

# Quarterly Performance Review of the Arizona Education Learning and Accountability System: AELAS

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Submitted to the Arizona Department of Education by  
WestEd and CELT

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## EXECUTIVE SUMMARY

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. WestEd (the prime contractor) and 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

The ADE IT team continues to make progress in effectively addressing the recommendations in the September 9, 2013 report. They have created a management and reporting plan per the WestEd/CELT recommendations and have prioritized the recommendations according to their urgency and impact upon the effective planning and deployment of AELAS. Significant progress is being made in the appropriate recommendation areas.

The AELAS vision was developed through a comprehensive business case that included extensive participation from education stakeholders. The business case and the vision within it establish the foundation for AELAS projects and associated funding. The AELAS vision includes the delivery of timely data to teachers for the development and delivery of effective instruction. It highlights the benefits of deploying a coordinated, efficient data system to reduce the burden of state reporting placed upon districts. This vision remains the right thing to pursue.

As the technical components of AELAS mature and become operational the need to enhance capabilities and strategies of the program areas to implement and effectively utilize AELAS are becoming more evident. While the technical tasks of AELAS projects are being actively managed and monitored for deliverables, timelines and costs, the non-technology based decisions and tasks required to implement and utilize AELAS functions must be planned and executed in the same manner. The original findings outlined in the September 2013 report documented many of these issues through topics such as “implement the vision described in the original business case, utilize a business architecture, data governance, and communications”. The ADE IT team has aggressively driven forward on work within their formal areas of responsibility and they have utilized many forums to influence decision makers outside of the IT area. But efforts to effectively implement the policies and decisions necessary to deploy AELAS systems, and to integrate AELAS capabilities into the leadership and support of districts, schools and teachers is not keeping pace with the technical work. While these issues are being actively pursued the evidence reviewed in this period indicate these policy and practices are organizational risks that are not progressing rapidly enough to match the AELAS technology deployment timelines. Examples include:

- Digital Content. The Content Management System (CMS) is ready to store digital content but insufficient volumes of digital content are being loaded by ADE program teams. And, it is being loaded without an overarching strategy on how digital content will be incorporated into instruction and effectively curated. A related assessment strategy has not been developed. An assessment strategy would associate standards and related instructional material to student outcomes for their improvement.
- Communication. The ADE IT team continues to aggressively manage and improve their communication within the ADE and to districts and other stakeholders. But those with instructional and school administration backgrounds are best positioned to explain

to teachers and leaders how AELAS will help them become more effective in their work. Primary responsibility for communication must reside within the ADE leadership team and focus upon how AELAS will provide teachers and leaders with resources and reduce the burden of non-instructional work.

- AzDash training. With dashboards now available the program areas should be leading development of data literacy skills among district staff and the application of dashboards to instructional improvement and school support activities.
- Organizational Entity Management System (OEMS). Finalization of decisions regarding organization definitions and relationships is not progressing as rapidly as planned. A fully operational OEMS is needed to support other AELAS projects.

AELAS IT projects are delivering results. Work on the Student Accountability Information System (SAIS) replacement project (CSF distributions) and Statewide Student Information System (SSIS) appears to be going very well. ADEConnect has been implemented in the majority of districts. The OEMS technical components are largely completed. Remaining work includes instructional improvement system (IIS) components of AELAS that are not fully ready for district implementation (e.g. plans to deploy digital content and assessments).

As with most projects of this breath the AELAS team continues to manage technical and non-technical challenges. Significant progress has been made in a key challenge identified in the September 2014 report, development of the structures necessary for the efficient and frequent transmission of high quality data from districts to the ADE (AzDash). This remains a high-risk area, though the ADE has completed a plan to have this work done by next fiscal year. Some of the current non-technical issues include: educator leadership in the use of data to drive instruction, a dependence upon SIS vendors to implement AzDash, prioritization by instructional leaders to integrate AELAS information capabilities into their work activities and implementation plans for the development and management of digital resources (e.g. content and assessments). Though the ADE is proactively managing the challenges a lack of timely data, digital content, and assessments delays AELAS from reaching its full potential to impact student learning and instruction at this point in the project.

The ADE IT group has become a service organization to the districts with the deployment of the SSIS Opt-in project and the upcoming SAIS CSF project. They are making changes to ensure they successfully fulfill this evolving role. For the long-term success of AELAS additional work is required by the State of Arizona to develop a comprehensive long-term plan (particularly regarding governance, funding and staffing) to ensure AELAS is able to provide high quality services to teachers, leaders and students.

