



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

November 1, 2018

TO: The Honorable Catherine Payne
Chairperson, Audit Committee

FROM: Dr. Christina M. Kishimoto
Superintendent

A handwritten signature in blue ink, appearing to read "CK", is placed over the name "Dr. Christina M. Kishimoto".

SUBJECT: **Committee Action on the Department of Education's Student Information System Post-Implementation Review**

1. RECOMMENDATION

Approval of the Department of Education's Student Information System Post-Implementation Review.

2. RECOMMENDED EFFECTIVE DATE

November 1, 2018

3. RECOMMENDED COMPLIANCE DATE

Same as effective date.

4. DISCUSSION

a. Conditions leading to the recommendation:

Internal Audit has discussed our findings (observations) and recommendations with Management and they have submitted their management plans for inclusion in the report.

b. Previous action of the Board and Committee on the same or similar matter: N/A

c. Other policies affected: N/A

d. Arguments in support of the recommendation:

If the review is approved, Internal Audit will follow up with Management on their progress of completion for their action plans, and report accordingly through the audit committee quarterly updates.

e. Arguments against the recommendation: N/A

f. Other agencies or departments of the State of Hawaii involved in the action: N/A

g. Possible reaction of the public, professional organizations, unions, DOE staff and/or others to the recommendations: N/A

h. Educational implication: N/A

i. Personnel implications: N/A

j. Facilities implications: N/A

k. Financial implications: N/A

5. OTHER SUPPLEMENTARY RECOMMENDATIONS

N/A

CMK:yc

Attachment

c: Internal Audit Office



Department of Education

Internal Audit

Student Information System Post-Implementation Review

Issue Date: October 2018

Report Number: FY2018-04

Department of Education
 Student Information System Post-Implementation Review
Executive Summary

| | | |
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| AUDIT OF: Student Information System Post-Implementation Review | DATE: Fieldwork performed May 2018 – September 2018 | AUDIT RATING: Acceptable <input checked="" type="checkbox"/> Marginal <input type="checkbox"/> Unacceptable <input type="checkbox"/> |
|--|--|--|

INTRODUCTION:

In connection with the Department of Education’s (DOE) Updated Risk Assessment and Internal Audit Plan approved on May 2, 2017, Internal Audit (IA) performed a “*Student Information System Post-Implementation Review*.” The purpose of this project was to evaluate the Student Information System implementation, confirm business processes, ensure systems are aligned with business and project goals, identify continuous process improvement opportunities, and review the design of key internal controls.

BACKGROUND:

On July 22, 2014, the Hawaii Department of Education (HIDOE) requested proposals to furnish a comprehensive Student Information System (SIS) and associated implementation services. This procurement was conducted as a competitive sealed proposals procurement utilizing a Request for Proposals (RFP) resulting in a contract award to Infinite Campus, Inc. on March 16, 2015. The SIS would replace the previous Student Information System (eSIS).

HIDOE’s purpose of this project was to: 1) implement the acquired SIS and 2) deliver training to the user community. The implementation of the new SIS was planned to be done in four (4) phases. Phase I of the project was to implement basic SIS functionality (those already in use in eSIS). As of the fieldwork date, Phase I is near completion. Implementation of additional functionality is planned in Phases II, III and IV. No timeline has been set on the remaining phases as funding and resources are necessary for implementation and not currently available. Please refer to the appendix for the SIS phase implementation.

The SIS system was launched for school year (SY) 2016-2017. All DOE public schools and most charter schools are using the SIS. There are five (5) charter schools that did not want to convert from the existing student information system (PowerSchool) to the DOE’s SIS. Charter schools were not mandated to be on the same student information system as the “traditional” DOE schools.

Infinite Campus is one of the leading SIS vendors on the market. They have extensive experience in K-12 SIS implementation, operation, and support. They currently span over 2,000 school districts, 6 State departments of educations, and serve 6.5 million students throughout the United States.

Different components of the SIS include:

- Enrollment
- Roster (student info, student flags [Individualized Education Program (IEP), health conditions, alert, power of attorney (POA), temporary restraining order (TRO)]),
- Attendance (including seating chart)
- Grade book
- Registration
- Demographics
- Report cards
- Instruction report (attendance reports, planner reports, roster reports)
- Parent portal (viewing attendance, grades, class schedules, assignments)

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- Various student tabs (assessment [testing scores], behavior, transportation, fees, lockers, graduation, athletics, adhoc letters, waiver, record transfers, report comments, CTE (career and technical education), custom tabs, person documents, notes internal, summary, enrollments, schedule, attendance, flags, grades, transcript, credit summary).

