): \_\_\_\_\_

(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)?

**U.S. DEPARTMENT OF EDUCATION****BUDGET INFORMATION****NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

Name of Institution/Organization:  
Hawaii 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<br>(b) | Project Year 3<br>(c) | Project Year 4<br>(d) | Project Year 5<br>(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                       | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0      |
| 7. Construction                      | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0      |
| 8. Other                             | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0      |
| 9. Total Direct Costs<br>(lines 1-8) | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0      |
| 10. Indirect Costs                   | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0      |
| 11. Training Stipends                | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0      |
| 12. Total Costs (lines 9-<br>11)     | \$ 0              | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0                  | \$ 0      |



## ASSURANCES - NON-CONSTRUCTION PROGRAMS

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 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 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.

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Prescribed by OMB Circular A-102

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 subagreements.
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 (Clean Air) Implementation Plans under Section 176(c) of the Clean 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. §§1271 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 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.

|   |  |
|---|--|
| <p>* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL</p> <p>Thomas Saka</p> | <p>* TITLE</p> <p>Information Specialist</p> |
| <p>* APPLICANT ORGANIZATION</p> <p>Hawaii Department of Education</p>   | <p>* DATE SUBMITTED</p> <p>09/23/2008</p>    |

Standard Form 424B (Rev. 7-97) Back

# DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB

0348-0046

|   |  |  |
|---|--|--|
| <b>1. * Type of Federal Action:</b><br><input type="checkbox"/> a. contract<br><input type="checkbox"/> b. grant<br><input checked="" type="checkbox"/> c. cooperative agreement<br><input type="checkbox"/> d. loan<br><input type="checkbox"/> e. loan guarantee<br><input type="checkbox"/> f. loan insurance  | <b>2. * Status of Federal Action:</b><br><input type="checkbox"/> a. bid/offer/application<br><input checked="" type="checkbox"/> b. initial award<br><input type="checkbox"/> c. post-award | <b>3. * Report Type:</b><br><input checked="" type="checkbox"/> a. initial filing<br><input type="checkbox"/> b. material change |
| <b>4. Name and Address of Reporting Entity:</b><br><input checked="" type="checkbox"/> Prime <input type="checkbox"/> SubAwardee<br>*Name: Thomas Saka<br>*Street 1: 601 Kamehila Blvd #409 Street 2:<br>*City: Kapolei State: HI: Hawaii Zip: 96707<br>Congressional District, if known:   |  |  |
| <b>5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:</b>   |  |  |
| <b>6. * Federal Department/Agency:</b><br>Education   | <b>7. * Federal Program Name/Description:</b><br>Statewide Data Systems<br>CFDA Number, if applicable: 84.372  |  |
| <b>8. Federal Action Number, if known:</b>  | <b>9. Award Amount, if known:</b><br>\$  |  |
| <b>10. a. Name and Address of Lobbying Registrant:</b><br>Prefix: *First Name: None Middle Name:<br>*Last Name: None Suffix:<br>*Street 1: Street 2:<br>*City: State: Zip:  |  |  |
| <b>b. Individual Performing Services</b> (including address if different from No. 10a)<br>Prefix: *First Name: None Middle Name:<br>*Last Name: None Suffix:<br>*Street 1: Street 2:<br>*City: State: Zip:  |  |  |
| <b>11.</b> Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.<br>*Signature: Thomas Saka<br>*Name: Prefix: Dr. *First Name: Thomas Middle Name:<br>*Last Name: Saka Suffix:<br>Title: Information Specialist Telephone No: 8086927267 Date: 09/23/2008 |  |  |
| <b>Federal Use Only:</b>  |  | Authorized for Local Reproduction<br>Standard Form - LLL (Rev. 7-97)   |

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## 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 an 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 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 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.

#### \* APPLICANT'S ORGANIZATION

Hawaii Department of Education

#### \* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Prefix: Dr. \* First Name: Thomas Middle Name:   
\* Last Name: Saka Suffix:   
\* Title: Information Specialist

\* SIGNATURE: Thomas Saka

\* DATE: 09/23/2008

Close Form

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

**1. Project Director:**

|         |               |              |              |         |
|---------|---------------|--------------|--------------|---------|
| Prefix: | * First Name: | Middle Name: | * Last Name: | Suffix: |
| Dr.     | Thomas        |              | Saka         |         |

Address:

|             |                        |
|-------------|------------------------|
| * Street1:  | 601 Kamokila Blvd #409 |
| Street2:    |                        |
| * City:     | Kapolei                |
| County:     |                        |
| * State:    | HI: Hawaii             |
| * Zip Code: | 96707                  |
| * Country:  | USA: UNITED STATES     |

\* Phone Number (give area code)    Fax Number (give area code)

|            |  |
|------------|--|
| 8086927267 |  |
|------------|--|

Email Address:

|                          |
|--------------------------|
| tom_saka@notes.k12.hi.us |
|--------------------------|

**2. Applicant Experience:**

Novice Applicant    ☐ Yes    ☐ No    ☒ Not applicable to this program

**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:**

|  |
|--|
|  |
|--|

Add Attachment

Delete Attachment

View Attachment

# Project Narrative

## Abstract Narrative

Attachment 1:

Title: Pages: Uploaded File: 1234-HI\_Abstract.pdf

## PROJECT ABSTRACT

### Enabling Effective Longitudinal Data Usage in Hawaii

Similar to many organizations who were early adopters of the “data driven decision-making” movement, the Hawaii Department of Education (HIDOE) has begun to realize the limitations of using cross-sectional data analyses for critical decisions. National movement towards the use of growth models and four-year graduation rates show that increased validity in measuring educational achievement will come from the ability to analyze student-level longitudinal data.

The objectives proposed for this project will build upon the success of past efforts in information systems implementations as well as current efforts to capture instructional practice including the implementation of standardized statewide secondary course codes. The project will focus on increasing the quality of data collected, interoperability of data between systems, analysis of data over time and most importantly moving the use of data from operational and accountability purposes towards strategic usage in increasing student achievement.

The work proposed for the project is categorized under two main areas:

***Development of a statewide longitudinal data system:*** The project proposes to implement a statewide longitudinal data system utilizing the Zachman Framework as the systems planning mechanism which will insure that the longitudinal data needs of all relevant stakeholders are captured and included in the system design. An object-centric approach comprising objects, services, business rules and indices is anticipated to be deployed as the technical foundation of the system. The technique will eliminate the limitations associated with traditional relational databases and build agility into the system which is critical in evolving application implementations.

***Cultivating the use of longitudinal data with the intent of improving student academic achievement:*** A successful information systems’ implementation involves more than technical components. The stakeholders identified as end users of the system must be trained and supported if maximal value is to be achieved. Under the direction of Dr. Ronald Gallimore, Dr. Bruce Matsui and the Claremont Graduation University, the project intends to develop end-user support for the initial system implementation as well as develop a framework for supporting evolving longitudinal data requirements. The issues of data integrity, privacy and confidentiality will also be examined through an investigation of the policies and procedures being implemented in organizations faced with the Health Insurance Portability and Accountability Act (HIPAA) and Sarbanes-Oxley compliance mandates.

# Project Narrative

## Project Narrative

Attachment 1:

Title: Pages: Uploaded File: 1238-HI\_ProjNarr.pdf

Attachment 2:

Title: Pages: Uploaded File: 1239-HI\_Timeline.pdf



## Enabling Effective Longitudinal Data Usage in Hawaii

### 1) NEED FOR THE PROJECT

The federal No Child Left Behind (NCLB) law and the Reinventing Education Act of 2004, Act 51 passed by the Hawaii State Legislature are initiatives recognizing the importance of education in society and has resulted in public policy with the intent of raising academic achievement. Both focus intensively on challenging academic standards and accountability measures as strategies to ensure that all students achieve academic proficiency.

The Hawaii Department of Education (herein referred to as the “HIDOE”), is comprised of approximately 180,000 students in 280 schools and is structured as a single state and local education agency. The unique statewide structure eliminates the issues related to vertical transmission and integration of data from LEAs to SEA, however, the structure burdens the SEA information systems with the responsibility for providing strategic information solutions to schools and individual classroom teachers.

Similar to many school districts across the country, the HIDOE, driven by national and state accountability initiatives, has emphasized the use of data driven decisions. The focus on data by federal and state directives, has resulted in schools being bombarded with numerous and often redundant requests for data. While technology has allowed greater amounts of data to be stored, the current information gathering direction in education appears to be approaching the point of diminishing returns. The burden placed upon local districts and schools to collect the data out weigh the benefits received. The current danger is the preoccupation of federal and SEA administrators with data reporting which serve **“operational” and “accountability” purposes but does little to provide schools and teachers with new insights on improving student learning**. The rapid pace with which policy changes and data mandates have occurred has forced technology offices do develop **fractured or patched data reporting mechanisms** for compliance with the mandates. The situation is further compounded by resource shortages in information technology that have diverted attention from new and often more strategic information initiatives.

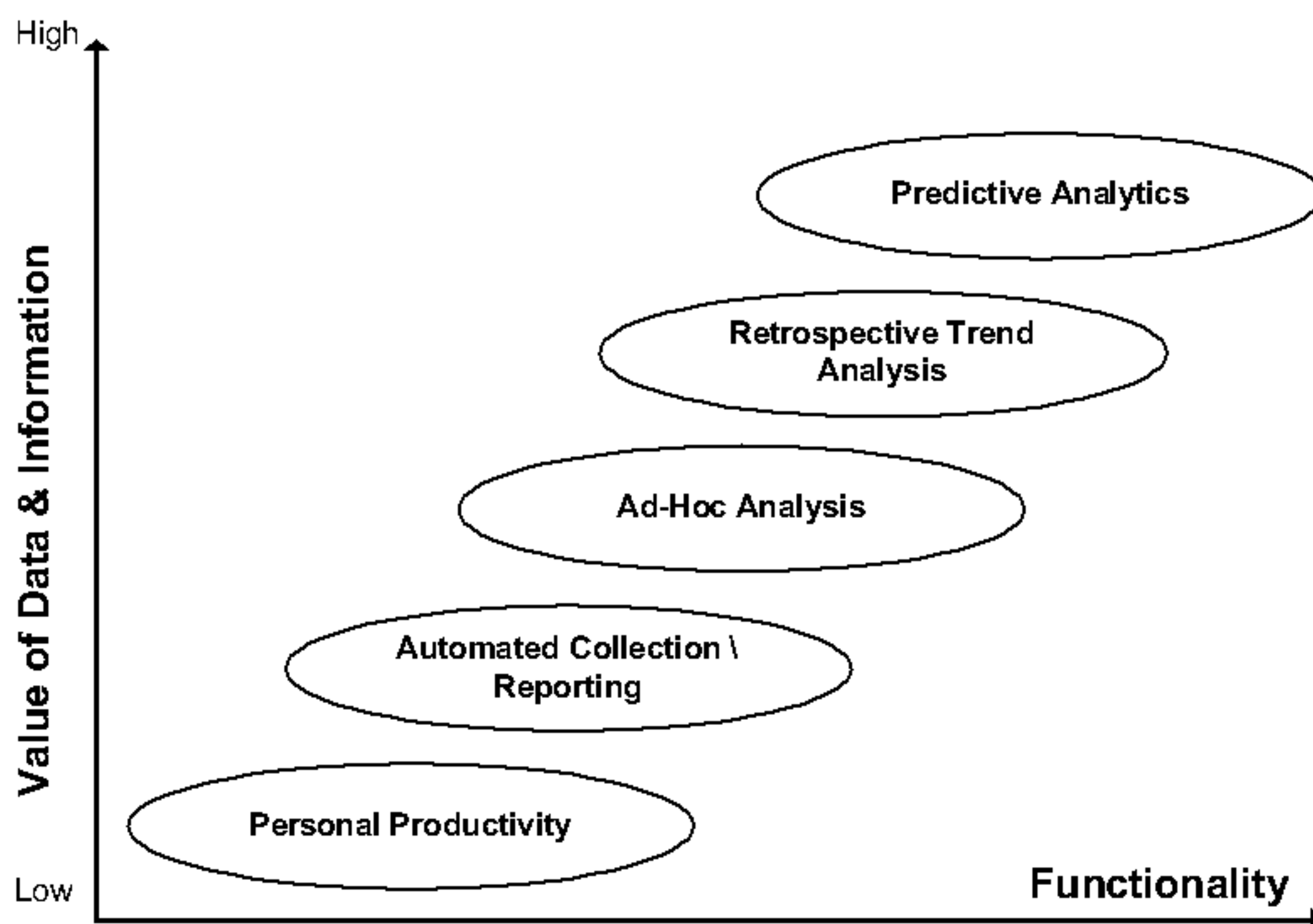
The HIDOE recognizes the value of information and the contribution that information technology needs to play in the educational process if schools are to be successful with instructional initiatives. In addition to providing timely and accurate accountability reports, data usage needs to take on a predictive role in allowing teachers the ability to identify patterns in student learning and discern adjustments can be made to instructional delivery. The ability to identify patterns requires technology that can match existing conditions with retrospective trends. Longitudinally tracking of student factors, services and outcomes is the foundation that enables the pattern recognition functionality.

Like many school systems, the HIDOE is in the process of replacing decades-old data systems. Advances in relational database technology, high speed networking and web-

based interfaces allow transformation from limited-access, rigid paper reporting to anywhere, anytime user-initiated information systems. The replacement of these core systems are largely improvements to existing functionality. What is needed are transformational systems which enable new uses of information based upon strategic educational functions such as **instructional practice and student achievement**.

From a functional perspective, the HIDOE, in utilizing results from an Enterprise Architecture project, has identified the need to use data not only for daily operations and accountability decisions but also strategically, in the student learning process. The Department has concluded that the next major technology-related benefit in education will come from better management of student information and a focus on differential instructional and support services targeted to specific segments of students. In order for this to occur the use of information and data will need to be transformed from a post-hoc summary of what has occurred in the past to the use of predictive analytics or the ability to ascertain outcomes based upon current factors. Figure 1 displays the perceived value of information technology across time. This project will enable movement to a higher level of value from the use of data.

Figure 1. Value of Information Technology Application Functionality



The core set of longitudinal data system requirements are an important guide to successful implementation of a longitudinal system in Hawaii. In the past 10 years many information technology projects have been successfully implemented, however increased value requires moving beyond the mere collection of data and siloed reporting. As the

state moves towards extracting greater value from the vast amount and array of information stored within its systems, the state must embrace requirements which have been found to be core to successful implementations in other organizations.

The HIDOE's systems status in regards to the requirements are as follows:

## **Governance & Policy**

### *Needs & Uses*

The existing data systems were implemented with a focus on addressing the “operational” data requirements of the HIDOE. The student, fiscal and human resource systems have been tuned to capture and manage “transactions” in these three functional areas and provide summary information largely through pre-determined reporting formats. While addressing the operational data needs of the HIDOE, the large amount of information maintained is largely invaluable to the various role groups for improving academic achievement of students and promoting growth. A number of system modification projects are currently being implemented to address immediate operational changes such as the move to a student weighted allocation formula, the recent shift of behavior support service personnel to the HIDOE and the need for schools to develop yearly academic and financial plans.

The HIDOE is in the last phase of a \$12 million five year project to replace the current student information system with the eSIS product from Administrative Assistants Limited (AAL) of Edmonton. The five year technology plan includes the implementation of new and expanded functionality for fiscal, human resources and student support systems. From a technical perspective, the HIDOE recognizes the value of needing to integrate across student, fiscal and staffing information as well as over time. The major **shortcoming** of these systems is that they are “enterprise resource planning” and “single-year” in nature addressing the operational needs of the school system on a year-by-year basis.

Most recently stand-alone databases have been deployed to address state and federal accountability requirements. This project will combine the yearly sources of data and enable the ability to perform longitudinal analysis of the data as well as allow the HIDOE to move data usage beyond operational and accountability to impacting student achievement.

### *Governance*

Data usage and information systems in the HIDOE are governed by the Assistant Superintendent for Information and Technology in conjunction with the Information Technology and Quality Council (ITQC). Information technology initiatives are reviewed and prioritized by the ITQC which is comprised of the Assistant Superintendents of the four major state-level offices (Instruction, Human Resources, Fiscal, Technology) and representatives of the district superintendents, elementary, middle and high school administrators. The diverse composition of the council helps to

ensure that all stakeholder groups have an input into the design and implementation of information technology (IT) initiatives.

The HIDOE's Office of Information and Technology Services is comprised of three branches which represent the various IT layers. The information resource management branch is the user-facing entity which determines user needs, structures reports and analyses, manages policies and procedures for data access and confidentiality along with providing end-user training on systems. The information systems services branch is responsible for the operation of statewide data systems applications. The third branch, network support services, manages the systems hardware and networking infrastructure.

High-level system governance decisions for the SLDS project will be provided by the ITQC and implemented by the project team in conjunction with the technology branch offices.

