



Superintendent's Technology Advisory Council Recommendations

July 24, 2020

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Dr. Scott Brabrand
Superintendent
Fairfax County Public Schools

Re: Superintendent's Technology Advisory Council Recommendations

Dear Dr. Brabrand:

On behalf of the Superintendent's Technology Advisory Council ("the Council"), we are pleased to submit our recommendations for your review and consideration, which concludes the work of our Council. It's been our honor to serve Fairfax County Public Schools (FCPS), its students, and our community in a way that builds on the technology foundation already established by FCPS and that establishes a roadmap for the future.

With FCPS known to be one of the highest-ranking school systems in the nation, technology will continue to play a pivotal role in your transformation of teaching and learning as you prepare students for the future.

This action plan (and recommended timelines) stems from the collective work of our eight workstream committees over the past few months and aggregates the Council's collective thinking and best practices around technology innovation and equipping teachers and students with the tools, connectivity, access, and security necessary in today's increasingly interconnected landscape.

In the attached document, you will see a prioritization of our recommendations into the following categories:

- Near-Term (completed by the start of the school year 2020-2021)
- Mid-Term (completed during the 2020-2021 school year)
- Longer-Term (completed during 2021-2022 school year or beyond)

Most immediately, the Council has noted 17 near-term action items, which are considered the highest priority for FCPS to complete. We strongly encourage a bias towards action and sense of urgency, particularly in completing these critical recommendations.

We would also like to share a few top-level observations:

- The need for hiring a Chief Information Officer (CIO) before the end of the summer. If it's not possible to make the CIO hire before the end of the summer, we strongly recommend the hiring of an Acting CIO (or firm) to serve in this role until the permanent position is filled. This role should be at the top level of the organization, reporting into the Superintendent, and working in close collaboration with the Deputy Superintendent. We recommend retracting the current CIO posting to refine the job description and ensure the candidate has experience in Information Technology (IT) modernization, specifically around Cloud and SaaS-based solutions.
- Immediately issue a RFP for a synchronous collaborative tool.
- Full integration of FCPS technology initiatives and workstreams into Return-to-School and broader FCPS strategies, as they are inextricably connected and should not be performed independent of one another.
- Effective communications and change management strategies must wrap around all FCPS initiatives, including Return-to-School.

Again, it's been our pleasure to provide these recommendations that should underpin all of FCPS' strategic initiatives now and into the future, providing a roadmap for success.

Sincerely,

Technology Advisory Council Co-Chairs

- Greg Baroni
- Amy Gilliland
- Bobbie Kilberg
- Andrew Ko

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Executive Summary

Fairfax County Public Schools (FCPS) is recognized as one of the nation's top school systems. Technology plays a powerful role in FCPS' ongoing focus on excellence in student achievement. Further, the coronavirus pandemic (COVID-19) has reinforced the critical role that technology plays as educational institutions have had to rapidly transition from an in-person to a fully virtual setting. In recognition of these circumstances, a new Superintendent's Technology Advisory Council ("TAC" or "Council") was established in April 2020.

TAC's mission is to assist FCPS with expertise and guidance to ensure that the school district's technology applications are at the forefront of innovation; and that teachers and students are equipped with the tools, connectivity, access, and security to be prepared in today's increasingly interconnected landscape.

The Council is comprised of several of the nation's leading thinkers across technology, education, and business, and Fairfax County School Board members Karen Corbett Sanders, Chair and Mount Vernon District representative, and Elaine Tholen, Dranesville District representative. Additional members include FCPS administrators, teachers, and a student representative. A complete list of the TAC members is included in 'Appendix A' of this document.