Information technology (IT) general controls are important because they meet financial and operational objectives such as completeness, accuracy, validity, authorization, confidentiality, integrity, availability, effectiveness, and efficiency. DOE currently has over 14,000 users on the system. Users include school based staff and district and state office staff (i.e. OITS and OCISS) with an educational need or those who directly support the system. The SIS is a cloud-based system that is fairly complex.

Policies and procedures are kept on the SIS website. These include the Enrollment and Withdrawal Process and Procedures Manual, training videos, End of School Year Procedures, and DOE memos. The Enterprise Systems Branch in the Office of Information Technology Services is responsible for the SIS.

SCOPE and OBJECTIVES:

The scope of our review focused on evaluating the implementation of the Student Information System and confirming that business processes are working as intended. The scope of our review specifically focused on an overall assessment of the following subcategories that IA deemed as high risk in our project-level risk assessment:

- General Implementation
- Access Controls
- Input/Edit Interfaces
- Data Processing and Data Integrity
- Reports and Outputs

The scope of testing covered SY 2018 (July 1, 2017 – June 30, 2018) and current SY 2019 (July 1, 2018 up to September 2018.)

The objectives of our review included the following:

1. To evaluate the Student Information System implementation, confirm that business processes are working as intended, and ensure that systems are aligned with business and project goals.
2. To review, evaluate, and test the design of procedures and controls over input, processing, and output of the Student Information System.
3. To ensure that information captured is complete and accurate.
4. To ensure that information generated is accurate, reliable, and timely.

OBSERVATIONS:

Based upon our review, we found the DOE's controls related to the post-implementation of the Student Information System are functioning at an "acceptable" level. An acceptable rating indicates that no significant deficiencies exist and improvement continues to be appropriate; controls are considered adequate, and findings are not significant to the overall unit/department.

Please refer to the Risk Ratings section of this report (page 4) for a complete definition of the ratings used by IA and the Observations and Recommendations section for a detailed description of our findings.

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We discussed our preliminary findings and recommendations with Management and they were receptive to our findings and agreed to consider our recommendations for implementation.

Each observation presented in this report is followed by specific recommendations that will help to ensure that control gaps are addressed and, if enforced and monitored, will mitigate the control weaknesses. In summary, our observations are as follows:

1. Lack of data access controls for transferred employees.
2. Need for increased training and support provided to the field.

PLANNED FOLLOW UP BY MANAGEMENT AND INTERNAL AUDIT:

IA will follow up with Management on their progress of completion for their action plans and report accordingly through the audit committee quarterly updates.

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Rating Scale Definitions

| OVERALL RATING SCALE | |
|-----------------------------|---|
| <i>Acceptable</i> | No significant deficiencies exist and improvement continues to be appropriate; controls are considered adequate and findings are not significant to the overall unit/department. |
| <i>Marginal</i> | Potential for loss to the auditable unit/department and ultimately to the DOE. Indicates a number of observations, more serious in nature related to the control environment. Some improvement is needed to bring the unit to an acceptable status, but if weaknesses continue without attention, it could lead to further deterioration of the rating to an unacceptable status. |
| <i>Unacceptable</i> | Significant deficiencies exist which could lead to material financial loss to the auditable unit/department and potentially to the DOE. Corrective action should be a high priority of Management and may require significant amounts of time and resources to implement. |

| OBSERVATION RATING SCALE | |
|---------------------------------|---|
| <i>High (1)</i> | <p>1 - The impact of the finding is <i>material</i>¹ and the likelihood of loss is probable in one of the following ways:</p> <ul style="list-style-type: none"> • A material misstatement of the DOE’s financial statements could occur; • The DOE’s business objectives, processes, financial results or image could be materially impaired; • The DOE may fail to comply with applicable laws, regulations or contractual agreements, which could result in fines, sanctions and/or liabilities that are material to the DOE’s financial performance, operations or image. <p><i>Immediate action is recommended to mitigate the DOE’s exposure</i></p> |
| <i>Moderate (2)</i> | <p>2 - The impact of the finding is <i>significant</i>¹ and the likelihood of loss is possible in one of the following ways:</p> <ul style="list-style-type: none"> ➤ A significant misstatement of the DOE’s financial statements could occur; ➤ The DOE’s business objectives, processes, financial performance or image could be notably impaired; ➤ The DOE may fail to comply with applicable laws, regulations or contractual agreements, which could result in fines, sanctions and/or liabilities that are significant to the DOE’s financial performance, operations or image. <p><i>Corrective action by Management should be prioritized and completed in a timely manner to mitigate any risk exposure.</i></p> |
| <i>Low (3)</i> | <p>3 – The impact of the finding is moderate and the probability of an event resulting in loss is possible.</p> <p><i>Action is recommended to limit further deterioration of controls.</i></p> |