#### *Institutional Support*

HIDOE's longitudinal data systems project is supported from leadership within the SEA and both state and federal legislative branches of government. The support provided by the State Superintendent Patricia Hamamoto authorizes the resources necessary for ensuring successful development, implementation and maintenance of the system. The support is evidenced by various letters provided in Attachment A.

The grant application is requesting funds for the one-time design and development of the SLDS. The HIDOE is facing extreme budget cuts in excess of \$19 million for the current school year, eliminating the ability for new systems development. The support of the federal government is crucial for the development of a SLDS in Hawaii. Future development phases, maintenance, training and support will be assumed by existing appropriate resources within the HIDOE.

#### *Sustainability*

The long-term sustainability of the SLDS will be handled according to the standards of practice involving external system development and hand-off to internal HIDOE staff for operations. The appropriate longitudinal data systems functionality will be assumed by the three branches within the Office of Information and Technology Services described previously.

### **Technical**

#### *Federal Reporting*

The participation of all Hawaii public schools on a single student information system minimizes the reporting burden for schools in relation to federal reporting requirements such as EDEN, EDFacts, CCD and NCLB. Single-year data reporting performed by various state-level offices are performed relatively efficiently and with minimal error.

Multi-year data requirements such as the 9<sup>th</sup> grade cohort dropout tracking, CCD dropouts and the proposed NGA graduation statistic present challenges. The single-year

data structure of systems in Hawaii is a severe limitation when facing multi-year reporting and tracking. Data is often queried in an ad-hoc fashion and stored on stand-alone databases or spreadsheets on individual analyst's computers. A formalized process and long-term data system is necessary for reporting efficiency and data quality.

#### *Privacy Protection and Data Accessibility*

The HIDOE recognizes the need to update written policies and procedures regarding the security, confidentiality and integrity of data in its information systems. The intent is to update the procedures according to federal guidelines such as the Data Confidentiality Guide of the National Forum on Education Statistics and identified standards in the information technology community. The direction of data security, privacy and more recently access to individual student records under FERPA, has created the need to look towards anticipating future requirements in the area. As a task in this project, the HIDOE intends to map the evolving policies and procedures of the Health Insurance Portability and Accountability Act (HIPAA) to the protection and privacy of student records. The project also intends to research the technical capabilities under Sarbanes-Oxley in the area of data integrity and auditing the access to individual student records. A successfully implemented longitudinal data system will lead to increased access to student records and the HIDOE recognizes the importance of being prepared with rigorous information access policies and procedures. Instead of re-inventing the wheel the HIDOE will look for direction from other industry sectors that have faced similar issues.

#### *Data Quality:*

A task of this grant request will be to develop standardized policies and procedures for increasing the accuracy of information. The task will research the data integrity requirements which publicly-traded corporations must follow under Sarbanes-Oxley and determine applicability to education data. The related technical controls over the data which have been implemented in the private sector will also be evaluated for applicability to educational data systems.

*Interoperability:* All of the public and charter schools in the State of Hawaii utilize the HIDOE's student information system. The vertical integration of local and state data collections is already in place. In the past, schools have voiced a need for a longitudinal data system to be able to accommodate input and storage of large data files of school-specific student performance metrics. The proposed project will address the ability of a system to address this issue.

*An enterprise-wide Architecture:* The HIDOE utilizes a unique 10 digit student identifier which is utilized as the unique key across all student data collections. The unique identifier is also used by the public charter schools throughout the state.

The HIDOE does not have a formalized data architecture and a major effort of the project would be focused on building the capacity to put these types of components in place. The architecture will include reporting and data architectures for the SEA and external government agency requirements. This effort will build upon previous work in this area

funded by an NCES Task order. The previous effort resulted in the identification of school-level goals, functions and high-level information needs. The intent is to have the existing Enterprise Architecture work complement the proposed project in delivering the components of this requirement. The HIDOE recognizes the importance of this system component and will describe in the project narrative the dual-strategy approach for developing this capacity.

*A data warehouse for managing and storing longitudinally linked data and making it accessible and useful to key stakeholders, especially teachers, schools, and districts.*

The Department will utilize an existing data warehouse as the foundation for the longitudinal data system. The proposed project will add longitudinal analysis capabilities and address the capacity of the system for increasing accessibility to teachers, parents and the community

***What would be gained through the proposed work***

The project will build the capacity to deliver an effective longitudinal data system. This system will allow more accurate and timely reporting to address federal, state and local operational and compliance data needs. The greatest benefit is expected to be the delivery of the capacity to match existing student learning factors and conditions against past trends and providing proactive decision support to teachers, administrators and program specialists. The predictive use of data is a key to improving learning of all students and eliminating achievement gaps.

***Clearly specify the need to improve the current system***

Hawaii's information systems, while able to address operational and accountability data requirements (e.g., NCLB, Hawaii Legislature Act 51, etc), were not designed to directly support the learning process. If the HIDOE is to be successful in closing achievement gaps and ensuring student learning, the information systems need to do more than provide post-hoc summaries of achievement levels. Systemic improvements in teaching and learning will be enabled by increased effectiveness of data usage in education. In addition to having the capability of identifying which schools or students are showing longitudinal achievement gains, the direction of the HIDOE is to be able to provide information that provides an understanding of "why" specific students learned or didn't learn. Longitudinal data is the foundation for trending that points out what types of services have the highest probability of success with specific segment of students. The trending patterns will then allow for testing existing conditions with past trends to increase the chances of attaining a desired outcome

Lastly there is a need to leverage technical advances in this area such as enterprise architecture, services oriented architectures (SOA), neural networking algorithms and predictive analytics tools. These advances maximize the accessibility and value of the information to the various stakeholder groups. From a technology perspective, these tools provide an increased ability to address information needs and respond to changing educational conditions in a timelier manner.

Following the principles of the Zachman Framework, the project will enable the Department to evaluate the alignment of educational goals, instructional processes, data and information systems. The tasks to be engaged in this project will result in the identification of the total universe of longitudinal data needs at the school-level, the motivation for collection and the impact on school operations. The results would provide the basis for Hawaii, as well as other SEA\LEAs, to reduce redundancies, streamline data collections and allow for determination of alignment of requested longitudinal data against actual indicators of student learning.

### ***Needs Summary***

The proposed grant will allow the HIDOE to leverage all that it has accomplished in its information technology environment, address deficiencies in core functions such as interoperability and data quality as well as develop the capacity for effectively utilizing student-level data over time.

The system will lead to increased value in the use of currently collected information from operational and accountability reporting to actionable decision support in the delivery of instructional services. The ability to utilize trending for proactive decisions related to the delivery of appropriate strategies and services is projected to result in increased academic growth and improved educational achievement for all groups of students.

## 2) OBJECTIVES FOR THE PROPOSED SYSTEM

The HIDOE is proposing foundation activities towards the development of a statewide longitudinal data system. As previously described in the “Needs” section of this application, HIDOE’s information systems primarily serve a transactional function supporting operations and accountability reporting. Through this project, the state intends to develop the capacity for facilitating the use of longitudinal data by all role groups (e.g., state administrators, school administrators, teachers, researchers, etc.) for improving student academic achievement and closing achievement gaps.

The objectives of the project are categorized under two specific themes: A) developing the statewide longitudinal data system, and B) cultivating effective longitudinal data usage. The specific objectives and outcomes are described in the table below.

Table 1. Project Objectives & Tasks

| Objective / Task                              |  |
|---|--|
| A Developing the SLDS                         |  |
| A1  | Planning the SLDS<br>Determine HIDOE needs for longitudinal data<br>Document existing information & data environment<br>Conduct affinity analysis of needs to current data   |
| A2  | Designing & Developing the SLDS<br>Develop target information architect (conceptual & logical)<br>Develop & populate a MetaData repository<br>Design and Develop the technical architecture  |
| A3  | Implement the SLDS<br>Populate the SLDS<br>Deploy the SLDS   |
| B Cultivating Effective Longitudinal Data Use |  |
| B1  | Develop analysis and support for identified longitudinal data needs<br>Develop longitudinal data models based on identified needs<br>Provide longitudinal data analysis mechanisms<br>Develop end-user training curriculum for the use of the SLDS |
| B2  | Enhance Data Quality and Integrity<br>Research existing policies and procedures in other organizations<br>Modify / update existing HIDOE policies and procedures<br>Implement technical controls on improving and monitoring quality and integrity |



- B3 Enhance Data Security and Privacy
  - Research existing policies and procedures in other organizations
  - Modify / update existing HIDOE policies and procedures
  - Implement technical controls for auditing access
- B4 Develop Framework for Future Longitudinal Data Applications
  - Develop a standard of practice for:
    - Determining & documenting functional needs involving longitudinal data
    - Translating the functional needs into data and analysis in the SLDS

*Analysis of needs for the uses of the SLDS*

The standard of practice for determining information technology requirement in the HIDOE will be utilized for identifying the needs and uses of the SLDS. The methodology is based upon the principles of the Zachman Framework for Enterprise Architecture. The methodology is based upon the identification of relevant role groups (e.g., state administrators, principals, teachers, etc.), functions performed by each role group (e.g., accountability determination, instructional practice initiative selection, monitoring student achievement, etc.), and information related to the function (e.g., indicators of degree of instructional practice implementation, measures of student achievement, etc.). A target information blueprint will be created and system functionality is developed according to the requirements documented in the blueprint. An example of application of the methodology to school-level role groups can be found in special task order work completed by the HIDOE that was funded by the National Forum on Education Statistics decisions (Saka, 2003, the executive summary of the report is contained in Appendix A).

### 3) PROJECT DESIGN

Development of a statewide longitudinal data system is crucial to Hawaii's efforts for increasing the level of student achievement. The HDOE does not believe in "re-inventing the wheel" and the statewide longitudinal data system requirements, developed through the prior efforts of other educational organizations, are an excellent guide to ensuring the development of an effective system in Hawaii.

Many of the longitudinal data system requirements are in the process or have been accomplished through prior efforts in the state. A single statewide student identifier has been in place for over ten years and the implementation of a new student information system provides a foundational source for student data. The upgrade of the HDOE's student supports services system provides data on support services (e.g., special education, ESL, etc.) which can be integrated with instructional data from the student information system to provide a holistic view of each student.

The requirements that need to be addressed include the identification of specific longitudinal data needs, modeling the data, and supporting the use of longitudinal data through end-user training to the various stakeholder groups. The HDOE recognizes the vast value of the system and is attempting to be proactive in developing an environment that ensures quality data as well as protecting the privacy of individual records. The specific longitudinal data system requirements that will be addressed in the project are:

- Enable analysis of longitudinal individual student data to improve academic achievement
- Engage in longitudinal education research to inform educational policy questions
- Streamline reporting capabilities to state and federal agencies
- Ensure confidentiality and privacy of individual student records
- Ensure data integrity, security, and quality
- Enterprise-wide architecture specific to longitudinal data, metadata, model, and business rules

The status of the technical statewide longitudinal data system technical requirements for the HDOE is shown in the table below.

Table 2. Technical Requirements Status

| Requirement                               | Status    |
|---|-----------|
| Federal Reporting                         |           |
| Meet federal reporting requirements       | Project   |
| Reduce burden of reporting for schools    | Completed |
| Privacy Protection and Data Accessibility |           |
| Ensure confidentiality under FERPA        | Project   |
| Documentation on accessibility            | Project   |
| Data Quality                              |           |
| Ensure integrity & quality                | Project   |
| Ensure security                           | Project   |
| Interoperability                          |           |
| Capacity to exchange between SEA / LEA    | Completed |
| Capacity to exchange with other agencies  | Future    |
| Enterprise-Wide Architecture              |           |
| Unique student identifier                 | Completed |
| Data Dictionary, model, business rules    | Project   |
| Longitudinal data architecture            | Project   |

The timing is excellent for extending the functionality of the HDOE's data capabilities through the implementation of a longitudinal data system. Educationally, the upgrade of student and support services information systems, implementation of statewide course codes, and statewide standards-based yearly assessments provide a synergy for developing a culture of improving learning through the use of data. Technically, advances in technology including the integration and access of disparate objects of data through web services, web 2.0 technologies along with advanced visual analytic tools provides the basis for the ability identifying complex trends and lead to actionable events. HDOE is excited with the possibilities of transforming the data from its transactional systems to allow for longitudinal analyses utilizing the evolving technologies.

The project tasks are divided into two major parts: A) planning, developing, and implementing the SLDS, and B) cultivating the use of longitudinal data. The sections which follow describe the project's objectives in detail and how the project will accomplish the objectives.

## **A) SLDS: Plan, Develop, Implement**

The education environment is becoming more complex with the increased number of skills deemed critical for a child to learn, reduced resources, shorter time periods for acquiring skills, and greater diversity in the learning ability of students. The complexity makes it extremely difficult for educators to rely on subjective judgment for effective educational decisions. Decisions based upon appropriate data is crucial for achieving success in the education environment. Enterprise architecture work previously completed in the HIDOE identified the importance of “business processes” such as identifying best practices in differential instruction and the ability to evaluate the effectiveness of school-wide initiatives. More important are data which lends itself to proactive decisions such as flagging secondary students at-risk for dropping out based upon behavior patterns. The data systems currently maintained by the HIDOE do not meet these types of needs. The tasks to be addressed through a Statewide Longitudinal Data System grant would make this type of functionality a reality.

While the overall intent is to develop an SLDS capable of addressing the universe of education data, the HIDOE intends to focus on enrollment-related data and outcomes in the planning, development, and implementation of the longitudinal system. Addressing this data area is relevant given the increased focus on enrollment-related outcomes such as the four-year adjusted cohort graduation rate, dropouts, and middle-school retained rates. The framework developed in addressing this task will set the foundation for subsequent requirements, modeling, and analysis of instruction and student achievement.

The focus on enrollment-related longitudinal data has a high chance of project success because of previous work and procedural enhancements in the area. First, Hawaii recently revised its Authorized Course Code Number (ACCN) system and student exit codes which are utilized by secondary schools statewide. Second, student enrollment data using a unique statewide 10-digit identification number has been available for the past ten-year period. The data allows implementation of analysis tools and modeling algorithms to be developed with actual data. Third, extensive enterprise architecture archeology work was conducted with school-level support personnel responsible for the enrollment-related outcomes. The project will be able to leverage previous work conducted in the subject area.

Three components are planned for this part of the project. Each component will serve as a major deliverable. A table depicting the relationship of the objectives, tasks and initiation/completion dates can be found in the Timeline section. Detailed descriptions of each component/deliverable are found below.

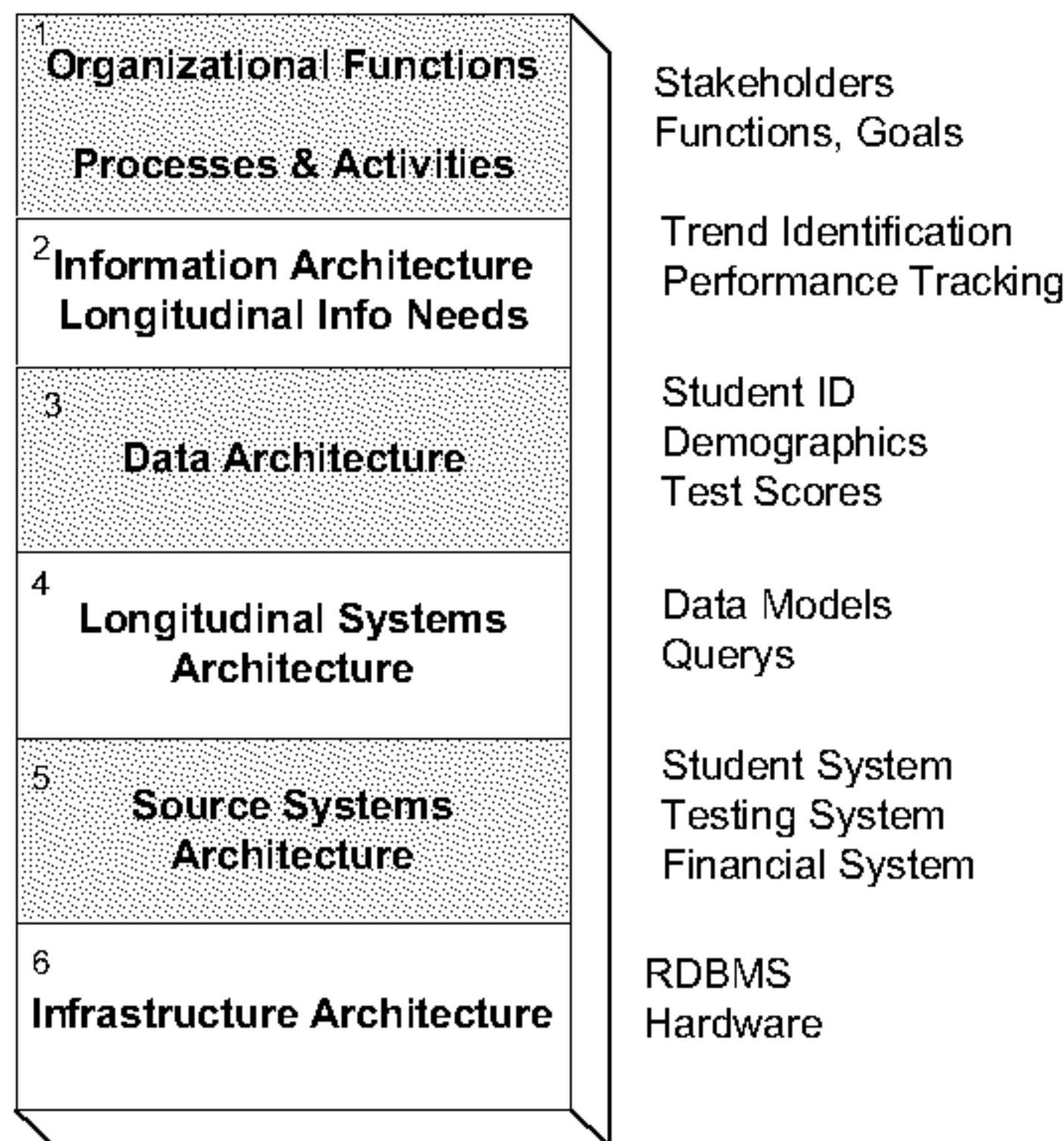
### ***A1) Plan the SLDS***

The planning component of the project will result in a *comprehensive document detailing the longitudinal data needs of the HIDOE by stakeholder group*. The document will utilize Hawaii’s standard for enterprise architecture based upon the Zachman Framework. The task will entail contracting with Samuel Holcman of the Pinnacle Business Group who will help with formalizing the metamodels for each cell of the framework and a

contractor who will lead the effort for populating the metamodels based upon Hawaii’s longitudinal data needs. The research analyst hired by the project will manage this task.