The initial focus area for the Council was on FCPS' instructional technology, including distance learning applications and learning management systems. Since the formation of this Council, there have been nearly 200 working sessions across the Co-Chair team and following seven workstreams:

- **Communications and Change Management** – Providing guidance and recommendations regarding preparation and ongoing support for the organization and community related to the adoption of new technologies or technology changes.
- **Device Access and Internet Connectivity** – Providing guidance and recommendations that ensure student access to the necessary technology devices and connectivity for distance learning and learning from home opportunities.
- **Instructional Technology** – Providing guidance and recommendations regarding the use and adoption of distance learning applications, learning management systems, and other instructional technology tools.
- **Technology Infrastructure and Operations** – Providing guidance and recommendations related to FCPS's technology infrastructure and operations including use of cloud, data, technology security, disaster recovery, help desk practices, and remote working.
- **Professional Development and Human Capital** – Providing guidance and recommendations regarding technology professional development for staff.
- **Technology Accessibility** – Providing guidance and recommendations to FCPS when considering the technology needs of younger students; students with disabilities; and English Learners
- **Innovation and Partnerships** – Creating a mechanism allowing for volunteers from businesses and ideas to be identified and created into actionable assets that support FCPS' work around technology. Providing guidance and recommendations that allow FCPS to remain innovative with its use of new technologies that enhance teaching and learning. *(Note: Initially two separate workstreams, Innovation and Partnerships were merged into one workstream.)*

These working sessions have allowed Council members to collaborate with key FCPS personnel and provide counsel on how the school district should move forward to best leverage technology to ensure educational success for educators, students, and their families. The workstreams identified 67 recommendations, including 17 which have been noted to have the highest priority. These recommendations have been grouped into the following six initiatives:

- Initiative 1: Planning – Establish a Foundation for Success
- Initiative 2: Staffing – Leadership and Technical Resources
- Initiative 3: FCPS Infrastructure and Processes Alignment to Support Educational Success
- Initiative 4: Resource Support for Educators
- Initiative 5: Specialized Resource Support for the FCPS Community
- Initiative 6: Future Focus

Key activities that need to take place to further the FCPS technology mission are creating the appropriate planning framework to identify and communicate with key stakeholders who are impacted and/or influence proposed changes, securing appropriate leadership, teachers and staff, developing an infrastructure that provides access to technology and solidifies the processes needed to support the FCPS community, ensuring educators are fully equipped and knowledgeable of the resources available to them, providing accessibility and outreach to the FCPS community to address specialized needs, and establishing an operational framework that continuously focuses on innovation and planning for the future. The roadmap on the following pages further details how to execute each initiative in accordance with the identified recommendations and associated priority levels. We strongly recommend that FCPS establish a standing advisory council that would provide advice and counsel to during the school system's transformation journey.

Future State Roadmap

Based on the work of the various committees, we have developed a roadmap of actionable next steps to achieve the desired future state of FCPS. The recommended next steps outlined below include timeline for implementation, FCPS Owner(s), and a subset of 17 recommendations which should be considered of the highest priority to complete. The Recommended Timeframe column is assigned a ranking of the following:

- N (near-Term or completed by the start of the school year 2020-2021)
- M (mid-Term or completed during the 2020-2021 school year)
- L (longer-Term or completed during 2021-2022 school year or beyond)
- C (completed)