Highlights of this review cycle are the increasingly sophisticated and important processes and tools being utilized for project management, software development and expenditure tracking. These efforts address a foundational project management issue the review team identified in the original evaluation.

Governance structures, within which program leadership and functional domain leaders own AELAS processes, are maturing but not at a pace fast enough to meet AELAS system deployments. Governance maturity and coordination efforts need to be accelerated. An example is that program area strategies for gathering, curating and using digital content should have been completed at this point in time.

Overall the ADE IT team continues to effectively address the original recommendations, building an operational information system that serves Arizona districts and the ADE. Engagement by ADE leaders is increasing, which is a positive, but the policies, practices and communications needed to make AELAS effective for students, teachers and leaders are lagging behind the technical capabilities.

## 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 December 2014 site visit:

1. The AzEDS project has developed an architecture and plan to gather, validate, and store district data. This was high-risk area of concern in the September 2014 report that is being addressed.
2. The education transformation committee has created a forum for ADE leadership to direct, prioritize and implement AELAS work.
3. The statewide student information system (SSIS) initiative has successfully launched three pilot districts and is aggressively communicating to other districts. The Tucson Unified School District recently decided to adopt the SSIS. This delivers a clear message to other districts across the state upon the viability of the SSIS project, their confidence in the SSIS vendor and state support.
4. Dr. Cecilia Johnson, Associate Superintendent for Highly Effective Teachers and Leaders, has taken an active role in leading communications to districts regarding AELAS capabilities.
5. The ADE continues to pursue best practices and continuous improvement in areas such as: enterprise architecture, project management, application development and cost management. Impressive progress continues to be made in these areas including the addition of a program manager and a planned focus on business architecture.
6. The ADE has developed a comprehensive AELAS project schedule and timeline, per the original recommendations. Tools such as MS Project Server, MS Team Foundation Server and the IT portfolio report work together to manage and report on project outcomes and progress.
7. The ADE has deployed a Microsoft Dynamics based Customer Relationship Management (CRM) system. In early 2015 the CRM functionality will be expanded to include management of district interactions with the ADE in their communication and adoption of AELAS systems.
8. The transition of decision making for non-technical issues has continued, with the ADE program leaders taking a more active role in decision making.
9. ADE is taking seriously the concept of data literacy. For example, the teacher licensure office has developed a set of standards and measurement rubrics for teacher preparation programs, in collaboration and consultation with the schools of education. Arizona is one of the leading states in actively recognizing the importance of data literacy and officially making it a requirement for teacher preparation.

10. The University of Arizona has agreed to include AELAS into their teacher and leader preparation curriculum. ADE is providing simulated datasets to the teacher preparation program to help train teacher candidates in the use of data.
11. Tucson Unified School District has agreed to pilot a district version of the content management system. This represents 50,000 students, the state’s second largest district.

## FINDINGS BY RECOMMENDATIONS

The 10 initial recommendations served as the baseline from which the WestEd/CELT team worked during the site visit. Below is a synthesis of the team’s findings as they pertain to each recommendation.

### 1. Stay the course as envisioned in the AELAS business case.

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li><input type="checkbox"/> The SIS Opt-In project is operational with three small districts piloting the system and with Tucson Unified School District agreeing to adopt the system.</li> <li><input type="checkbox"/> The content management system (CMS) is operational for the ADE team to populate.</li> <li><input type="checkbox"/> Tucson Unified School District plans to pilot the CMS.</li> <li><input type="checkbox"/> The technical work on the OEMS is largely completed. Configuration of the entities within the system is critical to the deployment of other AELAS systems and is currently underway.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> The CMS lacks multi-tenancy and other functions necessary for deployment to a large number of districts. A plan has been created to enhance the system but funding has not been allocated for this work.</li> <li><input type="checkbox"/> The assessment engine strategy is being redefined. Vendors have been resistant to share data with ADE and integrate with AELAS. ADE continues to pursue solutions. Timely feedback on instructional and learning effectiveness via real-time assessments are needed to fulfill the AELAS vision.</li> <li><input type="checkbox"/> The learning management system (LMS) vendor has not developed functionality as outlined in its agreement with the ADE. This delays use by districts.</li> <li><input type="checkbox"/> Student Information System (SIS) vendors must develop and install the AzEDS REST API for the new data submission scheme to function. These vendor implementations are a risk for AELAS. Two large vendors have</li> </ul>

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
	completed the work; two more are scheduled to test in January 2015 that will cover the vast majority of Arizona students. But, some districts are using SISs that are not expected to participate in AzEDS.