The Zachman framework, which is a structure for systems planning, consists of five levels, organizational goals, functions, information, data, and systems, will be populated in detail for the enrollment-related data areas mentioned previously. The utilization of the Zachman Framework transforms data requirements gathering from asking users “what data do you want” to “what do you do.” The resultant function information such as “monitor student achievement” is decomposed into verb and noun phrases with the noun “student achievement” representing an information area or data entity and the verb “monitor” representing processing action (see further explanation of the Zachman framework in Appendix B). The explicit documentation of functions along with the application of educational measurement principles is helping to identify an information architecture that effectively supports the educational functions of the Department and drive the technical architecture. The basics of this framework will be utilized for identifying the educational functions that can be supported by the longitudinal data system. Figure 2 below provides a visual representation of the various components of the project to be addressed.

Figure 2. System Architecture Layers



The top three levels of the framework will be populated to reflect the comprehensive longitudinal data needs statewide by role group. The horizontal functionality of the Zachman approach is anticipated to provide a comprehensive high-level picture of the range of data needs in the state. The vertical functionality takes slices or specific data

needs (e.g., enrollment status, high school exit codes, graduation rates) and transforms the business goal for an area of data (e.g., NCLB accountability) to the specific data entities and processing which ultimately lead to a report.

Past work utilizing the framework with teachers will be applied to longitudinal data needs. The framework will help to clearly identify:

- 1) What are you doing now with longitudinal data
- 2) What more would you like to do with longitudinal data (but don't have the time or resources)
- 3) The types of analyses that you don't yet know you want.

Another task(A1.3) to be addressed under this component is *documentation of the HIDOE existing data and systems structure*. Many systems were developed on short timeframes to address specific reporting requirements. These systems lack proper documentation which hinders data integration. The effort will serve as the “as is” description of the data environment and serve as the basis from which transformation will take place to address the requirements identified in the first task of this component. The data analyst hired for the project will lead this effort.

A1.4 The findings of the two tasks described above will be integrated through the third task through an *affinity analysis*. The resulting architecture blueprint will detail the relationship of the educational goal (e.g., school completion success) with the educational process definition (e.g., four-year adjusted cohort graduation rate), the information/data (e.g., enrollment, exit codes), and the related data systems (e.g., student information). The blueprint will be designed to describe the range of longitudinal data needs and detail the relationship of specific functional needs to an analysis and the specific data entities utilized in the analysis.

A goal of the framework is to allow assessment of the validity of a longitudinal analysis towards the decision of interest. The resultant effect will be system functionality which moves beyond providing not only “good” information but more importantly, “relevant” information.

From a technical perspective, the use of a structured decision framework will assist in prioritizing work and eliminating the development of unnecessarily complex data models. The effectiveness of the outcome of the task will determine the ability of the longitudinal data system to satisfy the needs of the various stakeholder groups beyond the grant period.

## ***A2) Design and Develop the SLDS***

The architectural blueprint from the planning task (A1) will serve as the foundation for this task. The design of the technical architecture (A2.1 and A2.2) of the SLDS will need to ensure that the range and detail of needs identified in the blueprint can be accommodated. In addition to variability of data needs by role group (e.g., SEA, LEA, schools, etc.), the range of functions (e.g., security, data integrity procedures, privacy

monitoring, etc.) must be accommodated in the design. The fact that the analysis of longitudinal data is an evolving area will require that the technical architecture be flexible to accommodate future undocumented needs. The services of the Gartner Group will be utilized for reviewing the integrity of the blueprint and assist with developing the related system requirements.

From a technical perspective, the HIDEOE will be investigating the use of an object-centric model in the development of the data system. The object-centric approach which is based upon service-oriented infrastructure involves the componentization of objects (data entity, business rules, etc.), services to access and dynamically combining objects and indices. The approach being utilized in the private sector appears to extend the use of technology and provide the agility for business intelligence systems of the future. Limitations often associated with relational database management systems in data warehousing would be avoided with this technical architecture.

Severe budget cuts in the HIDEOE will require that one-time development work be outsourced to a contractor (A2.3). Internal programming staff will be involved to insure adequate knowledge for system maintenance. The basic system development phase will be followed with a shorter update phase to accommodate longitudinal data needs identified in the initial deployment.

The development of a metadata repository (A2.4) for the SLDS is a related task to be addressed. A consultant will be hired to assist in the review of metadata products and providing recommendations in meeting the metadata longitudinal requirements of the HIDEOE. The contractor obtained to collect information related to the enterprise architecture in task A1 will document their findings in the repository. It is anticipated that the work conducted by other states will be invaluable for accomplishing this objective. The project plans on utilizing the soon-to-be released Forum Guide to Metadata as a foundation.

### ***A3) Implement the SLDS***

Enrollment-related data consisting of computed outcomes such as graduation rate and dropouts, in addition to individual data entities such as enrollment status and school exit status will be populated in the initial implementation of the system. The data currently reside in stand-alone databases on analysts' personal computers. Approximately ten years of enrollment data will populate the initial implementation.

The mapping from data entity to resulting analysis as documented in the enterprise architecture diagrams will serve the basis upon which the system will be presented to end-users. Access to the system will be web-based through predefined reporting formats and drill-downs in addition to ad-hoc business intelligence tools identified in the requirements phase.

Implementation will allow for evaluating more complex use of longitudinal data in monitoring current events in the context of school operations. This functionality, adapted from Business Activity Monitoring concepts, involves generating alerts for

decisions/actions to be taken based upon the occurrence of an event within the context of a process. The context is generated by matching existing conditions to past trends. The trends are generated by patterns identified through longitudinal data analysis. This component will identify the structure for documenting a process and the conditions that warrant attention or alerts. The ability to provide this functionality increases the effectiveness and value of the longitudinal data system in meeting the decision support needs of specific stakeholder groups thereby moving from past reporting to predictive usage. The focus on enrollment-related data enables school counselors to utilize data in identifying students at-risk for dropping out based upon specific patterns.

## **B) Cultivating the Use of Longitudinal Data**

In the past ten years, HIDOE has substantially increased the amount of student data collected. The rapid pace of system development and deployment has focused on the collection of the data with little forethought given to use of the data beyond hard-coded operational or accountability reporting. Only recently have efforts begun to extract greater value from the vast amount of information currently stored in disparate databases. The effort has led to the identification of issues which need to be addressed before increased value is realized. Most prominent are the need to address data quality, integrity, security, and the privacy of individual student records. The objectives and related tasks to be completed in the second part of this project are a necessary precursor to the effective utilization of the SLDS.

### ***B1) Develop a Support Structure for the Utilization of Longitudinal Data***

Deployment of a system to house, process, and analyze data is of little value if the results are based upon flawed data or improper interpretation. The project will work in conjunction with the HIDOE's Professional Development and Research Institute to develop a framework for ensuring the valid and reliable use of longitudinal data residing in the system. The framework to be developed will be an extension of the Enterprise Architecture work from task A1 where the purpose of the analysis would be clarified and refined to enable mapping to data entities and development of appropriate analyses. Longitudinal analyses found to be common among a large number of users will be formalized and shared to eliminate the reinvention of the wheel by each user. A research analyst, hired by the project, will take the lead in the development of online training modules, conduct hand-on training workshops, and serve as the content support staff. The support efforts will complement the data-driven decision-making efforts already occurring in various professional development efforts throughout the state. Ongoing training and support functions will be assumed by existing positions supporting schools such as the school assessment liaisons which are assigned to each complex.

At the SEA level, a longitudinal research consortium will be formed to develop a research agenda for the state. The project will retain the services of Dr. Ronald Gallimore (Distinguished Professor Emeritus, UCLA) and Dr. Bruce Matsui with the Institute at Indian Hill, Claremont Graduate University to direct the effort. The HIDOE will build upon previous collaborations with Dr. Gallimore in research on improving



teaching and learning in the classroom. Dr. Matsui will extend his work with school administrators in the HIDOE on the continuous improvement of schools through research, coaching, and evaluation to include the use of longitudinal data which previously was not possible due to the lack of a systematic mechanism for collecting and reporting the data. This task is perhaps one of the most important outcomes for the project with its focus on utilizing longitudinal data beyond operational and accountability purposes.

***B2) Ensure Data Quality and Integrity***

Achieving high quality data in HIDOE's longitudinal data systems is a major initiative of the project. Previous experience has led to the realization that data quality and integrity is a multifaceted task and requires a variety of approaches. Instead of re-inventing the wheel in this area, the project proposes to research and review: a) implementations by other SEAs and b) stringent procedures mandated by Sarbanes-Oxley (SOX) on corporate reporting. The corporate reporting procedures will be evaluated against the current and anticipated future reporting requirements for schools systems. A determination will be made on the applicability of the corporate mandates to educational organizations. The task will review the technical controls that have been developed in response to specific SOX policy and procedure requirements. Applicable controls will be attempted to be incorporated into the HIDOE's design of the longitudinal data system. The task will be conducted by the project team utilizing HIDOE's subscription to the Gartner Group's advisory services. Hawaii views data quality as a priority given the high-stakes nature that educational data has evolved to. Complexity on data integrity is projected to increase as datasets being to span multiple years (e.g., four-year graduation rate, growth models, etc.). Data integrity can only be realized in multi-year applications through the implementation of front-end controls.

***B3) Ensure Data Security and Privacy***

The anticipated success of the longitudinal data system will provide greater requests for user access. In order to comply with the requirements of the Federal Education Rights Protection Act (FERPA), the HIDOE realizes the need to update existing policies and procedures. In anticipation of further rigidity of FERPA, the HIDOE is proposing as a task of the project, to review the patient privacy rights under the Health Insurance Portability and Accountability Act (HIPAA) and determine applicability to student records. More specifically, the technical controls auditing access to records would be reviewed in conjunction with the Gartner Group and possibly included in Hawaii's longitudinal data systems design. Hawaii is looking ahead to ensure that the deployed system meets current as well as future requirements in the area of privacy and security.

The HIDOE's information specialist for student records will lead the effort on the privacy and security issues of the longitudinal data. The project will be the impetus for revising Hawaii's protocol for evaluating research applications and for releasing data to researchers along with developing a mechanism for identifying best practices in longitudinal data use. Existing policies were developed with a focus on a single record for a single student at a point in time. There is recognition of the need for modifying the policies to extend to the use of longitudinal data.

#### ***B4) Develop a Framework for Identification and Support for Evolving Longitudinal Data Needs***

Sir Winston Churchill once said that “it is always wise to looking ahead, but difficult to look further than you can see.” Longitudinal data usage is a relatively new area and it would be irresponsible to assume that all longitudinal data needs would be captured in the enterprise architecture task. The HIDOE recognizes this fact and is proposing a task to develop a process for addressing new longitudinal data needs. The process would be a standard of practice clarifying the intended need and applicability of the data or analysis, specifying factors and outcome definitions, mapping to specific data entities, and modeling the data for valid analyses. The task is proposed to be performed at the end of the requirements needs documentation in task A1. The standard of practice would be verified and refined during the user training phases. Participants are very likely to identify new analysis needs and the training would include a module on the practice.

#### **Governance Structure**

The HIDOE’s Information Technology and Quality Council (ITQC) which provides the high-level governance directives over all information technology projects, is represented by the cross-section of the HIDOE from the state superintendent’s office to schools. While the ITQC would sign off on the high-level direction, the project will be led by an advisory council comprising a range of role groups from the superintendent’s office to the teacher but also the cross-section of stakeholder functionality from operational reporting, to accountability and strategic focus on increasing the effectiveness of instructional practice. The project team, comprised of internal technology and research staff, will work alongside our external educational research partners and technology consultants in the development of the system. The internal/external mix will provide familiarity with all aspects of the system and allow a smooth transition for sustainability beyond the project period.

### **4) INSTITUTIONAL SUPPORT**

As evidenced by letters of support (Appendix A) from the state superintendent and key members of state and national legislatures, resources do not appear to be a concern. The requested project funds will supplement existing personnel and technical resources in the HIDOE to successfully accomplish the project objectives.

The outputs of the project are ensured for continual support with the implementation of a multi-step process to ensure continued longitudinal data functionality. The steps begin with the proper communication and awareness of the project and span the range to cost-effective technical platform selection. The description of the steps is as follows:

**Communication and Awareness** – the goals, functions and drive forces of the project will be conveyed to the various role groups with an emphasis on the Departmental need for longitudinal data analysis capabilities. The buy-in from the various stakeholder groups at the outset of the project and delivery of the functionality will be critical to this effort.

Internal information management and technical staff will be working alongside the consultant advisors throughout the project to insure a smooth and lasting transition from primarily external to internal resources. While internal staff is not capable of developing the system functionality from scratch within their current workloads, maintenance and upgrades will be assumable with the services-oriented technical architecture that will be employed.

## **5) PROJECT MANAGEMENT PLAN**

A number of elements will be put in place to ensure successful management of the project towards attaining the stated goals. The elements include processes that are already part of the HIDOE's information technology and project management methodology.

*Project Management:* The HIDOE has adopted a modified version of the Project Management Institute's (PMI) methodology for all major projects. All information technology staff involved responsible for managing a system have undergone extensive training in the project management methodology. HIDOE-specific templates and documents which capture project needs, roles, responsibilities, tasks, and sustainability plans are overseen by a statewide overall project manager. Each project manager is responsible for ensuring that all project documents are current and project plans including timelines are maintained on a master project server. The methodology is a standard of practice which provides guidelines for specifying deliverables, milestones, and timelines for each task.

The project advisory committee, upon approval from the ITQC will develop guidelines on the approval level to be obtained for specific types of changes. The budget request will include funds for positions to run the project management activities.

A key component of the quality assurance plan will be assurance that the project adheres to the conditions and requirements set forth in the grant guidelines. More common quality-related tasks will also be identified, including the roles and activities for handling reviews of the project work tasks, progress, and products. The ITQC will play the role of overseeing internal quality reviews.

The vendor management plan will be developed around best practices identified by the Gartner Group for managing outsourced services contracts. Key to this plan is the explicit documentation of requirements definitions as related to each participating vendor and effective communication mechanisms.

It can be expected that technology-related projects of this nature will face course changes that often result in delays and restraints. While the project priorities will be determined at the outset as part of the project planning process, priority modification decisions will be made within the context of weighing the collection of objective data against project goals as well as subjective information responding to stakeholder needs.