Initiative 1: Planning – Establish a Foundation for Success

Workstream	Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Communications and Change Management	Create Process Diagram/workflow showing how to integrate technology initiatives into overall FCPS communications.	N	FCPS Communications Team	X
Communications and Change Management	Vision for Role of Technology Establish a clear vision for the role of technology in supporting the learning goals of the district.	N	District Leadership Team	X
Professional Development and Human Capital				
Communications and Change Management	Alignment Meetings Schedule introductory meetings with each of the workstreams to review their recommendations and ensure alignment and to establish next steps for communications and change management efforts.	N	FCPS Communications Team	X
Communications and Change Management	Audience/Stakeholder Grid Create grid with Council audiences and communicate method for each; audit what is working and what's not.	N	FCPS Communications Team	X
Communications and Change Management	Announcement Calendar Create announcement calendar that includes FCPS technology initiatives in overall FCPS announcement schedule; integrate technology initiatives into other FCPS initiatives to avoid silos (e.g. Return-to-School).	N	FCPS Communications Team	X
Communications and Change Management	Measurement Framework For communications and change management effort, identify KPIs and outcomes to achieve.	N	FCPS Communications Team	
Device Access and Internet Connectivity	Students with Access Challenges Create and implement a plan to accurately identify students with access challenges.	N	Tracy Jewell	
Device Access and Internet Connectivity	Device Refresh RFP Requirements Develop requirements for preK-4 device(s) to frame RFP for next round of device refresh.	N	Tracy Jewell	
Instructional Technology	Comprehensive Schoology Roll-Out Plan Develop a comprehensive roll-out plan for Schoology in the context of a new district online learning vision. The roll-out should be modeled after the FCPS On approach and jointly led by the Office of the CIO and IS under the direct supervision of the Superintendent.	N	Dr. Sloan Presidio	X
Instructional Technology	Technology Review and Adoption Processes Evaluate technology review and adoption processes against best practices for balancing choice and standardization; include best practices for inclusion of school representatives and communication back to stakeholders on decisions and parameters (e.g. if tool is approved but only without certain features enabled).	M	Sandy Kretzer	
Professional Development and Human Capital	Return to School Resources Develop resources to support planning of all Return to School professional development that would include leveraging technology.	N	Office of Professional Learning and Family Engagement	
Professional Development and Human Capital	Communications and Vision for Instructional Technology Adjust the Schoology roll-out communications, instructional expectations, and timeline to align with new division wide vision for instructional technology.	N	Schoology Project Team	
Technology Accessibility	Needs Assessment Conduct a needs assessment to understand what is working well for learners in specialized groups and what could be better in their online/hybrid learning experience.	M	ORSI, Instructional Services & Special Services	

Workstream	Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Technology Accessibility	Utilize Technology for Assessments and Procedural Supports Use technology to increase access to initial assessments and other eligibilities that are critical for student success.	M	Special Services & Information Technology	
Technology Accessibility	Address Findings from the Needs Assessment Refine Professional Development plan and services delivery plan as appropriate.	L	Special Services, Instructional Services & Office of Professional Learning and Family Engagement	
Technology Infrastructure and Operations	Strategic Plan and Roadmaps The CIO and CISO work together to develop a 3-5-year roadmap for critical infrastructure, applications, and security. The roadmap will align with the strategic plans of FCPS.	L	IT Operations	

Initiative 2: Staffing - Leadership and Technical Resources

Workstream	Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Technology Infrastructure and Operations	Hire a CIO Retract the current CIO posting and refine the job description. This role should be at the top level of the organization, reporting into the Superintendent. Look for a candidate with IT modernization experience, specifically around Cloud and SaaS based solutions. The CIO must be hired prior to the end of the summer. This role is critical for the development of the long-term strategic plan for FCPS.	N	Chief Operating Officer (COO)	X
Technology Infrastructure and Operations	Hire a CISO Hire a CISO prior to the end of the summer consistent with our feedback on the job description. This role should be at the top level of the organization, reporting into the Superintendent and not the CIO. The CISO role is critical for the development of the long-term strategic plan for FCPS.	N	Chief Operating Officer (COO)	X
Technology Infrastructure and Operations	Contact Center Support Retain a multi-channel (i.e., phone, email, etc.) Contact Center Support contractor prior to the start of the school year. This service desk should be focused on assisting the parents of the FCPS students at the start of the 2020/2021 school year. The workstream has identified this as a risk and potential failure should FCPS be unable to address the concerns of the parents, students, and faculty as school restarts in the Fall 2020.	N	IT Support Center	X
Technology Infrastructure and Operations	Updated Governance Model Deploy line of business specific steering committees with department leaders to align functional areas with IT (e.g., Finance / IT Steering Committee, Human Resources (HR) / IT steering committee, Operations/IT steering committee).	M	Department of Information Technology	
Technology Infrastructure and Operations	IT Personnel The to be hired CIO should work closely with the FCPS HR department to calibrate IT job titles and compensation to align with industry standards and identify short term and long-term resource needs.	L	CIO	
Innovation / Partnerships	Consider Staffing Needs Consider staffing needs to help shift culture, could include creating a new cabinet-level Innovation Officer role.	N	Marty Smith	