¹ The application of these terms are consistent with the guidelines provided by the Institute of Internal Auditors

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Observations

The detailed observations noted herein were based on work performed by IA through the last date of fieldwork and are generally focused on internal controls and enhancing the effectiveness of processes for future organizational benefit.

| Obs. No. | Description | Page # |
|-----------------|--|---------------|
| 1 | Lack of data access controls for transferred employees. | 6 |
| 2 | Need for increased training and support provided to the field. | 8 |

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Observations

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|--|
| Observation Number: 1 |
| Observation: Lack of data access controls for transferred employees Rating: Moderate |
| <p>Access to the SIS is based on DOE authentication. SIS uses the DOE Active Directory to ensure authorized access to the system. Only DOE employees are registered on the DOE Active Directory. Based on discussions with management and test work performed, IA noted that when users transfer schools, their access is removed upon notification. Staff has to rely on schools to communicate the separation. However, IT Information and Support Section performs access checks throughout the year to monitor proper access. Multiple checks are performed including checks on users that don't access the system and users with no school or "tool right" attached. IT Information and Support Section will disable the account if the account hasn't been accessed or is no longer in use.</p> <p>Based on testing performed for access removal for transferred/separated employees, IA noted that seven (7) out of 65 users with active access where the user transferred to a different school but still had access to the prior school. In addition, IA noted that one (1) out of 28 super users with active access where the user transferred to a different office (outside of OITS) but still had access to the super user account. Management has confirmed that all user access noted in the observation has been corrected to reflect the proper location and that the employee with super user access had their access removed.</p> |
| Impact |
| Lack of data access controls for transferred employees may possibly lead to access to confidential records by unauthorized users. |
| Recommendation and Management Plan |
| <p>Recommendations to address the lack of data access controls for transferred employees include:</p> <ul style="list-style-type: none"> ➤ Recommendation: Management should identify methods to automate processes to disable transferred employees' access to the SIS. <p>Management Plan: OITS will investigate methods to address the provisioning gap where current manual processes cause delays or inaction to occur with regards to transferred employees.</p> <p>Anticipated Completion Date: April 30, 2019</p> <ul style="list-style-type: none"> ➤ Recommendation: Reminders should be sent out to the field to submit a request to disable access when transferred employees no longer need access to SIS. Communication to the field should also be incorporated in training. <p>Management Plan: OITS currently sends reminders to the field as part of its year-end deadlines and procedures for the student information system. Communication is sent to users via the student information systems messenger feature, posted on the intranet, and posted via Memos & Notices. These procedures are also mentioned during training sessions.</p> <p>OITS will review the communication and training content to determine if the messaging needs to be clarified, emphasized, etc.</p> <p>Anticipated Completion Date: April 30, 2019</p> |

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Observations

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| <u>Contact Person:</u> Brook Conner, Assistant Superintendent and CIO Office of Information Technology Services |
| Responsible Office |
| School Technology Services and Support Branch, OITS |