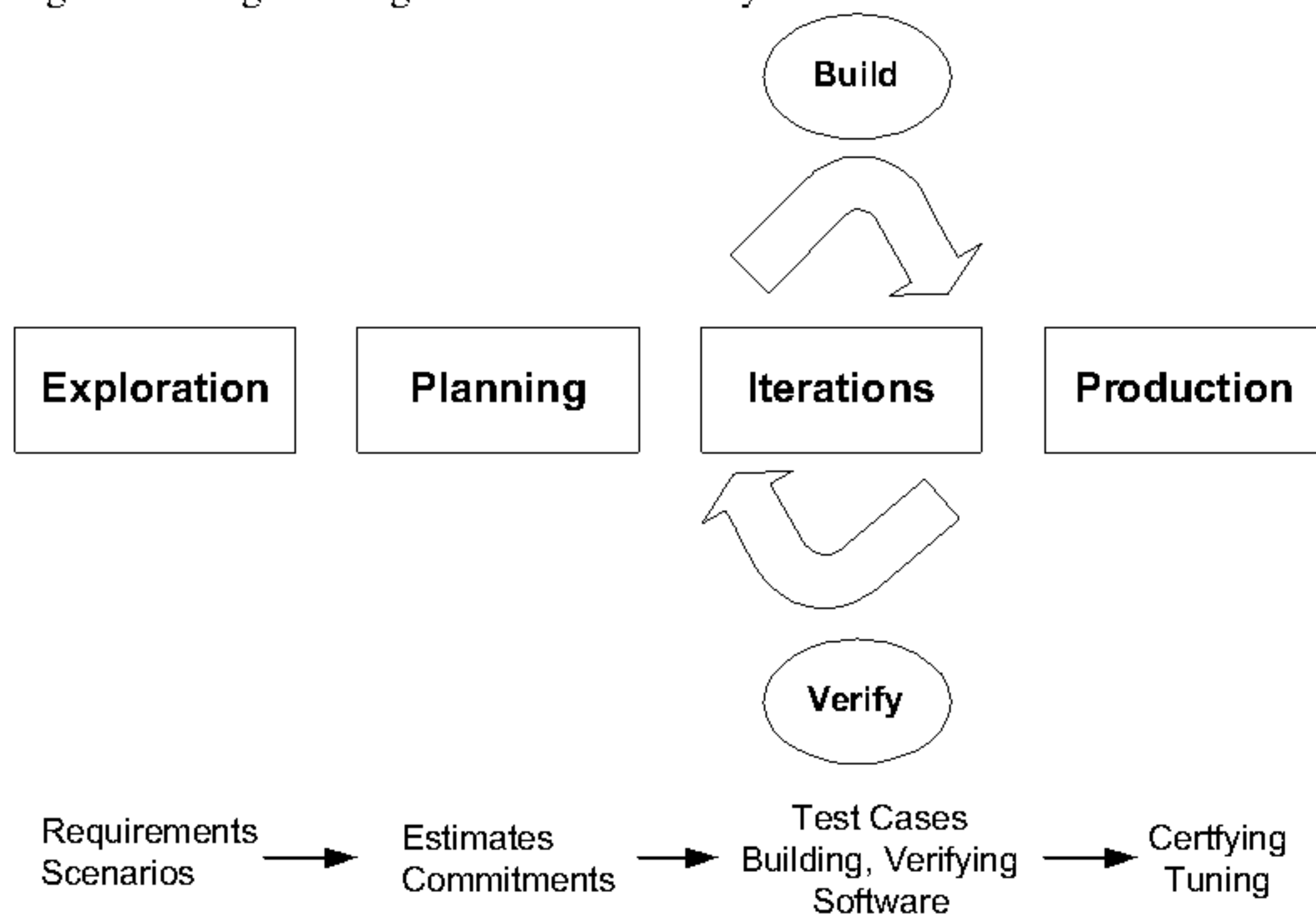
*Change Management:* The project will utilize a change management process based upon the model provided by Kepner-Tregoe [(Richetti and Tregoe, 2001). The four part analytic process revolves around:

- Change Analysis - Objectively stating why a change is necessary. Examines the cause and-effect relationships which have arisen.
- Decision Analysis - Specifying the criteria for evaluating the change and identifying how the change better meets the goals of a task based upon the criteria and risk.
- Potential Problem Analysis - Identifies problems that might arise from the change and action that can be taken to prevent or minimize effects.
- Situational Appraisal - Develops understanding and a plan for the implementation of a change. Assists in preventing overlooking critical elements and resolving conflict with other tasks.

*Communication, Feedback, Continuous Improvement Including Different Stakeholders*

The longitudinal data needs of the various stakeholder groups will be identified through focus group requirements gathering sessions (task A1). The perspective or interest of each stakeholder group will be represented on the project advisory team. While the majority of the stakeholder needs of the longitudinal data system are expected to be identified in phase 1 of the project, an iterative life cycle approach will be utilized as the project moves into the application development phase. The eXtreme Programming methodology (Beck, Kemp & Fowler, 2001) depicted in the figure below describes the main components of the life cycle approach.

Figure 3. Programming & Feedback Life Cycle



Previous experience with developing business intelligence models in the educational environment dictate that the most focused effort needs to occur in the Exploration component. The information gathered for every requested analysis of each stakeholder group will necessitate that requirements identify not only requested data items in an analysis, but the context and scenarios upon which the analysis will be utilized. Effective use of the longitudinal data system will require that the validity of a longitudinal analysis in the context of a specific educational decision be evaluated prior to moving beyond the Exploration phase of the life cycle.

Hardware and software product selection will be based upon the Refined Hierarchical Analysis developed by the Gartner Group (Blechar & Dune, 2005). The work to be performed by the technical advisor to the project specific to this area includes:

- Developing a hierarchy of criteria relevant to the product
- Identifying the relative importance of the criteria
- Scoring each vendor's ability to comply with each criterion

In addition to the product criterion, the long-term nature of the system will require that in addition to product functionality, an analysis will be conducted on product and services costs, value-added vendor services and support, vendor viability, and the vendor's vision.

### **Project Personnel and Resources**

The project has a high probability for success with the team comprising of internal HIDOE technical and program staff and its external partners. Internal HIDOE information technology staff has extensive experience in: a) completing cooperative agreement projects with NCES and other government agencies such as the U.S. Department of Commerce, and b) leading-edge technology research and implementation projects with high technology companies. The project will be directed by an advisory council including the individuals and their qualifications described below.

#### *Project Leadership*

Project Director: Thomas Saka, Ph.D.

Overall project direction and coordination will be provided by Dr. Thomas Saka who has successfully directed a number of information management and technology projects for over 10 years. He will also lead the technical and information management activities of the project in conjunction with the HIDOE's Information Architecture section and consultant support. Dr. Saka will contribute 50% of his time to the project (resume attached)

Executive Direction: Information Technology & Quality Council

The ITQC, which is the governing body for technology initiatives in the Hawaii Department of Education, will provide executive oversight for the project. Quarterly reports will be provided to the council who will ensure quality of operations of the longitudinal systems data project. The council is headed by Rodney Moriyama, Assistant

Superintendent of the Office of Information Technology Services and the council's composition includes various stakeholders from the education community. Mr. Moriyama will provide 3% of his time to the project (resume attached).

*Academic Achievement Information and Research Team*

Research Advisor: Ronald Gallimore, Ph.D.

Dr. Gallimore will provide direction and guidance on the development of longitudinal data analysis models which will provide the capacity to monitor and improve teaching and student achievement. Dr. Gallimore has extensive expertise in longitudinal school and teaching innovation research and more recently led the Third International Mathematics and Science Video Study of Teaching. Dr. Gallimore will help to ensure that the longitudinal data models developed for the system are designed to meet the current and future needs of educational researchers as well as provide data for monitoring the HDOE's effectiveness in improving teaching and student achievement (resume attached).

Research Advisor: Dr. Bruce Matsui & Dr. Nazy Zargarpour, Institute at Indian Hill, Claremont Graduate University.

The Institute has been instrumental in supporting schools and school districts that are in need of refining, analyzing, and synthesizing data, for both formative and summative reports. The Institute is committed to integrating responsible scholarship and best practices in serving the continuous improvement of schools and districts through research, coaching, and evaluation.

Daniel Hamada Assistant Superintendent, Office of Curriculum, Instruction, and Student Support

Mr. Hamada the state's Assistant Superintendent directing the state's instructional and student support efforts. Mr. Hamada is an advocate of data-driven decision making and will be serving on the project team to ensure that the longitudinal data needs of district administration are met in this project. He will also be working with his respective branch administrators to document school-level longitudinal informational needs that focus on improving teaching and increasing student achievement. Mr. Hamada is projected to contribute 3% of his time towards the project.

Linda Kamiyama Administrator, Professional Development and Educational Research Institute

Ms. Kamiyama brings over 20 years of school administrator experience to the project leadership team. She leads Hawaii's professional development efforts on providing the professional development support in three areas: Teacher Development, Administrative Development, and Systemic Development. Research efforts focus on supporting accomplishment of the educational initiatives that are happening in the HDOE system as well as initiatives that are happening nationally. Ms. Kamiyama is projected to contribute 10% of her time towards the project.

### *Federal Reporting Requirements*

Glenn Hirata, Ph.D. Administrator of the Systems Accountability Branch

Dr. Hirata is responsible for generating the State's accountability reports including the individual school No Child Left Behind (NCLB) report cards. Dr. Hirata will contribute knowledge on reporting requirements of NCLB and provide guidance that will allow the longitudinal data system to provide the historical data in compliance with reporting requirements. Dr. Hirata is projected to spend 10% of his time towards the project (resume attached).

Karl Yoshida Director, Information Resource Management Branch

Mr. Yoshida in addition to being responsible for federal reporting (e.g., federal survey, Office of Civil Rights compliance survey) oversees the HIDOE's policies and procedures on privacy and access to student information. Mr. Yoshida is expected to contribute 25% of his time to the project.

Edwin Ramones Common Core of Data Coordinator

Mr. Ramones is responsible for submission of data under the Common Core program and will provide expertise on required data elements and definitions. He is also a member of the HIDOE's Information Architecture group and will provide project support from that perspective. Mr. Ramones will spend 25% of his time in the early phases of the project.

Various staff from the HIDOE's Information Resource Management branch will provide the core team for this project. The core team will be supplemented at appropriate times in the project by staff from the Information Systems Services Branch, the Systems Accountability Branch, and the Educational Research Institute.

### *Project Funded Personnel*

The project proposal is requesting funding for the following individuals who will address various tasks throughout the project.

Project Coordinator will be responsible for tracking and managing the day-to-day activities of the project. The individual will have postsecondary training in a technical area and at least two year's experience in managing and coordinating complex projects.

Research Analyst needed to focus on working with the various role groups in specification and clarification of longitudinal data needs. The analyst will ensure that the requests are valid and reliable in accordance with accepted educational research practices. The analyst will also provide support in the interpretation of the analysis results. The focus is on maintaining and transforming the 1<sup>st</sup> (business goals) and 2<sup>nd</sup> (function) rows of the Zachman Framework. The research analyst will also take the lead in the development of the system training material.

Data Analyst will focus on translating the research request into an analysis result. The position will focus on transforming the 3<sup>rd</sup> (information), and 4<sup>th</sup> (data) rows of the Zachman framework.

Systems Analyst will be needed to bridge the work of the contracted system development with internal HIDEOE technical staff. The systems and data analyst will also perform the data load tasks in the initial population of the longitudinal data system. The analyst will be responsible for the 4<sup>th</sup> (data) and 5<sup>th</sup> (applications/systems) rows of the Zachman Framework in the project. Initial testing and maintenance activities will be designed and performed by the position.

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- Saka, Thomas, (2003) Data Development Task Order Final Report: Enterprise Information Architecture, National Forum on Education Statistics
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**Activity Timeline** (Assuming Start Date of March 1, 2009)

| Project Part / Component                                      | Task  | Deliverable   | Date  |
|---|---|---|-------|
| <b>A. Developing the Statewide Longitudinal Data System</b>   |   |   |       |
| A1) Planning the SLDS   | A1.1 Advisory Committee & ITQC project plan signoff   | Signoff   | 4/09  |
|   | A1.2 Obtain Enterprise Architecture consultant to refine templates and metadata artifacts   | Consultant Contract<br>Framework Templates                  | 6/09  |
|   | A1.3 Contractor to assist in collecting enrollment-related artifacts  | Contractor Contract<br>Assessment Results                   | 2/10  |
|   | A1.4 Document existing data and systems architecture  | Assessment Results  | 9/09  |
|   | A1.5 Conduct Affinity Analysis of Needs (A1.2) to current environment (A1.3)  | Analysis Results  | 2/10  |
|   |   |   |       |
| A2) Design & develop the SLDS                                 | A2.1 Develop target SLDS architecture (conceptual & logical)  | Architectural Diagrams                                      | 4/10  |
|   | A2.2 Develop SLDS blueprint including privacy, integrity & security functionality   | Architectural Blueprint                                     | 6/10  |
|   | A2.3 Develop SLDS technical specifications  | Specification Document                                      | 7/10  |
|   | A2.4 Obtain contractor & system development   | Contractor Contract<br>System Delivery                      | 2/11  |
|   | A2.4 Develop and populate SLDS metadata repository  | Operating Repository  | 2/11  |
| A3) Implement the SLDS  | A3.1 Populate SLDS with enrollment-related data   | System Populated  | 2/11  |
|   | A3.2 Develop specific enrollment outcome analysis functionality   | Delivery of Analysis<br>Functionality                       | 3/11  |
|   | A3.3 Select & implement ad-hoc business intelligence tools  | Tool selection &<br>implementation                          | 3/11  |
|   | A3.4 Deploy the SLDS to cross-section of stakeholders, test functionality   | System deployment   | 4/11  |
|   | A3.5 Modification to SLDS to account for requirement changes based upon testing   | List of modifications &<br>implementation                   | 7/11  |
|   | A3.6 Full-scale deployment of SLDS including supports   | System deployment   | 2/12  |
| <b>B. Cultivating Effective Longitudinal Data Use</b>         |   |   |       |
| B1) Analysis & Support  | B1.1 Develop longitudinal data models based on identified needs   | Research Agenda,<br>Operational / Accountability<br>Mapping | 2/10  |
|   | B1.2 Provide longitudinal data analysis mechanisms  |   | 3/10  |
|   | B1.3 Develop end-user training curriculum for the use of the SLDS in conjunction with HIOOE data driven decision-making efforts   | Training document and<br>modules                            | 3/11  |
|   |   |   |       |
| B2) Data Quality & Integrity                                  | B2.1 Research existing policies and procedures in other organizations (education, corporate utilizing Sarbanes-Oxley regulations) | Research report   | 9/09  |
|   | B2.2 Modify / update existing HIOOE policies and procedures   | Modified policies & procedures                              | 11/09 |
|   | B2.3 Select technical controls for inclusion in SLDS development for ensuring and monitoring quality and integrity                | Selection and inclusion in<br>design                        | 1/10  |
| B3) Data Security & Privacy                                   | B3.1 Research existing policies and procedures in other organizations (education, healthcare using HIPAA)                         | Research report   | 11/09 |
|   | B3.2 Modify / update existing HIOOE policies and procedures   | Modified policies & procedures                              | 11/09 |
|   | B3.3 Select technical controls for inclusion in SLDS development utilizing auditing for monitoring security & privacy             | Selection and inclusion in<br>design                        | 1/10  |
| B4) Framework for Addressing Evolving Longitudinal Data Needs | B4.1 Develop standard of practice (process / templates) for capturing data need and transforming into an analysis                 | Practice accepted by ITQC                                   | 5/11  |

| Project Year 1  |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    | Project Year 2 |  |  |  |  |  |  |  |  |  |  |  | Project Year 3 |  |  |  |  |  |  |  |  |  |  |  |
|---|--|---|---|---|---|---|---|---|---|----|----|----|---|---|---|---|---|---|---|---|---|----|----|----|---|---|---|---|---|---|---|---|---|----|----|----------------|--|--|--|--|--|--|--|--|--|--|--|----------------|--|--|--|--|--|--|--|--|--|--|--|
|   | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12             |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A. Developing the Statewide Longitudinal Data System          |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A1) Planning the SLDS   |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A1.1  | Advisory Committee & ITQC project plan signoff   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A1.2  | Obtain Enterprise Architecture consultant to refine templates and metadata artifacts   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A1.3  | Contractor to assist in collecting enrollment-related artifacts  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A1.4  | Document existing data and systems architecture  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A1.5  | Conduct Affinity Analysis of Needs (A1.2) to current environment (A1.3)  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A2) Design & develop the SLDS                                 |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A2.1  | Develop target SLDS architecture (conceptual & logical)  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A2.2  | Develop SLDS blueprint including privacy, integrity & security functionality   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A2.3  | Develop SLDS technical specifications  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A2.4  | Obtain contractor & system development   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A2.4  | Develop and populate SLDS metadata repository  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A3) Implement the SLDS  |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A3.1  | Populate SLDS with enrollment-related data   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A3.2  | Develop specific enrollment outcome analysis functionality   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A3.3  | Select & implement ad-hoc business intelligence tools  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A3.4  | Deploy the SLDS to cross-section of stakeholders, test functionality   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A3.5  | Modification to SLDS to account for requirement changes based upon testing   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| A3.6  | Full-scale deployment of SLDS including supports   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B. Cultivating Effective Longitudinal Data Use                |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B1) Analysis & Support  |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B1.1  | Develop longitudinal data models based on identified needs   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B1.2  | Provide longitudinal data analysis mechanisms  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B1.3  | Develop end-user training curriculum for the use of the SLDS in conjunction with HIOE data driven decision-making efforts    |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B2.1  | Research existing policies and procedures in other organizations (education, corporate utilizing Sarbanes-Oxley regulations) |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B2.2  | Modify / update existing HIOE policies and procedures  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B2.3  | Select technical controls for inclusion in SLDS development for ensuring and monitoring quality and integrity                |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B3.1  | Research existing policies and procedures in other organizations (education, healthcare using HIPAA)                         |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B3.2  | Modify / update existing HIOE policies and procedures  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B3.3  | Select technical controls for inclusion in SLDS development utilizing auditing for monitoring security & privacy             |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B4.1  | Develop standard of practice (process / templates) for capturing data need and transforming into an analysis                 |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B2) Data Quality & Integrity                                  |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B3) Data Security & Privacy                                   |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |
| B4) Framework for Addressing Evolving Longitudinal Data Needs |  |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |                |  |  |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |  |  |

# Project Narrative

## Other Narrative

### Attachment 1:

Title: Pages: Uploaded File: 1236-HI\_AttachA.pdf

### Attachment 2:

Title: Pages: Uploaded File: 1237-HI\_AttachB.pdf

## **Attachment A**

### Optional Attachments

#### Additional References

Zachman Framework Overview

Hawaii Department of Education Enterprise Architecture Project

#### Letters of Support

U.S. Senator Daniel Akaka

State Senator Norman Sakamoto

Hawaii State Superintendent Patricia Hamamoto

## Enterprise Architecture (EA): An Overview and Direction

Enterprise architecture (EA) is the science of identification and design of an integrated information environment that addresses the information needs of the entire range of functions performed in the Department.

