

## APS One to One Initiative: Baseline Assessment of Risks and Mitigation

### Introduction

The SACT is an Arlington County Public School committee which is appointed by and reports to the Superintendent of the Arlington Public Schools. Parents and community members provide guidance to the school system in the use of technology to meet the goal of the APS strategic plan. More specifically, the committee provides advice on risks, mitigations and opportunities related to the Information Services Core Services, serves as a liaison to parent and community groups on the IS Core Services, works with the County Technology Commission to leverage opportunities for technology collaboration between Arlington County and Arlington Public Schools, and provides an annual report to the Superintendent with accomplishments and suggestions. Annual priorities are determined by the Assistant Superintendent for Information Services, and the Committee members may propose additional annual priorities. The 2013-2014 school year priority is the One to One Initiative.

### This Year's Priority - The One to One Initiative

The APS Strategic Plan and APS Strategic Technology plan have set a goal of ensuring that every student has access to a personal computing device in a way that creates “engaging, relevant, and personalized learning experiences for all learners.”<sup>1</sup> This goal, also known as the “1:1 initiative” brings great opportunities, along with certain risks to APS. Having one technology device per student is a great enabler for learning. Our committee’s goal is to more clearly identify and mitigate the risks, in order to more successfully implement the initiative. Therefore, the SACT priority for the 2013-14 year is to provide IS with advice on the Risks, Mitigations, and Opportunities associated with a ‘1:1’ “Student - Computing Device” initiative. While the primary role is to provide feedback that is focused on the implications of this initiative on the IS Core Services, successful implementation of 1:1 requires a strategic, comprehensive approach that looks at instructional goals and student needs. This report will therefore address potential risks accordingly. The perspective should be as parents and community members, as professionals, and as representatives of stakeholder groups.

Below is the committees’ presentation of findings to the Assistant Superintendent for Information Services. Suggested risks and possible mitigations are listed under nine categories:

1. **Vision & Leadership**
2. **Curriculum & Instruction**
3. **Teaching & Professional Learning**
4. **Technology & Infrastructure**
5. **Data & Assessment**
6. **Budget & Resources**
7. **Supporting the Whole Child**
8. **Use of Time & Learning**
9. **Rollout & Deployment**

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<sup>1</sup> APS Strategic Plan, p. 13

**1. Vision & Leadership**

Suggested Risks	Suggested/Possible Mitigations
<p>1.1 Technology for the sake of technology (infrastructure), and not focused on learning (result)</p> <p>1.2 Lack of consistent vision across district</p> <p>1.3 Confusion and misconceptions in the public arena, by teachers, and with parents (i.e. Some people think this is an iPad initiative)</p> <p>1.4 Fear of technology from teachers, parents, etc.</p>	<ul style="list-style-type: none"> <li>• Expectation Management: Be clear about the process; there may be bumps in the road</li> <li>• Engage in inclusive vision setting process; identify/include all community stakeholders and across APS departments</li> <li>• Start messaging and communicating early</li> <li>• Remember it's not about the device, it's about teaching &amp; learning outcomes</li> <li>• Create culture where innovation is supported. Pilot projects are great step in the right direction (Promote pilot outcomes with school community as innovative approach to educational excellence where appropriate, but explain how this fits in the overall process)</li> <li>• Leadership models desired behaviors/attitudes</li> <li>• Build an execution roadmap with a continual feedback quality mechanism to incorporate improvements</li> </ul>

**2. Curriculum & Instruction**

Suggested Risks	Suggested/Possible Mitigations
<p>2.1 Devices are “one-trick pony” and fail to meet diverse instructional needs or goals</p> <p>2.2 Devices are used only for low-level skill development (expensive digital worksheets)</p> <p>2.3 Technology becomes a distraction and fails to or inhibits support of instructional goals</p> <p>2.4 Failure to take into account research on differences between reading a screen and reading paper</p> <p>2.5 Technology does not support additional APS policies (i.e. online learning requirement)</p>	<ul style="list-style-type: none"> <li>• Continuous coordination between IS and curriculum builders</li> <li>• Involve select set of diverse students and teachers from the onset and every step of the way</li> <li>• Training, training, training for teachers; continued use of PLCs</li> <li>• Establish individual learning plans for teachers</li> <li>• Engage in integrated planning process with Instruction, IS, ITCs, etc.</li> </ul>

