And th A Quarterly Performance Review of the Arizona Education Learning and Accountability System: AELAS

Submitted to the Arizona Department of Education by WestEd and CELT

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INTRODUCTION

This report documents a quarterly performance review of the Arizona Education Learning and Accountability System (AELAS) by an independent evaluator as required by *Arizona Revised Statutes* (A.R.S.) 15-249 that was conducted on January 3 and 4, 2018. WestEd, the prime contractor, and the Center for Educational Leadership and Technology (CELT), the subcontractor, were hired by the Arizona Department of Education (ADE) to serve as that independent evaluator. This quarterly monitoring report is a follow-up to the initial performance review conducted in 2013, with a report submitted on September 9, 2013. This report follows and builds on all previous quarterly monitoring reports, updating commendations and recommendations.

This report differs slightly from previous reports. As in previous reports, we include sections on Findings, Recommendations, and Commendations. However, we need to provide an explanatory comment about the balance across these three sections. The WestEd/CELT team has been monitoring the development process of AELAS for ADE IT now for several years and many of the topics we have noted in prior reports have now been addressed sufficiently. Other topics, in particular, the financial stability and data governance, continue to be of concern. Some topics, such as the e-learning task force, may require cross-agency collaborations. Other topics, such as data governance, work with the business partners, and IT project funding, require within-agency strategic planning. In this monitoring trip, one new topic was brought to our attention and is of concern: that is, the low security rating. That said, as the development process progresses and evolves, new concerns naturally emerge with system maturity. This report reflects such emerging shifts to provide formative feedback to ADE IT. This evolutionary process is a natural progression and the Findings and Recommendations are meant to provide formative feedback and directions for possible modifications. These sections should not be construed negatively in relation to the smaller Commendation section.

FINDINGS

The main findings from this monitoring visit include:

IT Project Funding

There is an open question in the ADE as to how best to pay for IT activities in support of the program areas. Program areas often have technology-related needs, but have no funds to address such needs. IT must be responsive, but the concern is from where should the funds come and whose responsibility it is to cover the requisite costs. The question is relevant for such activities as requirements gathering for estimating as-yet unbudgeted projects as well as the creation of the marts for the legacy application replacements and APOR/CHAR rewrite. These costs have largely been paid for by IT (either from their limited general fund allocation or from their AELAS budget). While this has worked in the past, it creates certain frustrations and issues, such as:

1. Unbudgeted and unanticipated projects can drain limited IT general funds that are needed to support other planned projects.
2. Covering all of the costs for very large projects such as AELAS makes the IT budget seem very large, whereas the expenditures are actually going toward improving the operations of departments such as school finance.

3. IT is often the messenger for communicating and justifying such large budget requests. IT is an easy target for trimming or denying such budget requests, since very little political opposition is created by trimming what appears to be large IT budgets.

ADE should establish a strategy and guidelines as to how best to secure and allocate funds for IT projects that are more program-area driven.

Data Governance

There has been no progress on data governance for the ADE since the last report. The lack of program-area oversight of data and data management continues to be a risk and creates issues for the department. Most recently, the lack of a department-wide data governance structure has created sub-optimized designs for the data marts required for replacing the legacy applications. Some data marts were designed without a cross-department data use perspective, requiring some re-design and data model extensions.

e-Learning Task Force

There has been no progress on the e-Learning Task Force recommendation from the previous report. The vision and direction forward for further leveraging the AELAS infrastructure is unclear.

Security

The recently released state security report issued by RiskSense showed a state overall score that was within the target range of acceptability. However, the ADE score was below the minimum acceptable target score of 700. This was largely due to the existence of the Windows 2000 and 2003 servers maintained by ADE to support the APOR/CHAR and other legacy SAIS applications. These servers will not be fully replaced until 2021 or 2022, a schedule that is tied to the APOR/CHAR rewrite. Encryption limitations and SQL server 2000 vulnerabilities associated with these servers can only be fully remedied by the APOR/CHAR rewrite onto a modern platform. This places individually identifiable student data at risk for another four years (until 2022). Other states, such as Colorado, have taken extreme policy and technology measures in order to safeguard such student data. This was a result of a wave of political pressure from parents and constituents concerned about data privacy for students. While Arizona has for the most part not experienced such pressure to date, the risk looms large for a data exposure to trigger such constituent concerns.
While these security concerns are vexing in the extreme, and have been documented since the first report, the RiskSense security report represents another reason to adequately fund maintenance and ongoing upgrades to hardware and systems in use by ADE. Not doing so has created a long-term exposure to high-risk security issues. Such lack of ongoing upgrades due to limited funding will have even more serious ramifications in the future, as security risks and required protection continues to grow and become more complicated each year. Maintaining systems on current platforms is not a luxury or an option, it is a requirement for ensuring student data privacy.

APOR/CHAR

The requirements gathering from WestEd (separate group of experts working with ADE on the financial systems) is going very well. They have documented the process and user stories. This work should be completed in April. ADE IT will have enough detail from this analysis to create detailed work tasks. As of this report, there is no sense of whether there will be a

funding impact for the districts resulting from the re-write. ADE will do modeling and a proof of concept around portions of APOR/CHAR to determine the potential impact.