The end result of the architecture effort is a blueprint that identifies the information necessary for supporting the entire array of functions performed in the Department and the systems that will be required to deliver the information. An architected information environment will provide relevant information to the right people with minimal complexity from the perspective of the user.

EA helps to ensure the alignment of the technological infrastructure (applications, hardware, networking) in supporting the needs of the DOE. The architecture also provides a framework for identifying I.T. initiatives required for supporting current or future educational functions.

**Why EA?** As demands increasingly exceed available resources, DOE leaders need a reference point for appropriate prioritization and effective resource allocation. The architecture provides a comprehensive picture of the information needs, facilitates "conscious" decision-making and ensures information efforts are aligned with Departmental priorities and initiatives.

EA compels a focus on missions, goals or objectives and assesses the impact of technology decisions on the core functions of the Department. In an age of rapid technological change, it also prevents an over concentration on the dynamics of the technology.

**EA development** begins with the effort to understand the organization through graphical representations; goals, role groups, functions performed and information maintained. Models are created, at various levels of detail, from existing documents such as the Department's Strategic Plan, job descriptions and the Plan of Organization. The models were reviewed and modified in structured focus group sessions by role group (e.g., teachers, school administrators, state support offices, etc.). Analysis of the models results in comprehensive identification of information needs.

**Moving forward**, the EA effort will focus on information needs of school personnel. Teachers have the greatest impact on the learning process, thus their functions and information needs must be understood in order to develop comprehensive systems in the DOE.

### Preliminary Findings

#### Organizational

- There is no clear agreement on relevant outcome measures for schools and teachers.
- There is a lack of a clear connection between the various strategies and initiatives deployed, resource allocation to functions and organizational goals. For example, demands require school administrators to spend approximately 70% of their time on operational functions and 30% on core functions (e.g., instructional leadership).

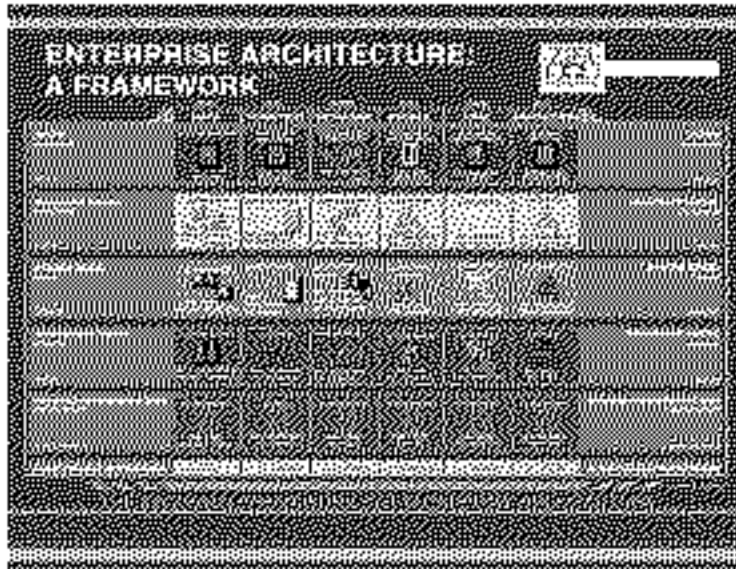
#### Technology

- Current information systems are focused on improving operational functions and compliance reporting as opposed to supporting student learning; assessment of learning needs, knowledgebased instructional strategies and predictive monitoring.
- Relevant and timely information is least available to teachers who have been identified as having the greatest impact on student learning.

The full version of the report can be found at:  
<http://lilinode.k12.hi.us/PUBLIC/STATS/EARpt1.nsf>

# The Zachman Framework

An Overview from the view of the neophyte Enterprise Architect



## What is the Zachman Framework

The Zachman Framework is a tool that provides structure to the arrangement of components within the information management environment of an organization. Application of the framework results in an Enterprise Architecture blueprint for the organization and is comprised of business and technical architecture components. The use of the framework helps to ensure that critical information areas are identified and information systems support the functional needs of the organization. Architectural concepts and frameworks have been in existence for many years, the Zachman Framework is an application of the concepts to organizations and information systems.

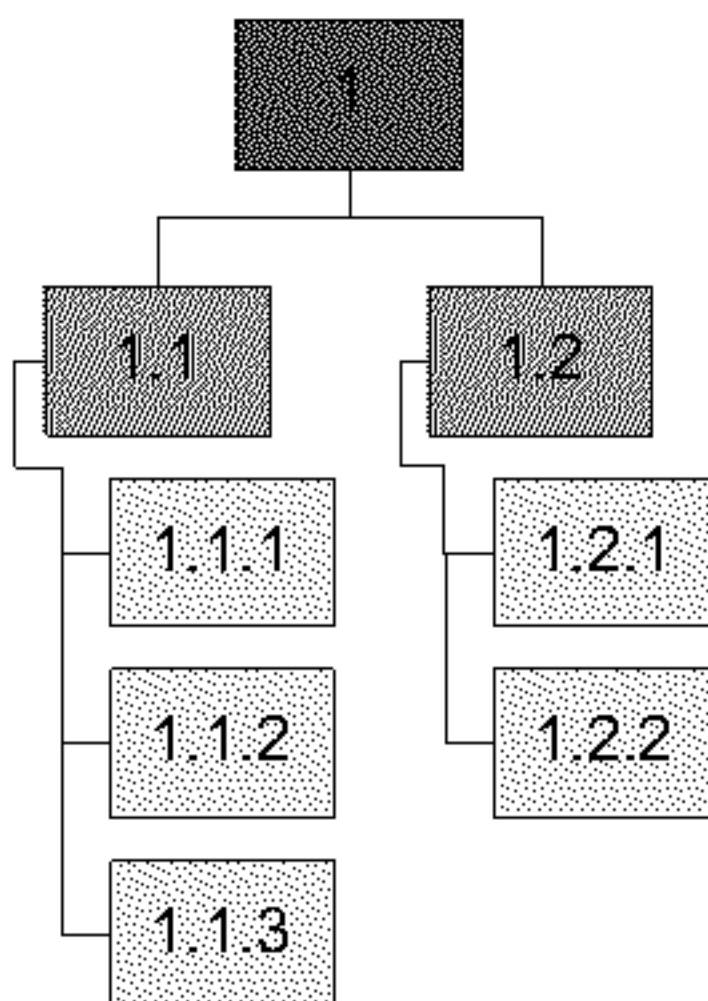
## Why Frameworks

Similar to the work of an architect designing a home, the use of the Zachman Framework helps to insure that the needs of the owners \ users of a system are reflected in the final product. This situation is especially relevant in the education environment as data-driven decision making initiatives expand and information usage move from operational and compliance reporting into supporting instructional improvement. Frameworks become increasingly important as projects become large, complex and need to accommodate a high rate of change. The structure provided by frameworks help to capture thoughts and ideas, provide transformation to explicit models as well as ensure resultant systems meet original intents.

## More About the Framework

While the end goal of the enterprise architecture process is a living blueprint of the organization and the related information systems, a fully completed example is elusive. The competitive nature of the automotive, pharmaceutical and financial organizations that have engaged in enterprise architecture development prevent public disclosure of blueprints and to some extent, limit the knowledge sharing of Enterprise design as a methodology. The federal government is moving towards developing architectures in response to the Clinger-Cohen Act (1996) and agencies such as the Veterans Administration are leaders in the area.

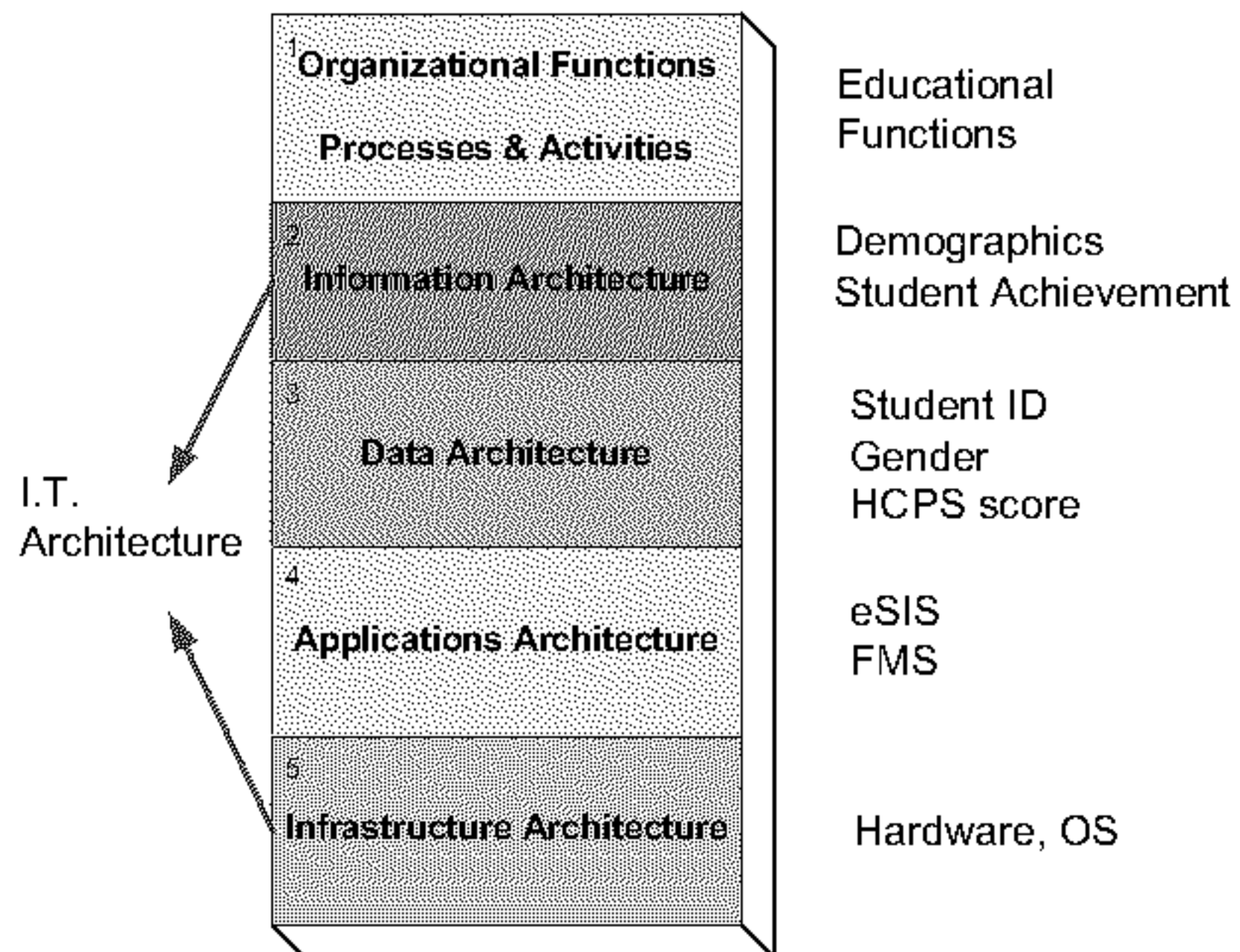
The Zachman Framework is an Enterprise planning methodology and tool. It is NOT an information technology implementation methodology and differs from traditional information technology planning. Vendors such as Ptech and Popkin position their products as addressing the components for enterprise architecture, however, purists disagree with the claims. The major difference cited by Spewak (1996) is the foundation of architectures on functional business models as opposed to starting with software applications or asking users for data "needs."



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## Components of the Framework

The top two rows of the framework focus on documentation of the business architecture comprised of organizational goals, people, functions and information. Enterprise models are developed to depict the components, in various levels of abstraction. The bottom four rows of the framework contain the more traditional information technology architecture and are often represented through logical and physical modeling. Each cell is vertically and horizontally linked with "excruciating level of detail" (Zachman, 2003). Meta-models providing increased structure for the type and level of detail of information that should be captured in each cell are being facilitated through a Zachman Institute for Framework Advancement (ZIFA) special interest group and expected to be presented at the ZIFA Forum in November 2004.



## Further Reference

Hawaii Department of Education EA Report -  
<http://lililnote.k12.hi.us/PUBLIC/STATS/EARpt1.nsf>

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[www.zifa.com](http://www.zifa.com))

Spewak, Stephen. *Enterprise Architecture Planning*, John Wiley & Sons, NJ, 1992

Veterans Administration –  
<http://www.va.gov/oirm/architecture/default.asp>

Zachman Institute for Framework Advancement – <http://www.zifa.com>

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# United States Senate

WASHINGTON, DC 20510-1103

September 5, 2008

COMMITTEES:

ARMED SERVICES  
BANKING, HOUSING AND  
URBAN AFFAIRS  
ENERGY AND NATURAL RESOURCES  
HOMELAND SECURITY AND  
GOVERNMENTAL AFFAIRS  
INDIAN AFFAIRS  
VETERANS' AFFAIRS

Honorable Margaret Spellings  
Secretary of Education  
U.S. Department of Education  
400 Maryland Avenue, SW  
Washington, D.C. 20202-0001

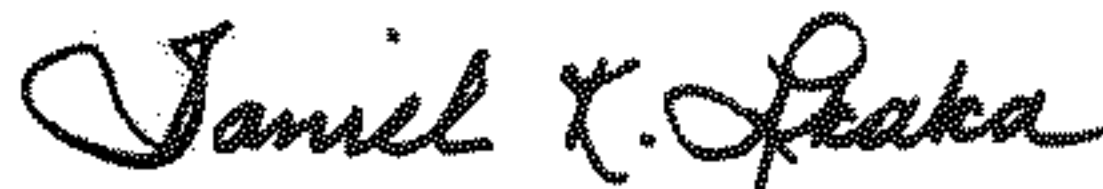
Dear Secretary Spellings:

I write in strong support of the Hawaii State Department of Education's (HIDOE) grant application to the US Department of Education for funding of its Statewide Longitudinal Data Systems under the Statewide Data Systems program (CFDA 84.372A).

The grant will help HIDOE increase the capacity of its student information systems to provide longitudinal data capabilities. This will enable the generation of accurate and timely data to meet reporting requirements and support evidence-based education decision-making. In addition, the funding will help HIDOE develop and execute an integration plan of the various sources of education data in Hawaii to efficiently respond to the Education Data Exchange Network for accountability purposes as mandated under No Child Left Behind. As data becomes available, technical security policies will be developed to protect the privacy of individual student records under the Federal Education Rights Protection Act.

Your favorable consideration of HIDOE's grant application will fill an important information need in Hawaii's school system. Thank you for your consideration.

Aloha pumehana,



DANIEL K. AKAKA  
U.S. Senator



**NORMAN SAKAMOTO**  
SENATOR, 15TH DISTRICT

STATE CAPITOL, ROOM 230  
HONOLULU, HAWAII 96813

PHONE: (808) 586-8585  
FAX: (808) 586-8586

EMAIL: [sensakamoto@capitol.hawaii.gov](mailto:sensakamoto@capitol.hawaii.gov)



**HAWAII STATE SENATE**  
HONOLULU

CHAIR, COMMITTEE ON EDUCATION

MAJORITY WHIP

COMMITTEE MEMBERSHIP:

COMMITTEE ON COMMERCE, CONSUMER  
PROTECTION & AFFORDABLE  
HOUSING  
COMMITTEE ON HUMAN SERVICES &  
PUBLIC HOUSING  
COMMITTEE ON PUBLIC SAFETY

September 11, 2008

Ms. Margaret Spellings  
Secretary of Education  
U.S. Department of Education  
400 Maryland Ave. SW  
Washington, D.C. 20202-0001

RE: STATEWIDE LONGITUDINAL DATA SYSTEMS CFDA 84.372A

Dear Secretary Spellings:

I am writing in support of the grant application submitted by the Hawaii Department of Education to fund its Statewide Longitudinal Data Systems Program.