Initiative 3: FCPS Infrastructure and Processes Alignment to Support Educational Success

Workstream	Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Device Access and Internet Connectivity	New Laptops for ES Use existing contract to order 22K laptops for ES to distribute in September (Grade 6 and Grade 5 at Title I)	C		COMPLETE
Device Access and Internet Connectivity	Lightspeed Products and Functionality Expand Lightspeed products and functionality to provide greater reporting on student device activity	N	Tracy Jewell	
Device Access and Internet Connectivity	MiFi Distribution Continue MiFi distribution; purchase additional 1,000 MiFi devices to close access gap	N	Tracy Jewell	
Device Access and Internet Connectivity	Issues Existing Laptop Inventory Issue existing laptop inventory to all grades preK-4 students for home use; additional resources may be required to support expansion	N	Tracy Jewell	
Device Access and Internet Connectivity	MiFi Hotspot Alternatives Explore and implement alternatives to MiFi hotspots for home access (i.e. Wi-Fi on buses, county/ business partnerships for access points, etc.)	N	Tracy Jewell	
Device Access and Internet Connectivity	Negotiate with Vendors Seek methods of negotiating better coverage with vendors expanding coverage while saving money; consider assistance with VA Dept Ed or regional negotiations leveraging buying power	M	Tracy Jewell	
Instructional Technology	Review SLAs Review service level agreements (SLAs) in new LMS contract (Schoology) to determine if any potential risks or gaps exist.	N	Aron Sterling	X
Instructional Technology	Core Technologies for Fall 2020 Identify a recommended set of core technologies for Fall 2020 by school grouping (e.g. elementary) or communities of practice (e.g. grade level) and determine roll-out plan in conjunction with Professional Development plan.	N	Shawn DeRose & Aron Sterling	X
Instructional Technology	RFP for Synchronous Collaboration Tool Immediately issue RFP for synchronous collaboration tool	N	Sandy Kretzer	X
Instructional Technology	Stress and Load Testing Conduct stress and load testing for recommended core technologies.	N	Dr. Sloan Presidio	
Instructional Technology	Schoology Google Connector Research Schoology Google Connector tool and assist in removing barriers to implementation and deployment	N	Aron Sterling	
Instructional Technology	Process/Support System Establish process/ support system at a school-level for selecting technology to achieve school objectives, including teacher training	M	Sandy Kretzer	
Innovation / Partnerships	Refine Data Infrastructure Refine FCPS's current data infrastructure to enable nimble data tool development that facilitates responsive decision making for systems supports and resource allocation.	N	Data Team	
Professional Development and Human Capital	Reset SBTS Reset SBTS program with singular goal of realizing district technology vision (consistent role, consistent training, formalized evaluation, etc.)	M	Dr. B / Human Resources	
Professional Development and Human Capital	Align PD Programs Align all FCPS PD programs with district technology vision/language/principles (e.g. tech PD not separate from instructional PD)	M	Office of Professional Learning and Family Engagement	

