Arlington Public Schools
2014-2017 District Technology Plan

Executive Summary

The 2014-2017 Strategic Technology Learning Plan steers the direction of technology use and implementation for the Arlington Public Schools through the next three years and beyond. The plan is closely connected to the mission of the district: "*Arlington Public Schools educates all students, preparing and inspiring them to achieve their full potential.*" Technology can transform teaching and learning by engaging, facilitating and encouraging rich and flexible learning environments that enhance collaboration and accommodate the needs of individual learners. In order for every student to have equitable and adequate access to robust learning with integrated technology, all teachers must continue to grow in their tech integration skills.

This plan will serve as the primary tool to guide the district's acquisition, sustainability and integration of technology that supports the district's goals. It lays the groundwork to build on and improve our technology infrastructure and use our existing technology investments. The formation of a Tech Learning Advisory Committee will provide continuing planning, oversight and an opportunity to continue to refine and evaluate the plan. An annual review process will provide opportunity to align technology funding with the district's Strategic Plan.

As we reviewed comments from parents and teachers it became apparent there are three areas that need addressed first:
- Continuing needs for adequate and equity of access for students and staff
- A thorough professional development plan
- A process to create and sustain a robust and flexible network

The following questions guided the work of the Technology Learning Strategic Plan:
1. Where do we want to be? (Goals)
2. Where are we now? (Current State)
3. How do we get there (Action plan
4. What measures will tell us when we get there? (Implementation and Assessment)

This plan will bring continued direction for the need for essential funding of technology that is foundational to support classroom instruction. Together, through

the power of technology, we can continue to ensure a strong education for all students.

Quote: Today's educational system faces irrelevance unless we bridge the gap between how students live and how they learn. – Partnership for 21st Century Skills

1.0 Our District

1.1 Our Mission

• *Arlington Public Schools educates all students, preparing and inspiring them to achieve their full potential.*

1.2 Our Vision for Student Achievement*

• *Every Arlington student graduates well-prepared and motivated for future education and employment.*

• *Staff delivers a research-based, challenging, and aligned curriculum in every classroom, using assessment data to improve instruction.*

• *Students and families are active and integral participants in the learning process.*

*Other sections of the Arlington Public Schools Vision include *Safe and Caring Environment, Stewardship* and *Continuous Improvement.* These also influence and guide this Technology Learning Strategic Plan.

1.3 Our Collective Commitments

• *We accept learning as the fundamental purpose of our schools and District and therefore will examine all practices in light of their impact on student learning.*

• *We are committed to working together to achieve our collective purpose. We cultivate a collaborative culture through development of high-performing teams.*

• *We assess our effectiveness on the basis of results rather than intentions. Individuals, teams and schools seek relevant data and information and use that information to promote continuous improvement.*

2.0 Technology Learning Plan

2.1 Vision

The vision of the Arlington School District is to provide and maintain sustainable technologies that support the vision of a learning-focused collaborative community. This will be accomplished by using a comprehensive, instructionally sound, student-centered education program where technology provides a role that enhances the learning experience in an integrated and "seamless" way for every student. It is equally important that staff members are provided with professional development that exemplifies best practices of the technology and tools used in their classrooms.

2.2 Current State:

QUESTION: WHERE ARE WE NOW?

The Arlington School District has been making progress toward providing adequate learning technology for our students for many years. Currently we have high-speed connections between buildings, wireless access for students and staff in all buildings, teaching stations including laptops, projectors and document

cameras. Through a combination of Title I, Building funds and PTA fund, over 600 iPads are available in the elementary buildings. All buildings have at least two labs for instruction and testing. Many of the labs have older machines that will soon need replaced. The online classes that are offered at the high school for credit recovery are expanding rapidly.

Professional development has been offered in a variety of ways across the district. "Tech tokens" were offered for teachers who attended tech classes to earn requested tech equipment.   Teachers were encouraged to form classes related to what was needed in their teaching and learning. Peers were encouraged to share what they learned and the tech tokens were incentive to get additional tech equipment. The direction of the Teaching and Learning department has been to get all curriculum related materials accessible online. Two programs have increased the use of technology for quick access to assessment data: Homeroom and Grade Cam. These allow teachers to adjust instruction to the results of the data. Ongoing training has been offered for these tools.

2.3 Technology Goals and Action Plan:
QUESTION: WHERE DO WE WANT TO BE?

In the next three years Arlington Public Schools will address these three issues as the most critical: Adequate and Equity of Access, Professional Development and Robust Infrastructure.