Hawaii's effort under this grant program focuses on increasing the capacity of its student information systems to provide longitudinal data capabilities which will enable the generation of accurate and timely data to meet reporting requirements and support evidence-based education decision-making.

As chairman of the State Senate Education Committee, I value the use of data for guiding our education policy decisions. A comprehensive longitudinal data system would be invaluable to helping the legislature develop effective policies. We need the longitudinal data of student outcomes to validate the effectiveness of teaching, both for our teachers and teaching practices.

Finally, as data becomes more readily available, the project will research and develop technical security policies which protect the privacy of individual student records under the Federal Education Rights Protection Act (FERPA).

Thank you for your attention to this matter. I urge your thoughtful consideration of this application.

Sincerely,

Norman Sakamoto, Chair  
Senate Committee on Education

Salt Lake • Foster Village • Halawa • Kalihi • Moanalua • Aiea • Mapunapuna  
Hickam • Alamanu • Pearl Harbor • Pearl Ridge



**STATE OF HAWAII**  
**DEPARTMENT OF EDUCATION**

P.O. BOX 2360  
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

September 10, 2008

The Honorable Margaret Spellings  
Secretary of Education  
U.S. Department of Education  
400 Maryland Avenue, S.W.  
Washington, D.C. 20202-0001

Dear Secretary Spellings:

Re: Statewide Longitudinal Data Systems CFDA 84.372A

I am writing in support of a competitive grant application submitted to your department by the Hawaii Department of Education to fund its Statewide Longitudinal Data Systems Program.

As Chief State School Officer for Hawaii Department of Education, I believe in the value of longitudinal data as a critical component in determining "real" academic growth among our schools. Hawaii's effort under this grant program focuses on increasing the capacity of its student information systems to provide longitudinal data capabilities which will enable the generation of accurate and timely data to meet reporting requirements and support evidence-based education decision-making.

Finally, as data becomes more readily available, the project will research and develop technical security policies which protect the privacy of individual student records under the Federal Education Rights Protection Act.

I urge your thoughtful consideration of this application.

Very truly yours,

A handwritten signature in cursive script, reading "Patricia Hamamoto".

Patricia Hamamoto  
Superintendent

PH:rs

c: Office of Information Technology Services

## **Attachment B**

### **Resume of Key Personnel**

Ronald Gallimore, Ph.D. Research Advisor

Daniel Hamada Assistant Superintendent Office of Curriculum & Support Services

Glenn Hirata, Ph.D. Director of Accountability

Linda Kamiyama Director, Professional Development & Educational Research Institute

Bruce Matsui, Ph.D. Research Advisor

Rodney Moriyama Assistant Superintendent Office of Information & Technology

Thomas Saka, Ph.D. Project Director

Nazanin Zargarpour, Ph.D. Research Advisor

## ***Curriculum Vitae***

Ronald Gallimore

### **Education**

Ph.D., Northwestern University, Evanston, Illinois, 1964, psychology

M.A., Northwestern University, Evanston, Illinois, 1963, psychology

B.A., University of Arizona, Tucson, Arizona, 1960, education

### **Current Appointments**

Distinguished Professor Emeritus ('05-present), Department of Psychiatry & Biobehavioral Sciences, & Graduate School of Education UCLA

Chief Scientist Emeritus (2008-present), LessonLab Research Institute, Santa Monica

### **Past Appointments**

Distinguished Professor ('01-'05); Professor ('77-'01); Assoc. Prof. ('71-77), Department of Psychiatry & Biobehavioral Sciences, & Graduate School of Education (1983-present), University of California, Los Angeles;

Chief Scientist ('03- 2007), LessonLab Research Institute, Santa Monica

Co-Director, Third International Mathematics and Science Study Video Study, National Center for Educational Statistics, Department of Education, Washington, D.C. (1998-to present).

Visiting Professor, Department of Social and Cultural Anthropology, University of Leuven, Belgium, (1995)

Visiting Scholar, Institute of Education, University of London, England (1980)

Principal Investigator, Kamehameha Early Education Project, Honolulu, Hawaii (1969-1979)

Associate Professor of Psychology and of Anthropology, University of Hawaii (1968-1971)

Research Fellow, Social Science Research Institute, University of Hawaii (1968-1971)

Research Psychologist, Princess Bernice Pauahi Bishop Museum, Honolulu (1966-1968)

Assistant Professor of Psychology, Department of Psychology, University of Hawaii (1966-1968)

Assistant Professor of Psychology, California State College, Long Beach, California (1964-1966)

Lecturer, Northwestern University, Evanston, Illinois (1963-1964)

Research Associate, Garrett Theological Seminary, Evanston, Illinois (1963-1964)

Clinical Psychology Intern, Metropolitan State Hospital, Norwalk, California (1962-63)

### AWARDS (selected)

- National Center for Educational Statistics, *1999 TIMSS Video Study of Mathematics and Science Teaching*, 1998-2004 (13,000,000 direct & indirect costs). J. Stigler & R. Gallimore)
- National Institute of Child Health and Human Development: *The Social Context of Performance and Competence for Latino Students in High School and Beyond*, 1999-2005 (\$600,000 direct costs).
- National Institute of Child Health and Human Development: *Status and Outcomes for the Lowest Achieving Students in a High Risk Population: Underachieving Latino Adolescents In and Out of School*, 1999-2005 (\$700,000 direct costs).
- Spencer Foundation, *Settings for change: A practical model for linking rhetoric and action to improve achievement of diverse students*, 1997-2001, jointly with CSU, Long Beach and Claude Goldenberg and Williams Saunders, and Ronald Gallimore (\$401,752 direct costs).
- Office of Educational Research and Improvement (USDOE) and National Center for Education, Diversity, and Excellence, 1996-2001, UC Santa Cruz, *Assisting Transition: Instructional and School-Wide Factors to Support Latino Students' Transition from Spanish to English Instruction*, jointly with CSU, Long Beach, Claude Goldenberg and Williams Saunders, and Ronald Gallimore (\$545, 000 direct costs).
- MacArthur Foundation, *Immigrant Latino Children's Pathways Through Middle Childhood*, 1995-1996 (\$70,000 direct costs).
- National Institute of Child Health and Human Development: *The Social Context of Competence & Performance of Hispanic Children at Risk for Educational Delay* 1994-1999 (\$850,000 direct costs).
- Grawemeyer Award (1993) for the book *Rousing Minds to life* (Cambridge University Press), Gawemeyer Foundation, University of Louisville (with R. Tharp).
- Albert J. Harris Award (1993) for the article "Local knowledge, research knowledge, and educational change: A case study of early Spanish reading improvement." *Educational Researcher*, 20, 8, 20, 8, 2-14, International Reading Association (with C. Goldenberg).
- Spencer Foundation, *Research/Practice Nexus: The Case of Home and School Effects on Latino Students' Academic Achievement*, 1992-1995 (\$300,000 direct costs; with C. Goldenberg).
- Presidential Research Recognition Award, 1991, University of California Office of the President, School Improvement program.
- National Institute of Child Health and Human Development, *Renewal of Ecocultural Opportunities and Family Accommodation to DD Children*, 1991-1996 (\$1,300,000 direct costs).
- National Institute of Child Health and Human Development, *Ecocultural Opportunities and Family Accommodation to DD Children*, 1986-1990 (\$728,000 direct costs).

## Articles, Chapters, and Books (selected)

### **2001**

Gallimore, R. & Goldenberg, C. (2001). Analyzing cultural models and settings to connect minority achievement and school improvement research. *Educational Psychologist*, 36, 1, 45-56.

Goldenberg, C. N., Gallimore, R., Reese, L. J., & Garnier, H. (2001). Cause or effect? A longitudinal study of immigrant Latinos' parents aspirations and expectations and their children's school performance. *American Educational Research Journal*, 38, 3, 547-582.

### **2003**

Gallimore, R. & Stigler, J. (2003). Closing the Teaching Gap: Assisting Teachers Adapt to Changing Standards and Assessments. In C. Richardson, Ed., *Whither Assessment* (25-36). London, England: Qualifications and Curriculum Authority.

Reese, L.J., Gallimore, R., & Zarate, E. (2003.). To be an American: Ethnic Identity, Biculturalism, and Citizenship among Second-Generation Immigrant Latino Youth. *Kolor: Journal on Moving Communities*, 3, 1, 3-14.

Hiebert, J., Gallimore, R., Garnier, H., Givvin, K.B., Hollingsworth, H., Jacobs, J., Chui, A. M., Wearne, D., Smith, M., Kersting, N., Manaster, A., Tseng, E., Etterbeek, W., Manaster, C., Gonzales, P., & Stigler, J. (2003). *Teaching mathematics in seven countries: Results from the TIMSS 1999 Video Study*. NCES (2003-013). U.S. Department of Education. Washington DC: National Center for Education Statistics.

### **2004**

Gallimore, R. & Tharp, R. (2004 ). What a Coach Can Teach A Teacher 1975 2004: Reflections and Reanalysis of John Wooden's Teaching Practices. *The Sport Psychologist*, 18, 2, 119-137.

### **2005**

Goldenberg, C., Gallimore, R., & Reese, L. (2005). Using Mixed Methods to Explore Latino Children's Literacy Development. In T. S. Weisner, Ed. *Discovering Successful Pathways in Children's Development: New Methods in the Study of Childhood and Family Life* (pps.21-46). Chicago: University of Chicago Press.

Gallimore, R. (2005). Behavior Change in the Natural Environment: Everyday Activity Settings as a Workshop of Change. In C. O'Donnell & L. Yamauchi (Eds.). *Culture and context in human behavior change: Theory, research, and applications* (pps. 207-231). New York: Peter Lang.

Hiebert, J., Stigler, J. W., Jacobs, J. K., Givvin, K. B., Garnier, H., Smith, M., Hollingsworth, H., Manaster, A., Wearne, D., & Gallimore, R. (2005). Mathematics

teaching in the United States today (and tomorrow): Results from the TIMSS 1999 Video Study. *Educational Evaluation and Policy Analysis*, 27, 111-132.

Nater, S. & Gallimore, R. (2005). *You haven't taught until they have learned: John Wooden's teaching principles and practices*. Morgantown, West Virginia: Fitness International Technology, Inc.

Givvin, K. B., Hiebert, J., Jacobs, J., Hollingsworth, H., & Gallimore, R. (2005). Are there national patterns of teaching? Evidence from the TIMSS 1999 Video Study. *Comparative Education Review*, 49, 3, 311-343.

Santagata, R., Gallimore, R., & Stigler, J. (2005). The use of video for teacher education and professional development: Past experiences and future directions. In C. Vrasidas & G.V. Glass (Eds.) *Preparing Teachers to Teach with Technology: Current Perspectives on Applied Information Technologies* (pps.151-167). Greenwich, CT: Information Age Publishing.

## **2006**

Gallimore, R. & Santagata, R. (2006). Researching teaching: The problem of studying a system resistant to change. In R. R. Bootzin & P. E. McKnight (Eds.). *Strengthening Research Methodology: Psychological Measurement and Evaluation* (pps. 11-28) Washington, D.C.: APA Books.

Gallimore, R. (2006, March 1). What John Wooden Can Teach Us: Was the 'greatest coach of the 20th century' a crafty wizard, or a master teacher? *Education Week*, 25, 25, 30.

Roth, K. J., Druker, S. L., Garnier, H. E., Lemmens, M., Chen, C., Kawanaka, T., Rasmussen, Trubacova, S., Warvi, D., Okamoto, Y., Gonzales, P., Stigler, J., & Gallimore, R. (2006). *Teaching Science in Five Countries: Results From the TIMSS 1999 Video Study*. (NCES 2006-011). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Lopez, E., Wishard, A., Rivera, W., & Gallimore, R. (2006). Latino high school students' perceptions of gangs and crews: Gender and achievement factors. *Journal of Adolescent Research*, 21, 299-318.

## **2007**

Lopez, E. M., Gallimore, R. Garnier, H., & Reese, L.J. (2007). Preschool Antecedents of Mathematics Achievement of Latinos: The Influence of Family Resources, Early Literacy Experiences, and Preschool Attendance. *Hispanic Journal of Behavioral Sciences*, 29, 456-471.

Givvin, K., Santagata, R., & Gallimore, R. (2008). The roles of pedagogical skill and teacher content knowledge in the American vision of teaching effectiveness. In S. Mathison & E. W. Ross (Eds.) *Battleground Schools* (pps. 616-622). Westport: Greenwood Press.

**Daniel Satoru Hamada**

(b)(6)

**Personal philosophy:**

Believe in yourself by always giving your best.

**Educational Philosophy:**

Quality commitment equals Quality Education;  
Excellence in education is a process of ongoing  
improvement that embraces collaboration  
centered on a shared vision and sense of  
purpose.

**Education:**

|                  |  |      |
|------------------|--|------|
| Bachelor of Arts | Elementary Education & Special Education<br>Colorado State | 1975 |
| Masters Degree   | Educational Administration<br>University of Hawaii, Oahu   | 1980 |

**Professional Experience:**

|   |                |
|---|----------------|
| Assistant State Superintendent<br>Office of Curriculum & Support Services | 2006 - present |
| Kauai – Complex Area Superintendent                                       | 1999 - 2006    |
| Principal, Eleele Elementary School                                       | 1993 – 1999    |
| Acting Principal, Kekaha Elementary School                                | 1993           |
| Vice-Principal, Kapaa High & Intermediate School                          | 1989 - 1993    |
| Counselor, Kapaa Elementary School  | 1987 – 1989    |
| Acting Vice-Principal, Kapaa Elementary School                            | 1984 - 1985    |
| Elementary Teacher, Kapaa Elementary School                               | 1983 - 1984    |
| Special Education & Elementary Teacher<br>Wilcox Elementary School        | 1976 - 1982    |



**Professional Organizations & Recognition:**

National Association of Secondary School Principals (NASSP)  
Hawaii Elementary & Middle School Association (HMSA)  
1993 Hawaii State Assistant Vice-Principal of the Year (NASSP)  
1998 Hawaii State Principal of the Year – National Distinguished  
Principals Program (NASSP)

**Community Organizations:**

Boy Scouts, Troop 133 Advancement Chairperson  
West Kauai Ho'olokahi Member  
Tennis Coach – Kapaa High School  
Kauai County Tennis Program Instructor  
Kawaihau Jaycee Association Member & President

## Biographical Sketch for Glenn T. Hirata

### Education/Training:

| INSTITUTION AND LOCATION                           | DEGREE<br>(if applicable) | YEARS (s)      | FIELD OF STUDY         |
|--|---------------------------|----------------|------------------------|
| Western Washington State<br>Bellingham, Washington | B.A.                      | June 1972      | Psychology             |
| Boston University<br>Heidelberg, Germany           | M.Ed.                     | September 1975 | Education              |
| University of Hawaii<br>Honolulu, Hawaii           | M.Ed.                     | May 1978       | Educational Psychology |
| University of Hawaii<br>Honolulu, Hawaii           | Ph.D.                     | August 1982    | Educational Psychology |

### RESEARCH AND PROFESSIONAL EXPERIENCE:

#### ***University of Hawaii at Manoa***

##### **Instructor**

**August 1980 to May 1988**

Educational Psychology courses, graduate level, statistics; computer applications.

#### ***Honolulu Community College***

**874 Dillingham Boulevard, Honolulu, Hawaii 96817**

##### **Counselor**

**October 1981 to January 1983**

Academic counseling, veterans counseling, conduct occasional research projects, acting coordinator of student activities.

#### ***Kapiolani Community College***

**4303 Diamond Head Road, Honolulu, Hawaii 96816**

##### **Learning Assessment Coordinator**

**January 1983 to March 1985**

Develop and implement college credit equivalency processes which provides alternative credit options to students.

#### ***Research Corporation of the University of Hawaii***

**2800 Woodlawn Drive, Honolulu, Hawaii 96822**

**Project Co-director, cooperative agreement between the Hawaii Department of Education and the U.S. Department of Education**

**April 1985 to May 1987**

Plan and conduct research and evaluation studies on special education related services for handicapped students through the Assessment and Improvement of Related Services Project.

#### ***Hawaii State Department of Education, Evaluation Section***

**3430 Leahi Avenue, Building C, Room 3, Honolulu, Hawaii 96815**

##### **Evaluation Specialist II**

**June 1987 to June 1995**

Design and conduct program evaluation; provide technical assistance; plan, develop and implement statewide educational assessment system.