Workstream	Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Professional Development and Human Capital	Align Digital Citizenship and Acceptable Use Policy Align Digital Citizenship goals and Acceptable Use Policy to district tech vision	M	Instructional Services	
Technology Infrastructure and Operations	Application Inventory Develop a full inventory of its applications and contracts. The comprehensive list should include all functional and business areas applications including those that do not currently fall under the CIO. The workstream recommends parsing through the consolidated application list to identify redundant applications that would provide a savings for re-investment.	M	Chief Operating Officer (COO)	
Technology Infrastructure and Operations	Assign Tiers to Applications The IT Department should assign tiers to all applications and within each tier define service levels, infrastructure/security requirements, and internal/external support models. The focus should be on tier 1 / business critical applications for the 2020/2021 school year.	M	Department of Information Technology	
Technology Infrastructure and Operations	Cloud Migration and Data Center Consolidation Begin migrating systems and applications to the Cloud, moving out of their legacy data centers and leveraging the FCPS co-lo data center investments.	M	Chief Operating Officer (COO)	
Technology Infrastructure and Operations	Centralize IT Organization Centralize division-wide personnel, budgets, systems, and applications under the IT organization, reporting directly to CIO. The CIO will be responsible under this model to drive innovation and the strategic IT goals of FCPS. *Note: There are technology budgets, personnel and systems in other departments that are not currently under the purview of IT and that create inconsistencies, non-standard practices, and tremendous challenges in IT governance.	M	Chief Operating Officer (COO)	
Technology Infrastructure and Operations	Centralize IT Budgets Centralize new application and systems budgets under CIO, for visibility, accountability (with system owner for functionality and user experience), oversight and management purposes.	M	Department of Information Technology	
Technology Infrastructure and Operations	Security Investment Investigate cloud-based two factor authentication for access control, including a review of encryption for sensitive data in storage (at rest) and in transit.	L	CISO and Department of Information Technology	

Initiative 4: Resource Support for Educators

Workstream	Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Technology Accessibility	Provide Differentiated Educator Professional Development Prepare and deliver PD in multiple formats (e.g., asynchronous modules, how-to videos, synchronous sessions, sample interactive learning templates) to plan for online and hybrid learning environments	N	Instructional Services & External Consultants As Needed	X
Technology Accessibility	Specialized Supports for Instructional Staff •Continue to deliver differentiated PD to increase educator knowledge of asynchronous and synchronous instructional strategies aligned with the principles of Universal Design for Learning to address the needs of learners in specialized groups •Augment and modify existing educator evaluation systems to address complex teaching and learning needs in a technology-rich learning environment	M	Office of Professional Learning and Family Engagement, Special Services, & External Consultants	
Technology Accessibility	Specialized Supports for Instructional Staff Increase educator knowledge of assistive technology supports built-into existing technology (e.g., PowerPoint features for students with visual impairments) and other assistive technology tools (e.g., communication devices) to address the needs of learners in specialized groups	M	Special Services & Office of Professional Learning and Family Engagement	
Technology Accessibility	Engage in Regular Feedback with Instructional Staff Use assessment and evaluation data to provide coaching support for continuous skill development	M	Human Resources	
Technology Accessibility	Continue to Develop Professional Knowledge of Instructional Staff Build capacity to increase the effective use of Universal Design for Learning to meet the needs of a variety of learners in multiple learning environments as part of an ongoing professional development plan	L	Instructional Services & special Services	
Innovation / Partnerships	Expand Professional Learning Expand professional learning experiences to build educator capacity with innovative practices and tools, as well as network learning within and across schools, offices, and departments.	M	Marty Smith	
Professional Development and Human Capital	Online Learning Foundation for Faculty Provide basic online learning foundation to all FCPS faculty during the Summer Break.	N	Office of Professional Learning and Family Engagement	
Professional Development and Human Capital	Teacher Professional Skillsets Develop system to recognize teacher professional skillsets (e.g. micro-credentialing)	M	Office of Professional Learning and Family Engagement	
Professional Development and Human Capital	Teacher Prep Expectations Establish clear expectations for teacher prep institutions providing teacher candidates to FCPS aligned to district technology vision	M	Instructional Services	
Professional Development and Human Capital	Professional Learning Networks Create digital Professional Learning Networks for peer-based professional learning	M	Instructional Services	