Adequate and Equity of Access
It is important that the playing field is leveled so that each APS student will have adequate and equitable access to a technology enriched learning experience. Technology will be incorporated into Common Core States Standards. Students will know how to show what they know through various technological mediums. Where technology is available for addressing individual learners' needs, they will be utilized to enhance the learning. A recommended set of classroom technology will be available for each classroom. (See below.) In order to reach a high level of access, various models will be utilized such as Bring Your Own Device (BYOD) and Tablet Integration. Implementation of this aspect of the APS Tech Strategic Plan will require thoughtful and significant professional development to increase the technology skills of our staff. It is important to measure equity, not on number of devices, but on actual opportunities for students.

Another area of equity that could be considered is whether the district can improve digital access for parents who need better access for information that involves their children's learning and school experience.

Professional Development
One of the themes from staff is the need for a strong, ongoing professional development component. Technology is no longer a luxury but is essential to meet the needs of our learners and to meet the goal of equity and access for all. One model is to deliver professional development through the Professional Learning Communities setting, using Peer Coaches or a Teacher on Special Assignment (TOSA). A variety of models including offering clock hours should pass through all communities and levels, providing menus of learning to match the needs of professional staff. All professional development should be delivered with the same current focus of improving instruction such as project-based, collaboration, formative assessment, immediate feedback, etc. with a goal of every staff member confident and independent with technology.

Robust Infrastructure
In order to deliver the technology our students require for learning the unseen aspect of our technology, the behind the scenes, is a critical component including band width, access to cloud technologies, filter systems, wireless access, back-up services, and the anticipation of end-of-life for all equipment to create a sustainable system and a robust network.

QUESTION: HOW DO WE GET THERE?

Adequate and Equity of Access Action Plan

Action Plan	Timeline
Laptop for teacher	2014
Mounted Projector	2015
Document Camera or Apple TV and Sound	2014
Access to mobile tablets, chromebooks or other devices (A distribution plan will be developed in each building. The goal will be portable labs for departments or grade levels or a higher ratio devices in each classroom – 2:1 or 1:1 for each student)	2016
Charging Stations and Device Storage	2016

Promethean, SMART Board or Interactive White Board (with short throw projector) and sound	2016
Student response system	2016

Professional Development Action Plan

Action Plan	Timeline
A comprehensive menu and calendar of clock-hour offerings. All clock hour offerings are communicated to all staff.	2015
Instruction is initiated and delivered at a PLC level when possible to support a just-in-time delivery of training.	2016
Peer coaching and possible TOSA plan will be developed in support of Instructional Learning Academy initiatives in these areas. Emphasis will be on trainers who are approachable and work alongside teachers. Building teams are also a viable approach to address this need.	2016
Principal Academy will have an ongoing focus on the connection between highly effective instruction and the use of technology concepts. These will be disseminated to staff through modeling, staff meetings, frequent tips, and with suggestions included in the GVC when possible.	2016
Teachers will be trained in integrating Internet safety and Technological Literacy in support of the Common Sense Media materials. A scope and sequence for this curriculum will be published in the GVC.	2014
A system for frequent feedback from staff on their perception of needed training and self-reflection of tech use will be established.	2014
A plan will be developed to have an online repository of video clips and step-by-step directions for follow-up after instructional technology classes. A presenter could be paid to edit the video and write the step-by-step.	2016
A plan will be developed to reward our tech leaders and keeping trainers' equipment up to date.	2015

Robust Infrastructure Action Plan

Develop and maintain a robust telecom, network, and data infrastructure that will support a highly dense range of access for computing devices.

Action Plan	Timeline
Process inefficiencies: Examine each district department on a rotating basis. Evaluate current business practices and update services to utilize more cost effective and efficient products and processes.	2015
Ease of Access: Using the district website(s), Skyward Educator and Family Access, the Stoneware portal and Homeroom, link individual access to all data and instructional resources.	2014
Data Interoperability: Automate streams of data between Skyward and 3rd party applications to create efficiencies and reduce data loss.	2014
Robust Network: Increase bandwidth in the areas of throughput and wireless capability. Increase internet access from 100MB to 500MB (or higher as necessary). Design and install a wireless network to support complete classroom saturation throughout the district. Modernize current hardware to adapt to the new capabilities. 1) Update all network switches to gig levels 2) Increase wireless capability and infrastructure in all buildings 3) Upgrade wiring at Kent Prairie, Eagle Creek and Post Middle School 4) Establish a 4 year replacement plan for servers 5) Create a robust backup system for local and cloud based files	2014
Sustainable Infrastructure: Continue to monitor and evaluate the phone, intercom and video systems in the buildings. Evaluate and expand the video surveillance in all buildings to enhance safety and security.	2015

3.0 Funding Strategy and Budget

The effectiveness of this plan will be limited by the ability to acquire, update and replace equipment. Having current technologies available will assure equity of technology access across the district. Using and supporting current technology enhances learning; therefore, accelerating student achievement.