#### ***Hawaii State Department of Education, System Evaluation and Reporting Section***

**3633 Waialae Avenue, Room C210, Honolulu, Hawaii 96816**

##### **Evaluation Specialist III, Section Administrator**

**July 1995 to present**

Plan, develop and implement program evaluation projects statewide; supervise evaluation specialists; conduct statewide needs assessment for public education; assist in strategic planning; design and develop state assessment and accountability system; coordinate and implement state educational accountability system and reporting under the No Child Left Behind Act of 2001; co-chair of data for school improvement initiative.

Updated: September 2008

Linda K. Kamivama

(b)(6)

Phone #832-3201 (business)

**Professional Goal:** To use each day's challenges/opportunities to imagine possibilities, plan for success, inspire others, design solutions on behalf of all learners.

**Education:** M.A. Ed. Administration, University of Hawai'i, 1987  
M.A. Speech Communication, University of Hawai'i, 1970  
B.A. Elementary Education, University of Hawai'i, 1970  
Roosevelt High School, 1965

**Certification:** Social Styles, 2007  
Administrator Certificate, 1987  
Early Provisions for School Success, 1982  
Professional Teachers Certificate, 1970

**Work Experience:** EO, Professional Development & Educational Research Institute, Present  
Principal, Kapunahala Elementary, 1995-2001  
Principal, Waiahole Elementary, 1989-95  
Vice Principal, Kailua High School, 1985-89  
Acting V.P., Laie Elementary, 1985  
District Resource Teacher, WDO, 1984  
Language Arts Resource Teacher, WDO, 1978-84  
HEP Installation Teacher, WDO, 1974-78  
Grade 4 Teacher, Puohala Elementary, 1970-74

**Leadership Training:** Hawai'i Business Roundtable Collaborative Action for Public Education: Principals Leadership Academy, 1995-2001  
Certification Program for School Leaders, 2000  
Hawai'i School Leadership Academy, 1995-00  
Association for Supervision & Curriculum Development: Affiliate Leadership Conference, 2000-01

**Instructor Experience:** Hawaii Principals Academy 2005- present  
Cognitive Coaching - present  
Adaptive Schools - present  
New Principals Mentor Academy 2004-present  
New Principals Academy 2002-present  
Certificate Program for School Leaders; Summer 2001  
Mentor Principal 1989-2000

Cohort Leadership Program and Interim School Administrators  
Program: 1994-1999  
Hawai'i Leadership Academy: Cohort Mentor Principal/Trainer,  
1992-93; 1997-98; 1999-2000

Professional Activities and Honors:

Society for Human Resource Management: Hawaii Chapter  
National Staff Development Council  
Association for Supervision and Curriculum Development  
Conference Planning Committee  
Hawai'i Association for Supervision & Curriculum Development  
Board Member and President  
Delta Kappa Gamma: Lambda Chapter Member and Historian  
Outstanding Principal Nominee- Windward District, 1998  
IRA: Ka Hui Helu Helu Member and Board Member

## **Bruce I. Matsui, Ed.D.**

(b)(6)

Bruce I. Matsui, Ed.D. is a professor at the School of Educational Studies at Claremont Graduate University. He also serves as Faculty Fellow with the Institute at Indian Hill, an organizational research unit of the School of Educational Studies, which he co-founded and directed for a number of years. In addition to teaching graduate level courses in education, professor Matsui developed an innovative cohort-based Ph.D. program targeting school leaders in urban communities, launched in the fall of 1998.

### **Academic Background**

Dr. Matsui received his Ed. D. from the University of Southern California's School of Education, concentrating in the areas of Organizational Development, Leadership and Curriculum and Instruction.

### **Professional History**

Professor Matsui spent twenty-five years in public primary and secondary schools, most recently holding the position of Deputy Superintendent at Pasadena Unified School District. Prior to that assignment, he served as Director of the Los Angeles County School Leadership Center. In addition, Dr. Matsui served as a principal for fourteen years in the Montebello Unified School District. During the course of his career, Professor Matsui has benefited from experiences as a Peace Corps volunteer in Aguilares, El Salvador and as a VISTA volunteer in Brooklyn, New York.

### **Research Interests**

Dr. Matsui's interests in public schooling, especially with respect to breaking predictable cycles of failure associated with gender, poverty, and race, were shaped by his experiences over the last twenty-five years. His current scholarly pursuits include integrating theoretical ideas associated with systems-thinking, social constructivism (Vygotsky), semiotics (meaning making), glocal thinking (global thinking coupled with local action), and voluntary simplicity; and making them usable, authentic and routine for public school stakeholders.

### **Recent Projects**

- Dr. Matsui is currently working with several districts including the Hawaii School District, concentrating on leadership training and School Leadership Teams.
- He also serves as a member of the Programs Committee for the Japanese American National Museum.
- He has also published an article critical of current Special Education practices, and an article outlining findings associated with California's Demonstration Schools Reform (SB 1274).
- Dr. Matsui was principal investigator on a study that examines the effects of training for Principals and lead teachers of LEARN schools in the Los Angeles Unified School District.
- In addition to his work here in the U. S., Dr. Matsui has worked with school leaders of island entities in the Pacific Region under the auspices of the Pacific Resources for Educational Learning (PREL). PREL published an article that describes the action mapping process.

**Rodney S. Moriyama**

(b)(6)

(b)(6)

email: rsmoriyama@hawaii.rr.com

**SUMMARY OF QUALIFICATIONS:**

- ❖ Over thirty-five years of experience in information technology management, the development of people, implementation of Quality Management Programs, business process re-engineering, and cross-cultural bridging.
- ❖ Global perspective with focus on Japan and the Pacific Rim.
- ❖ Understand the use and implementation potential of Information Systems in support of Business Strategies.
- ❖ Developing collaborative relationships both within the company and in the community.

**EXPERIENCES:**

**2002-Present The Hawaii Department of Education, Honolulu, Hawaii**  
**Assistant Superintendent, Office of Information Technology Services**

- ❖ Responsible for the effective deployment of information technologies throughout the ninth largest educational institution in the United States with over 25,000 full time employees, and another 59,000 part-timers.
- ❖ Technical conscience of the Superintendent of Schools in Hawaii
- ❖ Key participant in the implementation of the Reinventing Education Act of 2004 involving the empowerment of principals, the weighted student formula, accountability at all levels of the Department of Education, and streamlining all of its major processes.
- ❖ Transforming a fragmented, compliance-centered information environment, to a productivity tool in the classroom for the teachers and administrators at the schools.
- ❖ Represents the Superintendent in the business community.

**1992-2002 The Queen's Health Systems/ The Queen's Medical Center, Honolulu, Hawaii**  
**Vice President and Chief Information Officer**

- ❖ Responsible for the planning and implementation of a comprehensive Health Information system spanning Queen's 27 subsidiaries.
- ❖ Development of a Strategic Transformation plan to take a major Medical Center into a new era in Health Care delivery.
- ❖ Developing and implementing collaborative strategies related to physicians and the health care community in Hawaii.
- ❖ Nationally recognized for the implementation of a comprehensive advance clinical information system leading a team of clinical caregivers and technical experts providing a 300% ROI.

**1968-1992 International Business Machines Corporation, Armonk, New York**

**Senior Consultant, Business Transformation, IBM Management Consulting**  
Los Angeles, California 1992

- ❖ As a member of a special team of senior IBM managers and professional consultants hired to create a General Management Practice, developed and documented processes for initiating a practice.
- ❖ Integration of Business Process Re-engineering and Total Quality Management techniques.
- ❖ Conducted market analysis, focused primarily in Health, Retail, Aerospace, Finance and Insurance Industries.

## **Rodney S. Moriyama - Resume**

### **IBM Branch Manager, Marketing Operations**

Woodland Hills, California 1985-1991

- ❖ Overall Marketing and Operational responsibilities for Geographic (San Fernando and San Gabriel Valleys) and Industry Vertical (Leisure and Entertainment) responsibility for Los Angeles. (Total Revenue \$100 Million)
- ❖ Senior location management involving security, facilities, community involvement, and emergency planning.
- ❖ Six consecutive successful years of business performance despite numerous re-organizations and change.
- ❖ Directed the development and implementation of an alternate channel strategy for the San Fernando Valley.
- ❖ Recognized for leadership in marketing innovation, community involvement, quality implementation and teamwork

### **Administrative Assistant to IBM Senior Vice President and Group Executive, Asia Pacific**

Tokyo, Japan 1985

- ❖ Developmental experience managing the calendar, writing his speeches, doing staff work for briefings and public interviews for a Senior executive in IBM.
- ❖ Provided cultural bridging between executives in Japan and United States through understanding both cultures and languages.

### **Manager of Marketing Strategy, IBM Japan**

Tokyo, Japan 1983-1985

- ❖ Responsible for developing IBM Japan's Marketing Functional Strategy both operational and long term.
- ❖ Led a task force for the successful introduction of a new Japanese unique workstation product.
- ❖ Consultant to both Japanese and American executives to ensure proposals and presentations were correctly understood.
- ❖ Interface support between IBM Japan and IBM Corporation in the following areas:
  - Distribution, Health, Education Industries
  - Strategic Plan Presentation
  - Foreign Accounts - International aggregation for volume bid pricing

### **Other IBM Assignments**

|  |           |
|--|-----------|
| Marketing Manager, LA North/SF Valley              | 1981-1982 |
| Advisory Marketing Support Rep, DPD Western Region | 1978-1980 |
| Marketing Representative, Honolulu, Hawaii         | 1972-1978 |
| Systems Engineer, Oakland, CA/ Honolulu, HI        | 1968-1970 |

### **Captain, USArmy**

Heidelberg, Germany 1970-1972

- ❖ Lt. Colonel's position at US Army Europe Headquarters.
- ❖ Developed automated logistics systems for Europe

## Rodney S. Moriyama - Resume

### **EDUCATION:**

- ❖ University of Michigan, Ann Arbor, B.S.E. in Mechanical Engineering, 1967
- ❖ University of California, Berkeley, M.B.A. in Operations Management, 1969
- ❖ IBM Management Training for over 12 years both inside and outside IBM
- ❖ IBM General Management Consulting training
- ❖ Executive Healthcare Management training over a 9 year period

Nonresponsive



**Thomas Saka**

(b)(6)

tom\_saka@notes.k12.hi.us

**Current Interests:** Architectural leadership role which extends the implementation of technology to address organizational and societal needs; as a member of fast paced, forward-looking organization developing emerging technologies, utilizing proven ability to:

- Effectively communicate needs and potential solutions at all organizational levels
- Develop and implement showcase technology solutions based on critical analysis of organizational needs
- Plan and manage complex projects

### **Qualifications**

A visionary individual with significant achievements, at the national, state and local levels, in providing strategic advice and planning on a broad spectrum of issues. Proven record in identifying opportunities, communicating and obtaining support for capitalization as well as directing implementation of appropriate solutions especially in the area of technology. The contribution of specific expertise and knowledge to a variety of projects has resulted in a keen understanding of the political process and extensive contacts in government and business.

### **Achievements**

Designed, implemented and maintained the Hawaii Department of Education's electronic information dissemination, collaboration and workflow environment. System functionality ranges from "knowledge management" for instructional support to front-ending legacy operational system. The system encompasses over 20,000 users distributed over 290 schools and administrative offices.

Information Specialist with the Hawaii Department of Education, currently leading the Department's Enterprise Architecture effort.

Serves as a consultant on the CIO panel of the BLE Group, providing technology firms and publishers with input on product direction for a competitive edge as well as review of existing products for appropriateness in the current computing environment.

Spearheaded a partnership between SUN Microsystems, the County of Maui and the Maui Chamber of Commerce which resulted in the placement of 1,500 Sun Ray thin clients and servers in schools. The estimated project value of \$2.75 million was provided at no cost to the Department of Education.

Developed the DOE's decision support systems consisting of client and web browser access to a data warehouse based upon an Oracle / Solaris architecture. The system was funded as a national demonstration project by the National Forum on Education Statistics.

Succeeded in obtaining competitive funding and directing various technology demonstration projects from the federal government in areas ranging from the development of rural community technology centers to use of XML for data transfer between operational and reporting systems. Projects involved partnerships with major technology vendors, local businesses and state government.

Serves as customer reference, conference speaker, advisory board member and participates in customer calls, with various organizations including Apple Computer, Lotus Development, SUN Microsystems and IBM.

Honored as a Computerworld-Smithsonian Laureate in 2001

Recognized as one of the Top 25 Education Technology Leaders for 2001 by District Administrator Magazine

Chairperson, Technology Dissemination and Communications Committee, National Forum on Education Statistics. 1995-1996.

University of Hawaii, Dept. of Educational Psychology, 1985-1991

Lecturer in graduate and undergraduate courses in parametric statistics, research design and computer applications in the social sciences.

### **Selected Publications / Presentations**

Saka, T. (2004, July). Refocusing data driven decision-making: Inspite of the alligators. Presentation at the Elementary/Secondary Data Conference, National Center for Education Statistics, Washington, D.C.

Saka, T., (2003, November). The last thing education needs is a vision statement: A view from the Enterprise Architect. Presentation at the Zachman Institute for Framework Advancement Forum, Scottsdale, AZ.

Saka, T., (2003, July). Enterprise Information Architecture for the K-12 Organization. Presentation at the Elementary/Secondary Data Conference, National Center for Education Statistics, Washington, D.C.

Nelson, C., Swain, C., & Saka, T. (1999, January) Sun Microsystems: Domino server consolidation: A case study in enterprise strategies and successes. Lotusphere 1999, Orlando, FL.

Saka, T. & Shiigi, C. (1996, November) Groupware: Improving group communication and information dissemination. *Technological Horizons in Education*, 24, 101-105.

Saka, T. (1995, July). Data warehouse: Benefits and implications for educational decision support. Keynote Address, Summer Meeting of the National Forum on Education Statistics, Washington, D.C.

Wainer, H. & Saka, T. (1994). On the academic performance of Hawaii's public school children: Fourth and eight grade mathematics in 1992. Educational Testing Service Technical Report RR-94-43, Princeton, NJ.

Saka, T. & Lai, M. (1993, January). Differential item functioning among Mainland U.S. and Hawaii examinees on the verbal subtest of the SAT. Paper presented at the annual meeting of the Hawaii Educational Research Association, Honolulu, HI. (HIERA Distinguished Paper Award 1992-93).

Wainer, H., Saka, T., & Donoghue, J. (1993) The validity of the SAT at the University of Hawaii: A riddle wrapped in an enigma. *Educational Evaluation and Policy Analysis*, 15, 91-98.

Saka, T. (1992, August). Hawaiian differential item functioning. Invited address to the research and statistics group at the Educational Testing Services, Princeton, NJ.

Saka, T. & Lai, M. (1991, April). A post-hoc procedure that can be better than random assignment to treatment. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

### **Education**

Ph.D., Educational Psychology, University of Hawaii at Manoa, 1992

M.Ed., Counseling Psychology, University of Hawaii at Manoa, 1984

B.A., University of Hawaii at Hilo, 1981

# NAZANIN ZARGARPOUR, Ph.D.

150 E. Tenth Street,  
Claremont, CA 91711  
(909) 938-6246  
llh@cgu.edu

Executive Director  
Institute At Indian Hill  
School of Educational Studies  
Claremont Graduate University

11812 Gorham Ave., #303  
Los Angeles, CA 90049  
(310) 826-1809  
edreform@zargarpour.com

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## EDUCATION REFORM

Management • Administration • Research • Evaluation  
Coaching • Training • Organizational Capacity-Building • Systems Design

Dynamic executive, consultant, and practitioner with expertise in design, administration, coaching, and evaluation of education systems and programs at elementary, secondary, and post-secondary levels. Highly proficient in conducting comprehensive evaluations that celebrate strengths, identify needs, and inspire and mobilize continuous improvement in education organizations and programs. Proven success in mobilizing the collaborative creation of shared vision and plans for comprehensive school reform and in building capacity for implementing change that results in the continuous improvement of processes and outcomes. Expert in the creation and implementation of systems of data use in schools and districts, having designed data systems for over 45 schools across the nation and trained over 500 teachers and principals in the implementation of inquiry practices. Ten-year record of exceptional achievement in improving education systems, as external partner, evaluator, and administrator.