Initiative 5: Specialized Resource Support for FCPS Community

Workstream	Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Technology Accessibility	Different Learners Need Different Devices Provide differentiated digital devices to students as determined by age, developmental level and special needs (e.g., iPads for young learners)	N	Information Technology, Instructional Services, & Special Services	X
Technology Accessibility	Build Community Among Families and Educators Establish funding and staffing resources for proactive communication in multiple languages with the families of Early Childhood Students, English Learners, and Special Education Students in preparation for Fall	N	Office of Professional Learning and Family Engagement & Language United	X
Technology Accessibility	Plan to Include Special Populations in the Schoology Pilot Ensure that the Schoology Pilot includes representation from Early Childhood, English Learners, and Special Education Students (all populations and centers)	N	Schoology Pilot Team	X
Technology Accessibility	Support Parents and Caregivers During Distance Learning Provide how-to videos, websites demos, and documents with targeted instructional technology support (in multiple languages) paired with access to a help line that provides real-time answers for parents and caregivers who need assistance supporting their children	N	Office of Professional Learning and Family Engagement & Language United	
Technology Accessibility	Interactive Technology and Remote Access Develop or Enable remote access to technology devices that will promote interactive learning between the student and the educator as well as reliable assessment opportunities.	M	Information Technology & Special Services	
Technology Accessibility	Adapt for Special Needs During the Schoology Pilot Research, test, and implement Schoology Plug-ins that support accessibility during the pilot; consult with Schoology staff and Divisions that have already implemented the accessibility-related features	M	Schoology Pilot Team	
Technology Accessibility	Enhance Technology for Related Services Delivery Use technology to provide effective teletherapy services to students and families	L	Special Services & Information Technology	

Initiative 6: Future Focus

Workstream	Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Innovation / Partnerships	Innovation Lab Consider a FCPS Innovation Lab fostering an innovative culture. This lab would be a physical and virtual property at FCPS design to be a 'safe' sandbox for experiments and pilots to occur. Participants would be educators, students, and administrators. Explore student ideas like "School Tank."	N	Marty Smith / Elizabeth Murphy Marty Smith / Elizabeth Murphy	X
Innovation / Partnerships	Develop a Plan for Innovation. Identify the focus for innovation, e.g. What vision for the division will serve as the North Star for innovative practices? What parts of the system are ripe for improvement? One option is to build on the existing FCPS Strategic Plan and Plans of Action, as well as Portrait of a Graduate. Rise up existing innovation and improvement work across district: What's working and what could be expanded? What has FCPS learned from this work? Adopt an innovation process that focuses on readdressing inequalities.	N	Elizabeth / Marty Smith	
Innovation / Partnerships	Innovation and Improvement Plans Develop innovation and improvement plans that include interim monitoring measures for each department, region, and school. It is critical that FCPS evolve towards a data-driven district that can assess/mitigate gaps in real time through a full-time online or hybrid model. Teachers need proper professional development/tools to understand student progression, engagement, retention, diversity/equity/inclusion, etc. in a digital world where classrooms will no longer be 100% physically based.	N	Marty Smith	
Innovation / Partnerships	Grants to Catalyze Innovation Offer small-scale grants to catalyze new and innovative learning projects, both in-school and out of school, for focused challenges faced by common Problems of Practice. Leverage this moment to launch a challenge related to mitigating gaps caused by the COVID pandemic. Consider leveraging process for the Foundation's existing WBL grants for these grants.	N	Elizabeth Murphy / Foundation	
Innovation / Partnerships	Partnerships Consider partnering with an organization to lead FCPS through an innovation design process and continuous improvement methodologies that includes students, teachers, administrators, and families. Typically, the best ideas will come from within. One example is the FCPS/GMU iLEAD work. Consider creating co-labs with AWS, Google, Microsoft for advanced technologies.	N	Elizabeth Murphy / Foundation	
Technology Accessibility	Expedited Technology Review Process Streamline the technology review process with IT to improve timely access to technology resources designed for specialized instruction.	L	Information Technology	