**3. Teaching & Professional Learning**

Suggested Risks	Suggested/Possible Mitigations
<p>3.1 Teachers resist, refuse to use devices.</p> <p>3.2 Teachers’ training needs not met</p> <p>3.3 Teachers lack adequate time to prepare and plan</p> <p>3.4 Teachers have varying comfort levels with technology</p> <p>3.5 Teachers each have unique professional learning styles, needs</p>	<ul style="list-style-type: none"> <li>• Expand how APS thinks about PD. Not just workshops, but more focused use of PLCs, anytime/anywhere learning, individual learning plans. Utilize an “EdCamp” model</li> <li>• Involve teachers from very beginning to shape plan</li> <li>• Peer groups, cohort groups. Consider rolling out to cohorts of teachers instead of whole grades. Allow innovators to lead the way, but track metrics</li> <li>• Highlight and celebrate innovative teachers - Pilot projects are a great 1<sup>st</sup> step; must go further</li> </ul>

**4. Technology & Infrastructure**

Suggested Risks	Suggested/Possible Mitigations
<p>4.1 Inadequate tech support for devices                      4.2 Students “hack” devices or find ways around security                      4.3 How to handle “I forgot my password”                      4.4 CIPA/COPPA                      4.5 Automatic updates can be disruptive                      4.6 Updates, cloning, imaging devices becomes a daunting workload                      4.7 Time required to process/support teacher requests for different apps/software                      4.8 Different operating systems present different challenges (i.e., different OS have different life cycles; PC v Mac compatibility)</p>	<ul style="list-style-type: none"> <li>• Testing and investments in infrastructure</li> <li>• Student-led tech support such as MOUSE program</li> <li>• Students earn laptops through good behavior and grades, such as in Sunnyside, AZ</li> <li>• Universal logins and single sign-on identity management</li> <li>• Have a 10-15% cushion of extra devices available in school/classrooms for batteries or forgotten devices</li> <li>• Responsible use policies</li> <li>• Digital literacy &amp; digital citizenship education</li> </ul>

**5. Data & Assessment**

Suggested Risks	Suggested/Possible Mitigations
<p>5.1 Teachers/staff lack capacity to make use of data (data rich/information poor)                      5.2 Lack of bandwidth for gathering and assessing data results                      5.3 Uncertainty about which devices will support SOL testing now and in the future                      5.4 Impact of testing on ability of teachers to use devices for classroom instruction                      5.5 Devices fail to or lack capability to support formative assessments                      5.6 Parents wish to “opt out” of testing or device use</p>	<ul style="list-style-type: none"> <li>• Data gathering requirements need to be planned for all application releases for various purposes (i.e. usage, time-frames, test scores mapped to lessons, and also capture survey results)</li> <li>• Involve teachers/training</li> <li>• Plans in place to upgrade bandwidth capacity, but need to emphasize entire process from idea through data collection to modification of program</li> <li>• Develop culture of data use, emphasizing decisions and outcomes</li> </ul>

**6. Budget & Resources**

Suggested Risks	Suggested/Possible Mitigations
<p>6.1 Big investment, no results                      6.2 Insufficient funding                      6.3 Public resistance                      6.4 Unforeseen maintenance costs                      6.5 Inadequate technology support staff at school level                      6.6 Lack of long term sustainability                      6.7 Inadequate use of school space</p>	<ul style="list-style-type: none"> <li>• Consider technology to be an operating expense, not capital. Will always be improving / upgrading</li> <li>• Over time, integrate BYOD to mitigate costs</li> <li>• Cost savings from shift from textbooks to digital</li> <li>• Cost savings from online courses / blended learning options</li> <li>• More Seats for Students - online courses/blended courses may have different spacing needs</li> </ul>