**2. Utilize business architecture concepts, aligning department strategic plans to and across program area plans and associated execution activities and methodologies.**

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li>□ The Education Transformation committee has been established and taken on the task of coordinating AELAS prioritization and implementation work.</li> <li>□ The Education Transformation committee has provided a forum to develop consistent ways of doing work across the program areas and the senior leaders have begun to lead AELAS non-technical efforts and prioritization of work.</li> <li>□ It was reported during the visit that Dr. Cecilia Johnson, the Associate Superintendent of Highly Effective Teachers and Leaders, has taken an active role in communicating to districts about the potential benefits of AELAS.</li> <li>□ The ADE IT team has committed to developing business architecture models and templates to use throughout the agency. The first drafts are expected in early 2015.</li> <li>□ The ADE strategic plan includes objectives that support or require AELAS.</li> </ul>	<ul style="list-style-type: none"> <li>□ Now that technical work is becoming operational there is an increasing need for the establishment of how instructional programs work together within the AELAS environment. An example is the loading of digital content into the CMS. The selection of and meta-tagging process of materials into the CMS requires each program area to agree to a common methodology and taxonomy.</li> <li>□ The plan for the Tucson Unified School District to begin populating the CMS is a good plan to jump start population of the CMS with instructional materials. But, a lack of consistency between Tucson Unified and the ADE on how material is loaded, shared and curated will create confusion among teachers and negatively impact AELAS adoption.</li> <li>□ Lack of formalized policies to maintain compliance with copyright laws could expose the ADE and school districts to legal violations and potential financial penalties.</li> <li>□ The ADE decision to initiate a strategic management office (SMO) may be impacted by the transition to a new administration.</li> <li>□ The ADE lacks an agency-wide</li> </ul>

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
	<p>discipline around process management and improvement outside of IT. Consequently, ownership of the AELAS business processes continues to elude the understanding of the program areas, with the possible exception of the finance department.</p> <ul style="list-style-type: none"> <li>□ The development of enterprise systems such as AELAS is hindered by silo-decision making within program areas. The Education Transformation committee appears to have begun breaking down those silos and initiating enterprise based decision making processes. These practices must be matured and applied to other initiatives such as AzMERIT.</li> </ul>

**3. ADE directly address the budgetary issues that pertain to AELAS, SAIS, and the SLDS that include detailed work plans, deliverables, and timelines.**

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li>□ The ADE is using a number of governance groups and systems to track, review and manage AELAS efforts. The IT Portfolio group and the Education Transformation committee create environments of robust project leadership practices and project governance. The combination of MS Project Server, MS Team Foundation Server, and an in-house developed financial monitoring system are effective tools to manage AELAS projects.</li> </ul>	<ul style="list-style-type: none"> <li>□ Project plans currently do not include the non-IT implementation work required to make AELAS systems operational. This creates a gap when planning implementation activities and other projects that are dependent upon an operational system (as opposed to the technical infrastructure being completed). An example is the OEMS. While the technical work is largely completed, deployment of other AELAS systems (e.g. SAIS CSF and CRM) cannot be implemented until the business or programmatic owners finish their OEM work. The reviewers suggest system implementation tasks be managed within project plans with clear deliverables, and timelines.</li> </ul>



4. **Improve and continue to develop a communication plan to diverse stakeholders.**

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li>□ Communication efforts are proactive and robust. The efforts by ADE IT in this area are among the best experienced by the review team.</li> <li>□ Descriptions of applications and other communication materials have been specialized to the needs of stakeholders.</li> <li>□ The ADE plans to rebrand the AELAS components to make it easier for lay people to understand them.</li> <li>□ ADE has developed the communication plan to accommodate the needs and interests of different stakeholder groups, including partners internal to ADE, school districts, policymakers, community members, and others.</li> </ul>	<ul style="list-style-type: none"> <li>□ Develop an agency wide communication calendar to coordinate messaging across program areas and AELAS deployment teams (not just IT).</li> <li>□ While communication is making progress it remains an ongoing critical area of focus to facilitate AELAS adoption by instructional leaders. One of the key concerns is the getting some stakeholder groups to pay attention to the communications. This is not because of a lack of effort and strategy on the part of ADE. The communications staff are considering other options.</li> <li>□ Segment audiences by organizational role, customize messages to their work, and integrate program area messaging with how AELAS can streamline or improve their work.</li> </ul>