Business Requirements Gathering and Program-Area Communication

A long-standing issue with AELAS has been the level of participation, commitment and engagement of the program areas. IT has been the key driver, and often considered the "dictator", of how business will be done in the future. Often this was due to the program areas' lack of ability (in terms of resources and sometimes skills) to actively engage with and drive the conversation with IT with regard to future-state business processes and work flows. This issue has created problems throughout the life of AELAS, but most recently has contributed to issues in the areas of the OEM rewrite and legacy app data mart designs. While ADE IT has embraced an AGILE application development life-cycle, the program areas have not synched with these types of rapid development and deployment schedules. This results in rework when designs are not thoroughly tested in the early stages. Additionally, communication with and between the program areas and the IT project teams has not always been fluent and effective. Some, but not all program areas, are involved and some are more impacted than others. This inefficiency has caused less input from the program areas who should be essential customers and consumers of the IT products and services. The program areas must be collaborators that provide input and feedback to IT in an iterative manner to create products and applications that have maximum utility to their programs by providing essential data and indicators to affect decision making.

The approach used for gathering the requirements for APOR/CHAR, whereby a 3rd party team of relevant experts is contracted specifically to gather information and develop use cases seems to be a practice that warrants consideration for future projects, such as ESSA financial requirements.

ESSA Financial Reporting

ESSA financial reporting requires additional data gathering and reporting from the districts. The exact requirements and specifications for this reporting are not yet clear for Arizona. This is an issue that a number of states are currently struggling with. ADE has the AG's office working with school finance personnel to review the types of systems the districts have, what the ESSA requirements states and the chart of accounts used by the districts. AzEDS can play a role in gathering data for the ESSA financials.

RECOMMENDATIONS

The WestEd/CELT team recommends the following:

IT Project Funding

ADE should consider a shift in how large projects are lobbied for, communicated, and budgeted. Rather than IT being the lead for such large budget requests, consider requiring the affected program areas to take the lead for justifying data systems and process improvements that are needed to improve operational efficiencies or to meet regulatory requirements. Include in such budget requests the dollars required for the program areas to ramp up their resources and expertise as required to drive and actively participate in the project. Develop the policies and guidelines for such things as the size of the project for which this policy applies and for how the IT general fund should be used to support program area improvement requests.

Data Governance

In keeping with the previous recommendations, West-Ed/CELT believes it is important to implement data governance best practices for ADE. The data governance director should be in place as a full-time role and the data stewards for the ADE should be identified and meet regularly to actively manage the data of the department. There should be increased communication with the programs so that their needs and views are heard by IT. This form of fundamental collaboration will contribute to better and more effective relationships and create a sense of ownership and buy-in from the programs. Further, if at all possible, it would be helpful to have sustained and consistent representatives from both IT and the programs to improve the sustainability of the relationships over time.

e-Learning Task Force

West-Ed/CELT recommends that a clear vision be established for how the state of Arizona will move forward to leverage the infrastructure that is now available through the AELAS work. Other states have or are moving forward with statewide systems for such things as formative assessments, learning management systems, digital content libraries, statewide broadband, professional development libraries, and other technology enhanced education strategies that benefit teachers and students. The vision for Arizona in these areas is not clear. The e-Learning Task Force is the legislated venue for such decisions and visions to be created. Given that ADE serves many small and rural districts, having and implementing an e-learning plan can assist in the many challenges faced by these districts.

Security

West-Ed/CELT recommends that the legacy applications requiring the extended life of the Windows 2000 and 2003 servers be re-written as quickly as possible to remove this security risk and student data privacy issue. The 2019 budget should fully fund the most expeditious approach to this replacement. Furthermore, all future budgets should allocate funds for the necessary ongoing upgrades to the ADE systems and data structures to avoid system obsolescence and the accompanying security risks.

APOR/CHAR

See also the recommendation under Security – APOR/CHAR should be funded in 2019 to be re-written as quickly as possible.

Business Requirements Gathering and Program-Area Communication

West-Ed/CELT recommends a shift in the ADE strategies for how the program areas develop system requirements and support system development efforts in partnership with IT. The ADE should require that the program areas plan and budget to use consultants who know best practices in their area to help write new system specifications and requirements for large IT projects. Such consultants can now be hired under the new consultant master services agreement (MSA). This approach has worked well so far for the APOR/CHAR project, which could serve as a model for this approach.

ESSA Financial Reporting

The AzEDS system, with its Ed-Fi APIs and data model, could be a major system resource for addressing the ESSA reporting requirements. Other states that use Ed-Fi are also working on their ESSA reporting. There is an opportunity to form a work group of these states to share

practices and co-develop software enhancements for Ed-Fi. West-Ed/CELT recommends that the ADE consider organizing and participating in an Ed-Fi finance work group for ESSA. This work group could be launched at the upcoming spring Ed-Fi Technical Congress in Phoenix.

COMMENDATIONS

Commendations pertain to activities that ADE is doing especially well and are highlighted as examples of superlative performance. The WestEd/CELT team has noted the following commendations from observations during the January 2018 site visit:

SIS opt-in
The decision regarding transitioning out of the SIS Opt-in service provider role and turning this over to Edupoint represents a good approach that protects the districts' interests while reducing the burdens on the ADE IT department. The ADE will transition this work by the first of February. Edupoint has agreed to take on the customers as soon as they can transition and will honor the ADE pricing and provide support arrangements. There should be no contract or procurement issue. Edupoint is using Amazon Web Services (AWS) cloud services to host the ADE districts so there is no software or data movements to be made with the contract shift.

API 4.0 work
The API 4.0 version implementation represents a smooth annual data collection process that communicates new data collection needs and allows time for testing and certification to minimize errors. API 4.0 goes to the sandbox for testing and certification by vendors next week in preparation for deployment in July. The vendors can test their systems until then. The certification for the 4.0 API will focus on the school calendar. ADE is switching the collection of the calendar from Enterprise to Ed-Fi to help retire the system. Certifying the calendars will certify the rest of the API.