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Observations

| | |
|---|--------------------|
| Observation Number: 2 | |
| Observation: Need for increased training and support provided to the field | Rating: Low |
| <p>IA conducted a survey to all employees classified as “Registrar.” The purpose of the survey was to get a sense of the field’s feedback regarding the implementation of the SIS. IA sent out 87 surveys and 64 surveys were completed. Please refer to the appendix for SIS implementation survey results.</p> <p>The Registrars expressed a number of positive comments as well as issues and concerns that their schools encountered during the implementation of the SIS. The three (3) main comments from the survey response were related to implementation, training, and support. IA recorded the following items from the survey:</p> <p><u>Implementation</u> - IA noted that 22 out of 64 registrars responded about the implementation of the system. These comments included the following:</p> <ul style="list-style-type: none">➤ DOE should pilot the system prior to a statewide roll out.➤ Systematic roll outs should have been done.➤ An earlier start during the transition would have been better.➤ The implementation was rushed.➤ Some schools had difficulties with data transitions from eSIS to SIS. <p><u>Training</u> - IA noted that 48 out of 64 registrars responded about the training they received for the system. These comments included the following:</p> <ul style="list-style-type: none">➤ Training was very effective.➤ More training was needed during the implementation.➤ The DOE should continue to provide additional training, especially for new staff and other system users (i.e. teachers and counselors).➤ The DOE should continue to provide more training for elementary clerks.➤ The DOE should provide more training for the different features in the system (i.e. gradebook, household demographics, adhoc reports, census information, end of year).➤ Timing of trainings can improve.➤ Training during rollover was poor, support was not available.➤ Help line was non-responsive during rollover.➤ The DOE should open training to teachers as a way to earn Professional Development (PD) credits.➤ Some schools are requesting for more hands-on training.➤ Teachers should be trained by the Resource Teachers instead of the registrars.➤ The DOE should have recorded training sessions for schools to refer back to.➤ Trainings provided by Infinite Campus should be more specific to Hawaii DOE needs. <p><u>Support from Resource Teachers (RTs)</u> - IA noted that 33 out of 64 registrars responded about the support they received from the Resource Teachers. These comments include the following:</p> <ul style="list-style-type: none">➤ RTs are wonderful and so needed, more of them are needed to support the entire state.➤ RTs were instrumental in providing guidance throughout the implementation and afterwards. They are always willing to help and will follow through until the problem is solved.➤ The DOE should add back RT positions that have been cut and create new RT positions.➤ The DOE should have separate RTs for elementary and secondary schools.➤ The RTs always respond to requests. | |

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Observations

- With the decrease in RTs, there is a noticeable wait time.
- RTs have been very helpful, but they are understaffed.
- RTs did a good job training the registrars.
- RTs and help desk were very supportive.
- Losing the RTs has been very difficult as they were a big help, now it's difficult to get assistance and get questions answered.
- Please do not eliminate any additional RT positions. Instead, increase RT staffing allocation.
- RTs went above and beyond in helping and finding solutions as problems arose. They provide timely and efficient support.
- There should be more personnel dedicated to on-going training and support.
- Having a state registrar assigned for each district has helped tremendously so that there is a first line “go-to” person when support is needed.

Impact

The lack of addressing the need for increased training and support provided to the field may possibly lead to:

- Inefficiencies with learning a new system.
- Inconsistent application of procedures.
- Confusion and frustration for the field.

Recommendation and Management Plan

Recommendations to improve the need for increased training and support provided to the field include:

- **Recommendation:** Management should consider piloting a system prior to a complete roll-out for any new system implementations.

Management Plan: The SIS was done as a “complete roll-out” due to the unsupported, end-of-life state of the legacy system with eSIS. The vendor was no longer supporting the product and the Hawaii DOE was the last district on eSIS. In addition, student-centered systems can be a challenge to pilot or roll-out in phases due to the mobility of the students and their ability to move from school to school, complex to complex, complex area to complex area, etc. A pilot or phased approach in such cases may cause additional burden on the schools to have to use two different systems until the full deployment is completed.

OITS is already changing its approach to technology deployment and starting with pilots where it is feasible to do so. This approach is part of the Technology Plan that was presented to the Board of Education’s Finance and Infrastructure Committee on March 13, 2018.

Anticipated Completion Date: Completed

- **Recommendation:** Management should provide more training to the field. Training should be continuous throughout the school year. Trainings should cover the different features in SIS (including gradebook, household demographics, adhoc reports, census information, end of year, etc.). Training should be offered continuously to different user groups. Management could also consider allowing teachers to earn PD credits through training sessions.

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Observations

Management Plan: OITS trainers will continue in-person training on critical operational processes of the SIS and will incorporate available technology solutions to supplement in-person sessions with online training, webinars, and knowledge-based resources. Some of these resources are available through the SIS product, but DOE-specific topics will be developed to address needs of various user groups.

Upon initial system implementation, a teacher cadre was identified and trained to provide additional training resources via a train-the-trainer model. However, this model was not sustainable long-term as a result of staff transfers to other positions or separation from service.

Anticipated Completion Date: July 31, 2019

Recommendation: Management should review the effectiveness of the support provided to the field to determine if resources are efficiently allocated and staffing is adequate to meet current needs and future project goals.

Management Plan: OITS will review current staffing responsibilities and workload to determine where efficiencies can be implemented. Based on requests from users for the implementation of additional features and modules, OITS anticipates the need for additional staff. As part of its biennium budget request, OITS has submitted for additional staff to assist with training. A total of six (6) additional full time employees have been requested.