To achieve this success we believe in supporting technology resources, services, and programs in the district offices and classrooms using all available sources. Potential sources of funding are:

- General Operating funds: For expenses not covered under the other funding operations.
- Maintenance and Operations Levy: Hardware, infrastructure, staff support
- Grants: Provide supplementary support for specific subject areas, schools, or projects. Some grants fund specific programs such as Title 1, CTE or LAP.
- Other: In-kind through parents and businesses and PTA's
- The long term funding from levies and bonds

In order to use the plan as a guide we looked at our existing funding structure and how we might enhance that funding to reach our goals.

Our district cabinet recommended that we make a capital investment in the technology plan increasing existing funds by $300,000. The enhanced funding will enable a reliable and predictable replacement cycle. Leveraging existing funds will also make an immediate impact upon student's access to technology resources. It will establish mobile labs in all buildings bringing more equity of access to our students. A funding cycle of four years will guide our conversation about annual costs and replacement cycles for technology equipment. The proposed plan outlines costs for standardized and sustainable classroom technology. The goal of a 2:1 ratio of mobile devices to students allows buildings to align the technology to their instructional program needs – in mobile-shared labs and/or distributed throughout classrooms. The complete listing of project funds is listed in section 5.

4.0 Implementation

QUESTION: WHAT MEASURES WILL TELL US WHEN WE GET THERE?

A Tech Learning Advisory Committee will be established to monitor and adjust the plan. All schools and administration will be represented. The committee will develop and use feedback tools to help with monitoring. This team will also provide support and ensure alignment with tech learning goals for building initiatives. The team will develop ways to monitor equity and access. They will also provide oversight for the professional development component.

5.0 Technology Plan Proposed Budget

Title	Description	Annual cost
Tech Staff	Tech Support salaries and benefits	246630
Sustainable classroom	Projector, doc camera, audio 4 year build out/replace	33542
Teacher/staff laptops/desktop computers	Replace teacher/staff laptops on 4 year cycle	51000
Building computer labs	Replace building computer labs on a 4 year cycle	64000
2:1 Elementary devices	Phased in, 60 devices per year per building	72000
2:1 Middle School tablet/chromebooks	Phased in, 90 devices per year per building	54000
2:1 Secondary tablet/chromebooks	Phased in, 180 devices AHS, 20 devices WHS, 20 devices SVS	66000
Building hardware allocation	Printers, other classroom devices	54000
Professional Development		
Teacher PD	Professional Development hours for teacher training, funding for trainers	15000
Staff PD	Software and tools to improve staff tech skills	10000
Incentive hardware	Interactive boards, "clicker systems", Apple tv, etc…	20000
Software		
Instructional Software	Learning Management System, Apex, Safari, app licensing	50000
Productivity Software	Microsoft Office, mail, remote management, other curriculum	30000
Network		
Server maintenance and upgrades	Server replacement cycle, maintenance, licensing	20000
Backup services	Onsite and offsite document backup, archiving	5000
Upgrade wiring	Upgrade wiring at KP, EC, and Post	15000
Update switches *	Update all switches to 1Gig, poe where necessary, 10 gig between buildings (one time cost)	*120000
Update wireless*	New wireless controller, expand access point density (one time cost)	*125000
Expand security cameras	Expand coverage at secondary and middle schools	10000

Network management	Mobile Device Management, filtering, firewall, etc…	10000
Other		
Contingency	Emergency repairs and replacements	50000
Phone maintenance	Equipment repair and maintenance	10000
Ongoing network improvements	Equipment replacement and enhancements	20000
Charging stations and mobile device storage	Carts for mobile devices and secure storage	30000
*one time cost – not reflected in total	Total	$886172

Technology Plan Development Committee Members:

Kathy Engell – Retired Elementary Principal
Mark Ehrhardt – Technology Director
Lisa Wallden – Middle School Teacher
Nikki Brooks – Elementary Teacher
Greg Hurst – High School Teacher
Cindy Prouty – School Psychologist and Parent
Mary Levesque - Parent
Geoffrey Root – High School Student