5. **Creation of a data governance process.**

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li>□ A data governance structure has been approved by ADE senior leadership. Work has begun on identifying data stewards and organizing them into working groups.</li> <li>□ The new data submission process (that is based upon AzEDS) will include robust reporting capabilities that can be used to audit data quality.</li> </ul>	<ul style="list-style-type: none"> <li>□ Significant amounts of state funding will be distributed to districts via AELAS and these distributions must be based upon high quality data. A data project such as AELAS depends on the integrity of its data; therefore, data quality is of the utmost importance. Progress in the development of an adequate data quality program between</li> </ul>

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li>□ A data quality conference was held in December that included districts.</li> </ul>	<p>the last review and the current review is less than expected. The data governance process remains significantly behind where it could and should be. Much of the foundational work in this arena (e.g., establishing data policy, identifying the data entities and categories for the department using the CEDS structure, naming data owners and data stewards aligned to the CEDS entities and categories respectively, etc.) is not completed and the plan is under-specified.</p> <ul style="list-style-type: none"> <li>□ Documentation about the governance structure appears to be overly complex. It contains multi-levels with a number of working groups and data stewards from working at different levels of the organization.</li> <li>□ Districts interpret statute inconsistently thereby deteriorating data quality. Common, cross-district interpretations are needed to guide and audit data collection and submission.</li> <li>□ The roles and responsibilities between organizational bodies for data governance are unclear. The role of the data quality commission (as specified in A.R.S. 15-249.01) has not been included within the current ADE data governance plan.</li> <li>□ Data governance must be improved to the point it can be used to drive data validation and data quality reporting within the AzEDS project.</li> <li>□ Ensure district representatives are included in data quality governance.</li> <li>□ The ADE needs to aggressively manage their data governance development</li> </ul>

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
	efforts, including potentially calling upon outside resources (e.g. State Support Team, Nancy Smith, Data Quality Campaign, other states) to assist with completing the data governance structure.

**6. Reduce the redundancy among data collections.**

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Plans for the implementation of the AzEDS REST APIs and Operational Data Store (ODS) have been completed. When implemented with the OEMS and data warehouse there will be a foundation to reduce data collections.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> The project timeline and vendor dependencies of AzEDS is a concern that is recognized by the ADE IT team. This is complicated work and Arizona is leading the way in using these automated data submissions for core SEA functions, such as distributing funds to districts. With only about six months to implement the APIs, ODS and associated data validation routines and reports this effort is a critical path for AELAS success.</li> <li><input type="checkbox"/> The data governance process and coordinating efforts across program silos (e.g. managing new grant applications, AzMERIT implementation) is also critical to reducing data collections.</li> </ul>

**7. Creation of a non-profit organizing structure.**

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li><input type="checkbox"/> ADE is aware of this need.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> No work in this area is expected until after the administration change.</li> </ul>

8. **Improvement of human capacity around the use of data (e.g., data literacy).**

<u><i>Progress Made</i></u>	<u><i>Suggestions/Concerns</i></u>
<ul style="list-style-type: none"> <li>□ The University of Arizona has agreed to train future teachers and leaders within an AELAS environment, including the use of data to improve instructional outcomes. ADE will be supplying simulated data sets to the College of Education.</li> <li>□ Data literacy is gaining traction within ADE. Led by senior leadership, the licensure group developed criteria for teacher preparation programs that include an evaluative category for data literacy. Schools of Education and their teacher candidates must demonstrate data literacy. This work must continue and be communicated as an important part of educators’ skill sets. Arizona is one of the first states to systemize the importance of data literacy within teacher preparation.</li> </ul>	<ul style="list-style-type: none"> <li>□ No work on data literacy among the program leaders has been reported during this review cycle although it is clear that senior leadership have become champions about data literacy within ADE.</li> <li>□ AzDash is getting 200,000 hits a month, an indicator of the districts’ desire for information that AELAS provides. A concern is how the high stakes assessment results in AELAS are being interpreted and applied (e.g. to instruction). This issue is a component of data literacy.</li> <li>□ AELAS is actively producing dashboards for teachers and leaders, but the skills and knowledge of those consuming the information via the dashboards may not be of an adequate level to use the information effectively. Again, this is a data literacy issue in terms of helping educators to understand the appropriateness of data and its proper utility and functionalities.</li> <li>□ The IT team is currently training districts on how to access, find, and utilize AZDash reports. Data literacy concepts should be integrated into these trainings. This is an example of an effort that should reside with ADE instructional and program leaders. To be clear, though, data literacy is not just about how to use the systems, but more broadly, how to use the data that reside in the systems.</li> </ul>