Anticipated Completion Date: June 30, 2019

Contact Person: Brook Conner, Assistant Superintendent and CIO
Office of Information Technology Services

Responsible Office

School Process and Analysis Branch, OITS

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Acknowledgements

We wish to express our appreciation for the cooperation and assistance afforded to the review team by Management and staff during the course of this review.

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Appendix

SIS Phase Implementation

A Vision for the Future

Revised Date: 8/17/2015

The Foundation for Building a Fully Integrated Instructional Management System starts with an SIS

| | | | | |
|--|--|--|--|---------------------------|
| | | | <ul style="list-style-type: none"> Individualized Education Plan Section 504 Multi-Tiered System of Support Response to Intervention Discipline Guidance & Special Services | Implementation/Integratio |
| | | <ul style="list-style-type: none"> Assessment and Growth Instruction Design & Delivery Standards & Curriculum | <ul style="list-style-type: none"> Assessment and Growth Instruction Design & Delivery Standards & Curriculum | |
| | <ul style="list-style-type: none"> Gradebook Parent Student Portal Teacher Web Portal Student Health Standards-Based Report Cards (secondary) | <ul style="list-style-type: none"> Gradebook Parent Student Portal Teacher Web Portal Student Health Standards-Based Report Cards (secondary) | <ul style="list-style-type: none"> Gradebook Parent Student Portal Teacher Web Portal Student Health Standards-Based Report Cards (secondary) | |
| <ul style="list-style-type: none"> Gradebook Parent Student Portal Demographics Marks Entry Attendance Scheduler Registration Standards-Based Report Cards (Elementary) Diploma | <ul style="list-style-type: none"> Gradebook Parent Student Portal Demographics Marks Entry Attendance Scheduler Registration Standards-Based Report Cards (Elementary) Diploma | <ul style="list-style-type: none"> Gradebook Parent Student Portal Demographics Marks Entry Attendance Scheduler Registration Standards-Based Report Cards (Elementary) Diploma | <ul style="list-style-type: none"> Gradebook Parent Student Portal Demographics Marks Entry Attendance Scheduler Registration Standards-Based Report Cards (Elementary) Diploma | |
| SY2016-17 | Phase II * | Phase III * | Phase IV * | |
| (*Phases II, III and IV may be subject to change) | | | | |

Phases shown were part of the initial planning for the New SIS. Future phases (II, III, IV) and features will be determined and finalized upon review of Department priorities, requirements, and resources.

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Appendix

SIS Implementation Survey Results

Respondents: 64 out of 87 registrars (74% response rate)

| Question | Very | Unsatisfied | Neutral | Satisfied | Very | Total Responded | Skipped | Average Rating |
|--|-------------|-------------|--------------|--------------|--------------|--------------------|---------|-------------------|
| | Unsatisfied | 2 | 3 | 4 | Satisfied | | | |
| 1. How would you rate the transition from the eSIS system to the SIS system? | 3 4.76% | 9 14.29% | 21 33.33% | 27 42.86% | 3 4.76% | 63 | 1 | 3.29 |
| 2. How would you rate the overall implementation of the SIS system? | 1 1.56% | 9 14.06% | 18 28.13% | 33 51.56% | 3 4.69% | 64 | 0 | 3.44 |
| 3. How effective was your training? | 0 0.00% | 5 8.06% | 10 16.13% | 32 51.61% | 15 24.19% | 62 | 2 | 3.92 |
| 4. How timely was the training you received? | 3 4.69% | 6 9.38% | 20 31.25% | 22 34.38% | 13 20.31% | 64 | 0 | 3.56 |
| 5. How effective has the support been during and after the implementation of the SIS system? | 0 0.00% | 6 9.52% | 8 12.70% | 28 44.44% | 21 33.33% | 63 | 1 | 4.01 |
| 6. How well does the SIS system meet your needs? | 2 3.13% | 2 3.13% | 12 18.75% | 41 64.06% | 7 10.94% | 64 | 0 | 3.77 |
| 7. How would you rate the system's overall effectiveness? | 1 1.59% | 1 1.59% | 13 20.63% | 41 65.08% | 7 11.11% | 63 | 1 | 3.83 |
| 8. How would you rate the ease of use of the SIS system? | 0 0.00% | 3 4.92% | 12 19.67% | 37 60.66% | 9 14.75% | 61 | 3 | 3.82 |