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### COMPETENCIES

- Formative and Summative Evaluations
- Quantitative and Qualitative Research
- Organizational Systems Design and Analysis
- Coaching, Training, Capacity-Building
- Data Systems Design and Training
- Grant Writing

### LANGUAGES

- Bilingual English-Persian
- French Proficiency
- Italian Proficiency
- Spanish Comprehension

### RESEARCH & COACHING FOCUS

- Pre-K-12 Education Reform
  - Higher Education Institutional Reform
  - Data-Driven Decision-Making
  - Data-Driven Instruction
  - Collegial, Collaborative Teams
  - Collaborative Inquiry
  - Professional Learning Communities
  - Transformational Leadership
  - Organizational Capacity-Building
  - Systems Theory and Design
  - Assessment Data Software Design
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## EDUCATIONAL HISTORY

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### DOCTOR OF PHILOSOPHY

#### **Education Policy and Reform**

Claremont Graduate University, May 2005

Dissertation Title: *A Collective Inquiry Response to High-Stakes Accountability*

- 2006 National Outstanding Publication Competition, American Educational Research Association (AERA), Division H, Second Place
- 2006 AERA Distinguished Paper Award, Consortium of State and Regional Educational Research Associations (SRERA)
- 2005 CERA Outstanding Paper, California Educational Research Association (CERA)
- 2005 Dissertation of the Year, Phi Delta Kappa
- Annual Merit Fellowships, 1997 – 2002

### MASTER OF PUBLIC POLICY

#### **International Development Education**

University of Southern California, December 1994

- Professional Development Fellowship, Institute of International Education (Fulbright), 1994
- John C. Argue Ides of March Patron Fellowship – full, merit fellowship, 1991 – 1994

### BACHELOR OF ARTS

#### **Comparative Literature: French & English**

University of California, Berkeley, 1990

- Phi Beta Kappa
- Letters and Science Dean's List – top 4% of School
- Edward Frank Kraft Scholarship – top 2% of class
- Highest Honors
- Annual Alumnae Scholarships, 1986 – 1990

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**PROFESSIONAL EXPERIENCE**

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**Executive Director** (September 2005 – present)

**INSTITUTE AT INDIAN HILL**

**Claremont Graduate University**

Manage a highly professional team of researchers, scholars, and practitioners in serving the research, coaching, and evaluation needs of Pre-K-12 education, post-secondary institutions, and other education-related organizations. Continually develop the internal capacity of the organization to serve the needs of educational agencies using successful research-based methods and state of the art practices. Provide internal staff development in content-based educational topics and research and evaluation methods and tools. Help build the capacity of doctoral and masters students in education- and evaluation-related programs at Claremont Graduate University. Responsible for marketing, contract procurement, and contract supervision.

Evaluation contracts include Comprehensive School Reform grant evaluations, Smaller Learning Community evaluations, Professional Learning Community evaluations, and evaluation partnerships with UCLA's School Management Program. Collaborative coaching partnerships with districts and schools throughout California and Hawaii include Design Studio needs assessment and coaching models, Bell-to-Bell and Wall-to-Wall instructional coaching, coaching data-driven decision-making and instruction, threat assessment training, and electronic (using handheld devices) instructional and threat assessment walkthroughs.

**Education Consultant** (September 2005 – present)

**INDEPENDENT CONTRACTOR and**

**SOLUTION TREE ASSOCIATE**

As an independent contractor, served schools and districts with a variety of research, coaching, and evaluation needs. Conducted comprehensive evaluations, delivered keynote presentations, and provided research-based coaching and training. As an Associate of Solution Tree (formerly National Educational Service), assisted schools throughout the country with implementing professional learning community (PLC) practices toward school improvement. Designed and conducted workshops at PLC Institutes. In both capacities, conducted comprehensive needs assessments; helped school communities to develop shared visions for reform; established transformational coaching relationships with teachers, administrators, and parents; facilitated the development of a collaborative culture with well-functioning, focused, and productive collegial teams; built capacity for using data to make decisions, set goals, monitor results, and plan interventions; conducted ongoing monitoring of reform efforts and provided formative feedback.

**Program Administrator** (September 2000 – January 2005)

**POMONA UNIFIED SCHOOL DISTRICT**

**Departments of Research & Assessment and Administrator Support**

Responsible for all design, implementation and professional development related to collective inquiry and data use at sites throughout the district. Key Achievements: Played a central and vital role in developing a culture of data use in which practitioners view data as informative and instructive rather than evaluative and punitive. Designed systems of data

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use that integrate teacher collaboration and form the foundation of sites' Academic Plans. Created Data Modules for systematic analysis of process and outcome data for continuous improvement of programs and practices. Developed training programs for Data Teams from each site to lead the work of collective inquiry and improving instruction.

**Consultant to Deputy Superintendent** (September 1999 – September 2000)

**POMONA UNIFIED SCHOOL DISTRICT, Division of Instructional Services**

Collaborated with the Deputy Superintendent in the research and design of the Division of Instructional Services plan for comprehensive reform, restructuring, and reorganization. Produced the final document that formed the foundation of the Division's reform efforts for the next five years and to the present. Played a key role in formulating the systems of internal accountability that would lead to continuous improvement, namely: District-Wide Standards-Based Assessment System, Research and Support Teams, Data Action Teams, intervention policies, etc.

**Evaluation Analyst** (1999 - 2000)

**THE CALIFORNIA ENDOWMENT, Department of Research and Evaluation**

Engaged in the review and analysis of proposals submitted to the foundation; created internal and external evaluation policy documents; and designed and conducted evaluation training programs for various internal and external entities.

**Senior Research Associate** (January 1997 – September 2000)

**CLAREMONT GRADUATE UNIVERSITY, Transactional Research Institute**

As External Partner to schools and districts, facilitated site-based and district-wide education reform efforts associated with initiatives such as LAAMP, LEARN, and IIUSB. Conducted needs assessments; facilitated collaborative planning—development of shared vision, measurable goals, aligned strategies and actions; designed systems for monitoring and continuous improvement; provided training and coaching in collective inquiry and data use; conducted process and outcome evaluations; provided written reports of findings.

**Professional Development Fellow, Project Director, Senior Analyst**, Bucharest, Romania (1994)

**INSTITUTE OF INTERNATIONAL EDUCATION—FULBRIGHT**

Conducted a nation-wide assessment of the training needs of Romanian non-governmental organizations (NGOs). Networked with directors of NGOs to gather and analyze both primary and secondary data for the needs assessment. Used action research by planning a series of Regional Conferences to promote identification of needs, training and collaboration among NGOs. The success of the project gained us the funding and support of the Soros Foundation.

**International Education Consultant**, Tirana, Albania (1993)

**BAHA'I INTERNATIONAL COMMUNITY (BIC)**

Undertook a collaborative study with the Pedagogical Research Institute of Albania's Ministry of Education to develop a monitoring system for ongoing assessment and continuous improvement of Albania's National Educational Reform Plan toward democratization. Researched and analyzed effectiveness and efficiency issues in the

# Budget Narrative

## Budget Narrative

Attachment 1:

Title: Pages: Uploaded File: 1235-HI\_BudNar.pdf

Hawaii Department of Education  
**BUDGET NARRATIVE**

The budget narrative summarizes projected costs by project year.

**Personnel**

Project Coordinator will coordinate the day-to-day activities of the project under the direction of the project director. The coordinator will manage contracts with external contractors, coordinating internal and external resources and will be responsible for all project documentation. The coordinator will be responsible for establishing initial project documents and manage timelines for all project activities.

Year 1: \$75,000

Year 2: \$75,000

Year 3: \$75,000

Research Analyst will be primarily responsible for the education-related process requirements tasks. The analyst in conjunction with a contractor will lead the requirements gathering phase in Year 1, work with the other analysts to develop the appropriate data models in Year 2 and assist in the development and delivery of end-user training in Year 3. In collaboration with the research directors, this position will manage the setting of the HIDOE research agenda related to longitudinal data needs.

Year 1: \$75,000

Year 2: \$75,000

Year 3: \$75,000

Data Analyst - will work with internal HIDOE technical staff and be responsible for populating and managing the metadata repository. The position will also assist in the documentation of the existing HIDOE systems architecture and the data residing in each system.

Year 1: \$55,000

Year 2: \$55,000

Year 3: \$55,000

Systems Analyst will be responsible for managing the technical design aspects of the project in conjunction with the project director and systems development contractor. The position will be responsible in the documentation of the existing HIDOE systems architecture. The analyst will also assist in the development of the technical portions of the end-user training curriculum.

Year 1: \$65,000

Year 2: \$65,000

Year 3: \$65,000

**Fringe**

Fringe expenditures are calculated at 30% of salary according to State of Hawaii laws and regulations. The combined fringe totals for the project funded positions are as follows:

Year 1: \$81,000

Year 2: \$81,000

Year 3: \$81,050



**Travel**

Project director will make 3 trips to Washington D.C for meeting with other grantees and Institute staff to discuss accomplishments, problems encountered, and possible solutions/improvements.

Airfare: \$1,000, Hotel: \$150 x 3 nights, Per Diem: \$45\*3, Transportation: 100

Year 1: \$1,685

Year 2: \$1,685

Year 3: \$1,685

Travel to attend the Gartner Symposium which provides updates on the best practices of technology application for achieving business value is also projected for the project director. The conference provides the latest information on enterprise architecture and object model technologies.

Airfare: \$1,000, Hotel: \$200 x 5 nights, Per Diem: \$45\*5, Transportation: 100, Reg: \$2,000

Year 1: \$4,325

Year 2: \$4,325

Year 3: \$4,325

In the first and third years of the project, two project staff will attend The Data Warehouse Institute World Wide (TDWI) conference to build internal capacity and become aware of the latest developments in data warehousing and business intelligence.

Airfare: \$750, Hotel: \$150 x 5 nights, Per Diem: \$45\*5, Transportation: 100, Reg: \$500

Year 1: \$4,650

Year 2: \$4,650

Year 3: \$4,650

Two project staff will attend a Business Intelligence tool training. The BI tool providing access to the longitudinal data system will be selected in year two. The staff will be responsible for providing end-user training on the tool.

Airfare: \$750, Hotel: \$150 x 5 nights, Per Diem: \$45\*5, Transportation: 100, Reg: \$2,500

Year 1: \$0

Year 2: \$8,650

Year 3: \$0

HIDOE staff responsible for data integrity and quality will attend a conference on the Sarbane-Oxley (SOX) law. The staff will obtain information on implementation of this area in the private sector and will provide the foundation for applying the principles to education data. One staff member will attend a conference for the first two years of the project.

Airfare: \$750, Hotel: \$150 x 3 nights, Per Diem: \$45\*3, Transportation: 100, Reg: \$1,200

Year 1: \$2,635

Year 2: \$2,635

Year 3: \$0

HIDOE staff responsible for data security and privacy will attend a conference on the HIPAA. The staff will obtain information on implementation of this area in the health organizations and will provide the foundation for applying the principles to education data. One staff member will attend a conference for the first two years of the project.

Airfare: \$750, Hotel: \$150 x 3 nights, Per Diem: \$45\*3, Transportation: \$100, Reg: \$1,200

Year 1: \$2,635

Year 2: \$2,635

Year 3: \$0

Department Information Management staff and project staff are projected to take a total of eight neighbor island trips per year over the length of the project for focus group sessions quality checks of systems functionality against stated requirements and end-user training.

Airfare: \$150, Per Diem: \$45, Transportation: \$100 (eight trips)

Year 1: \$4,680

Year 2: \$4,680

Year 3: \$4,680

## **Equipment**

Equipment in the form of laptops for project staff will be required for normal office and project tasks. Seven laptops are requested at \$2000 per laptop.

Year 1: \$14,600

Year 2: \$0

Year 3: \$0

A data storage & Applications Server will be required for the testing and development environment starting with the enrollment-related longitudinal data. The hardware will be a dual processor, multi-GB Ram and multi-GB storage unit. The Unix/Windows platform will be selected after a sample of longitudinal data requirements has been collected and analyzed. The hardware for this environment is budgeted at \$20,000.

Hardware upgrades in the form of processors and storage space are anticipated in order for the Department's existing data warehouse to accommodate the longitudinal data functionality. The exact type of infrastructure upgrade would not be finalized until the performance analysis in Year 2 of the project but will be budgeted at \$50,000.

Business intelligence, server and developer software licenses will be purchased to provide the technical tools to the longitudinal data system. The following cost items are budgeted:

Business Intelligence Suite

\$250,000

|                                       |           |
|---------------------------------------|-----------|
| Various system & application software | \$100,000 |
| Metadata Repository                   | \$100,000 |
| Data Modeler                          | \$36,000  |
| Hosting                               | \$100,000 |

The testing and prototyping hardware is expected to be purchased at the end of Year 1 of the project and the balance of the products in Year 2.

Year 1: \$34,000                      Year 2: \$375,000                      Year 3:\$275,000

### **Supplies**

General office supplies and materials are budgeted at \$5,000 per year and phone charges at \$5,600.

Year 1: \$14,600                      Year 2: \$14,600                      Year 3:\$14,600

Supplies and materials are anticipated for each of the estimated 20 focus group sessions to be conducted in Year 1 and 2 of the project to assess the ability of the system to address the stated longitudinal data needs of stakeholders. Each session is budgeted at \$200.

Year 1: \$4,000                      Year 2: \$4,000                      Year 3: \$0

The professional development training materials are anticipated to cost \$20,000 per year in Year 2 and 3 of the project. The training will span the range of stakeholders

Year 1: \$0                      Year 2: \$20,000                      Year 3: \$20,000

### **Contractual**

Enterprise Architect Consultant will develop the plan and structure for the forward-mapping phase based upon the Zachman Framework. The consultant, Sam Holcman and Pinnacle Business Group, will also provide guidance, review and analysis services as the longitudinal data needs are collected from the stakeholder focus groups. The consultant will work with the technical architect to ensure that the business processes and information architecture can be transformed into a technical architecture for the longitudinal system. The consultant is expected to be contracted for 1.5 weeks at \$20,000 per week.

Year 1: \$30,000                      Year 2:                      Year 3:

Enterprise Architecture Contractor will perform the longitudinal data requirements gathering tasks in Year 1. The contractor will conduct various focus group sessions to document the existing longitudinal data needs of the various role groups in the HIDEOE. The contract will also perform a backward mapping task cataloging the data entities,

processing and relationships to source systems for existing data reports. In Year 2, the contracting will also be responsible for inputting information from both requirements tasks into the selected data modeling tool. The contractor is budgeted at \$150 per hour with 500 hours in Year 1 and 200 hours in Year 2.

Year 1: \$75,000

Year 2: \$30,000

Year 3: \$0

**Educational Research Consultant Services** Dr. Ronald Gallimore will lead the educational research advisory services throughout the project. In Year 1, Dr. Gallimore will lead a team to identify existing and emerging research methodologies utilizing longitudinal data. The task will be foundation for setting the HIDOE's longitudinal research agenda. Additionally, Dr. Gallimore will advise the project on the development of prototypes and the validity of the analyses to specific research questions. In Year 2, the consultant services will include a review of the educational research needs obtained from the stakeholder focus group sessions along the lines of validity and research-soundness. Suggested modifications will be taken back to the specific stakeholder group for review. In Year 3 the services will include providing valid context and interpretation for the longitudinal analyses that are delivered by the initial rollout of the system. Dr. Gallimore will be responsible for creating a team to deliver the services. Services are budgeted at 40 days per year at \$1,500 per day.

Year 1: \$60,000

Year 2: \$60,000

Year 3: \$60,000

**Education Research Consultant Services** Dr. Bruce Matsui, Dr. Nazanin Zargarpour, Institute at Indian Hill will lead the staff development effort in supporting school improvement through coaching and evaluation utilizing longitudinal data. In Year 1 of the project, the services will include helping to develop a research agenda by reviewing existing enrollment-related longitudinal data for modeling into outcomes and predictors. Years 2 and 3 of the project will be shaping the professional development efforts of the project utilizing the SLDS. The combination of the services for the three inter-related entities is listed below.

Year 1: \$60,000

Year 2: \$112,500

Year 3: \$112,500

**HIPAA Consultant** an individual familiar with HIPAA will work in conjunction with HIDOE Information Management staff in the review of existing HIPAA requirements in the private sector and assess similarities to the collection, storage and use of education data. Appropriate policies, procedures and technical controls will be documented for inclusion into the SLDS design. The consultant is budgeted at an equivalence of 40 days at \$1,500 per day.

Year 1: \$60,000

Year 2:

Year 3:

**SOX Consultant** an individual familiar with implementation of Sarbanes-Oxley in corporate reporting will work in conjunction with HIDOE Information Management staff in the review of existing SOX requirements in the private sector and assess similarities to

the data integrity and quality as related to data reporting. Appropriate policies, procedures and technical controls will be documented for inclusion into the SLDS design. The consultant is budgeted at an equivalence of 40 days at \$1,500 per day.

Year 1: \$60,000

Year 2:

Year 3:

**Technical Design Consultant** HIDEOEs existing subscription with the Gartner Group will be utilized to provide technical architecture, design and vendor selection to the project. The Gartner Group will ensure that the requirements gathering in phase one which results in an information architecture will be transformable into the data and systems architectures.

Year 1: \$75,000

Year 2: \$50,000

Year 3: \$0

**Systems Development Contractor** Application development services will be retained for implementation of tools and development of the longitudinal data system. The integrators will also work to provide knowledge transfer to the Departmental staff and implement a transition plan. The will provide the initial development services in Year 2 and the modifications task in Year 3.

Year 1:

Year 2: \$400,000

Year 3: \$150,000

### **InDirect Costs**

In-direct costs are calculated at the Department's negotiated rate of 10.3% for the total amount of the direct costs.

Year 1: \$86,542

Year 2: \$142,934

Year 3: \$95,217