9. **Attend closely to the needs of the most rural districts.**

<i>Progress Made</i>	<i>Suggestions/Concerns</i>
<ul style="list-style-type: none"> <li><input type="checkbox"/> The SIS Opt-In project is operational, with three pilot districts deployed.</li> <li><input type="checkbox"/> A plan is in place to assist districts with network planning and operations. Staff has been added to the ADE IT team as part of this plan with future plans to deploy field service representatives to help districts plan, evaluate and monitor their communication networks.</li> <li><input type="checkbox"/> An E-rate specialist has been hired by the ADE IT team to maximize this federal revenue source (that was just increased by more than \$1 billion).</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> While the ADE IT team is proactively putting plans in place to help districts plan their communication networks and use E-rate funds, there are questions on how districts will fund the equipment and software necessary to make AELAS effective in the classroom, such as computing devices and software. This is a policy and budget issue for the State.</li> <li><input type="checkbox"/> A state broadband network can be a foundational piece of a larger telecommunications plan that supports students and teachers utilizing AELAS capabilities. The plan for a statewide broadband network that would assist schools in connecting to AELAS and the Internet is unclear. It has not been mentioned since the WestEd/CELT team's initial monitoring visit. This is a risk to statewide adoption of AELAS and could potentially lead to a "digital divide" between students across districts with varying states of infrastructure.</li> </ul>

**10. Development of a comprehensive long-term plan and continued outreach to stakeholders in the form of periodic needs analyses as a process by which to monitor changing needs of the stakeholder groups.**

<i>Progress Made</i>	<i>Suggestions/Concerns</i>
<ul style="list-style-type: none"> <li><input type="checkbox"/> The joint communication work between the ADE IT team, Dr. Cecelia Johnson and the program leads provides a foundation to communicate and gather stakeholder input.</li> <li><input type="checkbox"/> Extensive work is being done to schedule time at stakeholder events.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> The vision for AELAS was the result of dozens of interviews with district staff and leadership. Ongoing interviews need to be done on a recurring basis, per the recommendations in the first report, to ensure that ADE remains directed by the voice of the customer.</li> <li><input type="checkbox"/> There was discussion of an AELAS</li> </ul>

<i>Progress Made</i>	<i>Suggestions/Concerns</i>
	<p>roadmap during the review.  Formalization of this roadmap and a “Voice of the Customer” process to prioritize system enhancements could provide a process for future system development and feedback on current functionality.</p> <ul style="list-style-type: none"> <li>□ Transition to a new ADE administration provides an opportunity to review and gather stakeholder needs and opinions.</li> <li>□ ADE should continue to reach out to selected external stakeholders who can serve as spokespersons for and exemplars of AELAS users.</li> </ul>

## CHALLENGES

The WestEd/CELT team has noted some challenges that pertain to the ongoing work that are worthy of breaking out for special attention. These challenges are not to be construed as negatives, but to be taken as constructive issues that staff identified about which ADE should actively monitor and proactively manage when appropriate and feasible.