**7. Supporting the Whole Child**

Suggested Risks	Suggested/Possible Mitigations
<p>7.1 Failing to meet the needs of all students, but particularly those identified with special needs or low-income to ensure benefits available</p> <p>7.2 Failing to meet the needs of non-English speakers or English learners</p> <p>7.3 Fail to optimize opportunity presented by Extended Day programs</p> <p>7.4 Failure to consider informing parents who will need additional support and training</p> <p>7.5 Balancing parents who may have concerns about screen time</p> <p>7.6 Inequality of internet access at home</p> <p>7.7 Failure to leverage opportunity to get whole community involved; increase communication and collaboration with community</p> <p>7.8 Environmental effects of wireless/radio frequency on health of students and teachers</p>	<ul style="list-style-type: none"> <li>• Maximize value of tech nights – present at open houses for parents &amp; students</li> <li>• Gather data on student access to devices &amp; internet to ensure program use is beneficial</li> <li>• Remember to make full use of translation services and ensure websites are designed to be translation-friendly</li> <li>• Coordination with county during parent workshops, parent centers</li> <li>• Coordination with public libraries</li> <li>• Gather &amp; analyze research on screen time</li> <li>• Develop wireless safety policy that includes common sense recommendations:                             <ul style="list-style-type: none"> <li>○ Power down devices completely if not needed</li> <li>○ Turn devices to “airplane mode” if internet is not needed - saves battery time too</li> <li>○ Include safety protocol in training for devices: not holding them on laps for too long, etc.</li> <li>○ Use of shielded cases</li> <li>○ Ensure school nurses and health staff are trained in possible side effects of wireless exposure, such as headaches or eye strain</li> </ul> </li> </ul>

**8. Use of Time & Learning**

Suggested Risks	Suggested/Possible Mitigations
<p>8.1 Online and blended classes present potential scheduling challenges</p> <p>8.2 Devices offer potential for 24/7 learning, but only if students have broadband access at home</p> <p>8.3 Teachers spend too much time troubleshooting devices and not enough time teaching</p> <p>8.4 Lack of a standardized deployment plan to allow teachers to adapt easily</p>	<ul style="list-style-type: none"> <li>• See above regarding tech support and teacher training, and emphasize educational value and learning outcomes thru program</li> <li>• Utilize flexible learning spaces that support online/blended coursework, especially in new construction/renovations</li> <li>• Coordination with after school programs to expand educational landscape</li> <li>• Wireless cards can be sent home with students who need them</li> <li>• Ongoing coordination with county, telecom providers to ensure all families have access</li> </ul>

**9. Rollout & Deployment**

Suggested Risks	Suggested/Possible Mitigations
<p>9.1 Inadequate site readiness (including schools, classrooms, homes)</p> <p>9.2 Teachers get devices at same time as students and are unprepared for use</p> <p>9.3 Lack of defined maintenance/repair process</p> <p>9.4 Confusion about distribution of responsibility for devices that can be taken home</p> <p>9.5 Lack of communication with parents about devices that can be taken home</p> <p>9.6 Failure to explore different options for insurance/fee structures</p> <p>9.7 Lack of plan for when students “forget” devices</p> <p>9.8 Keeping devices charged and ready</p> <p>9.9 If students take devices home;</p> <p>    9.9.1 loss/theft</p> <p>    9.9.2 lack of internet access</p> <p>    9.9.3 can we require students use devices at home?</p> <p>9.10 If devices stay at school:</p> <p>    9.10.1 Storage systems will need to be created</p> <p>    9.10.2 Loss of time due to distributing/collecting devices each period</p> <p>    9.10.3 Class sets? Grade sets?</p>	<ul style="list-style-type: none"> <li>• Conduct site readiness studies/surveys</li> <li>• Consider allowing some BYOD pilots, on a teacher opt-in basis in line with educational value, but ensure process in place</li> <li>• Plan for a 15-20% cushion of additional devices to account for lost/stolen/broken devices</li> <li>• Consider options for both allowing students to take devices home and for keeping devices at school.</li> <li>• Balance options for 24/7 learning with implementation issues; include roadmap which emphasizes a gradual implementation</li> <li>• Distribute to teachers before distributing to students to “own” the benefits and outcomes</li> </ul>

**Conclusion**

Successful digital learning environments require a completely integrated approach across all departments within APS, including Instruction, Information Services, Student Services, Facilities and Operations, School and Community Relations, Finance and Management Services, Administrative Services, and throughout all APS schools.

The SACT members present this baseline assessment providing high-level risk strategy guidance, with the expectation that it will support IS, the Superintendent and the Department of Instruction and reveal potential opportunities for taking preventive steps early enough to make the necessary adjustments and connections across departments that will help to build a more collaborative environment and ensure that the 1:1 Initiative leads to more success for students.