1. As noted in the previous report, there is the potential for AELAS redirection or even funding reduction/elimination with the pending leadership changes next year. This has the potential to put at risk many millions of dollars of development work to date. It may also cause turnover among the IT staff and essential leadership. The department could find itself dependent for many years to come on the old SAIS data collection methods and unable to get off of the old servers, SQL systems and Windows XP desktops. This will create the potential for a future system failure and the inability to make funding allocations to school districts and charter schools. In the December monitoring visit, the staff interviewed positively anticipated moving forward with the project as planned, maintaining deadlines and project objectives.
2. The criticality of implementing the processes to gather, validate and store data via AzEDS was noted in the last report. During this review the ADE IT team shared their conceptual architecture for AzEDS, which is significant progress since the last report. The amount of work to be completed for implementation by next fiscal year is immense. The planning issues raised in the last report appear to be addressed, at least at a conceptual level. However, the bigger concern and work effort are in developing the business rules and logic for extracting and validating the data. Monitoring of the planned work until its completion is very important. Thus, the development policies and procedures to guide data system implementation decisions (business architecture) are becoming increasingly important.
3. ADE program areas should have completed planning for the integration of AELAS capabilities into their work. With AzDash and the first iteration of the CMS operational the technical capabilities are ready before people have the skills to effectively populate and use them.
4. Data governance structures and processes are becoming increasingly important to AELAS. With district funding calculated via AELAS and the statewide student information system being deployed, mechanisms to ensure the data residing in these systems is accurate are increasingly critical to the overall function of AELAS and the ADE. AzEDS, a critical path item, will utilize data validation rules which are dependent upon data governance decisions and documentation.
5. The WestEd/CELT team learned the AzDash implementation team gets resistance scheduling training at the districts with the reason that it is not a priority for district leaders and teachers. Simultaneously the AzDash site is getting more than 200,000 hits a month. With a small subset of teachers and leaders trained on data literacy this drives the question “are educators using the high stakes summative data in AzDash appropriately?” The capability of ADE and district staff to effectively use data to guide instructional and

organization work must be enhanced. This includes the proper uses of different types of assessments and how they can be applied to instructional practices.

## CONCLUSION AND NEXT STEPS

The AELAS vision of supporting teachers, students, schools, and districts with digital instructional materials and performance reporting is a good one. The Arizona Department of Education Information Technology team developing AELAS has matured into a group to which the rest of the nation looks for leadership in technical arenas. They are delivering high quality results in key areas, such as SAIS replacement (CSF funding), ADEConnect, project management, and district relationships. Their work is professionally and actively managed. The AELAS project, if delivered as envisioned, will become the exemplar educational data system for the nation, providing real-time data to educators that are actionable and understandable.

During this review period there was clear evidence of progress within the AELAS technical areas but the rate of progress is not being matched by efforts within the ADE instructional and administrative areas. As key technical capabilities become operational (such as OEMS and CMS) administrative and instructional leaders must define and document how AELAS capabilities will be used in their work. New skills are needed throughout the organization to effectively deploy and use AELAS.

Findings, recommendations and observations on the AELAS project fall into three themes.

- First, educational leaders in the ADE and districts must take on a leadership role in the development of plans to use AELAS functionality to improve instruction, curriculum and school operations. They must demonstrate and articulate the importance of the use of real-time data to inform educational practice at all levels.
- Second, the efforts to collect frequent data to support SAIS CSF, formative assessments, and digital content must continue to be a high priority. AzEDS is a critical project.
- Third, sustainability plans for AELAS must be developed. As the system becomes an operationally imperative tool for districts the State of Arizona must have a plan to ensure districts are confident in its reliability and longevity.

Within these three themes the review team suggests the following focus areas for the next period of work:

1. Prioritize completion of data governance efforts. Establish deliverable timelines that match the AzEDS data collection and validation work. Create concrete escalation plans for missed deliverables.
2. Document how each program area will integrate AELAS functions into their work; such as how digital instructional materials will be developed and integrated into curricula.
3. Develop program-specific AELAS communication materials that can be integrated into their on-going communications with districts. Transition communication work from the IT team onto instructional and leadership experts and from a technology focus to a program



enhancement focus. It is imperative that the programs begin to take an increasingly active role in the ownership of the data that will inform practice.

4. Closely monitor the progress of the AzEDS data collection, validation and storage work.
5. Develop an AELAS sustainability plan. This can include activities toward the attainment of the recommendation in the first WestEd/CELT report regarding the creation of a non-profit for AELAS.
6. Clearly assign responsibility for non-technical aspects of system deployments to instructional and program leaders and manage their progress using project management methodologies.
7. Implement data literacy training, not just system training. This includes a transition of AzDash training to program areas.
8. Work with the districts to develop an assessment strategy that includes formative, interim, benchmark, and high stakes assessments. Clearly outline how each assessment type will be used to inform practice and improve instruction, teachers, leaders, and school performance.
9. Implement a process management program (e.g. Total Quality Management, Lean Six Sigma), potentially within a strategic management office.
10. Initiate conversation about how districts will fund the broadband connectivity and classroom computing devices necessary to maximize the instructional elements of AELAS (CMS, Assessment, and Learning Management System (LMS)).
11. Develop enterprise level guiding principals for new projects, such as AzMERIT, that integrate new work into AELAS and prevent introductions of new data silos and redundant work. Formalize these principals into governance structures and procurement methods.