Appendix A: Technology Advisory Council Members

Technology Advisory Council Members

COUNCIL LEADERSHIP	
<i>Scott Brabrand, FCPS, Superintendent</i>	
<i>Bobbie Kilberg, Northern Virginia Technology Council, Co-Chair; Communications and Change Management; Innovation and Partnerships</i>	
<i>Andrew Ko, Amazon Web Services (AWS), Co-Chair; Device Access and Connectivity; Innovation and Partnerships</i>	
<i>Greg Baroni, Attain, Co-Chair; Instructional Technology; Professional Development and Human Capital</i>	
<i>Amy Gilliland, General Dynamics Information Technology (GDIT), Co-Chair; Technology Infrastructure and Operations; Technology Accessibility</i>	
Communications and Change Management	Technology Infrastructure and Operations
<i>Alisa Whyte*, Merritt Group</i>	<i>James Hannah*, Corporate IT Services, GDIT</i>
Ellen Walsh, Attain	Andrew Arthurs, Two Roads Hospitality
Reshma Patel-Jackson, Attain	Clara Conti, Partner, IBM
Kathleen Walts**, FCPS, Office Professional Learning and Family Engagement	John Wood, Telos
Tracey Wynne**, FCPS, Communications and Community Relations	Tom Vandenburg**, FCPS, IT Operations
Technology Accessibility	Innovation and Partnerships
<i>Pam Baker*, George Mason University (GMU)</i>	<i>Katrina Stevens*, Chan Zuckerberg Initiative</i>
<i>Dustin Wright, FCPS, Franklin MS</i>	<i>Elizabeth Murphy*, Foundation for FCPS</i>
<i>Lexie Feldman, FCPS, McNair ES</i>	<i>AJ Muir, FCPS, Student</i>
Jered Borup, GMU	<i>Karen Corbett Sanders, School Board Chair</i>
Anya Evmenova, Assistive and Special Education Technology	Michael Horn, Entangled Group
Mark Ginsburg, GMU	Alexandra Fuentes, FCPS**, Technology & Engineering Ed & STEAM Integration
Susan Norwell, Northeastern Illinois University	Instructional Technology
Maura Burke**, FCPS, Early Childhood Curriculum and Grant Management	<i>Katie Blot*, Strategy Ed LLC</i>
Mike Bloom**, FCPS, Special Education	<i>Shawn DeRose, FCPS, Annandale HS</i>
Melissa Modarressi**, FCPS, Early Childhood Identification and Services	Jon Cohen, AIR Assessment, Retired
Richard Pollio**, FCPS, English Speakers of Other Languages (ESOL) Services	Sarah McCue, Nyaka; Georgetown University and American University
Device Access and Connectivity	Sandy Kretzer**, FCPS Enterprise Information Services, Information Technology
<i>Jeff Mao*, Edmoxie</i>	Aron Sterling**, FCPS Electronic Curriculum and Assessment Tool
<i>Elaine Tholen, School Board Member</i>	Professional Development and Human Capital
Ellen Goldich, Education Superhighway	<i>Richard Culatta*, ISTE</i>
Toni Stubbs, Cox	<i>Margaret Sisler, FCPS, School-Based Technology</i>
Linda Zhang, AWS Intern	Joseph South, ISTE
Derek Kelley**, FCPS, Instructional Technology	Ken Martin**, FCPS, School Based Technology Specialist (SBTS) Management
Tracey Jewell**, FCPS, Support Services, Information Technology	Jay Nocco**, FCPS, Office of Professional Growth and Career Development
Leona Smith**, FCPS, Equity and Family Engagement	Crissie Ricketts**, FCPS, McLean HS

Steering Committee Member

*** Workstream Lead**

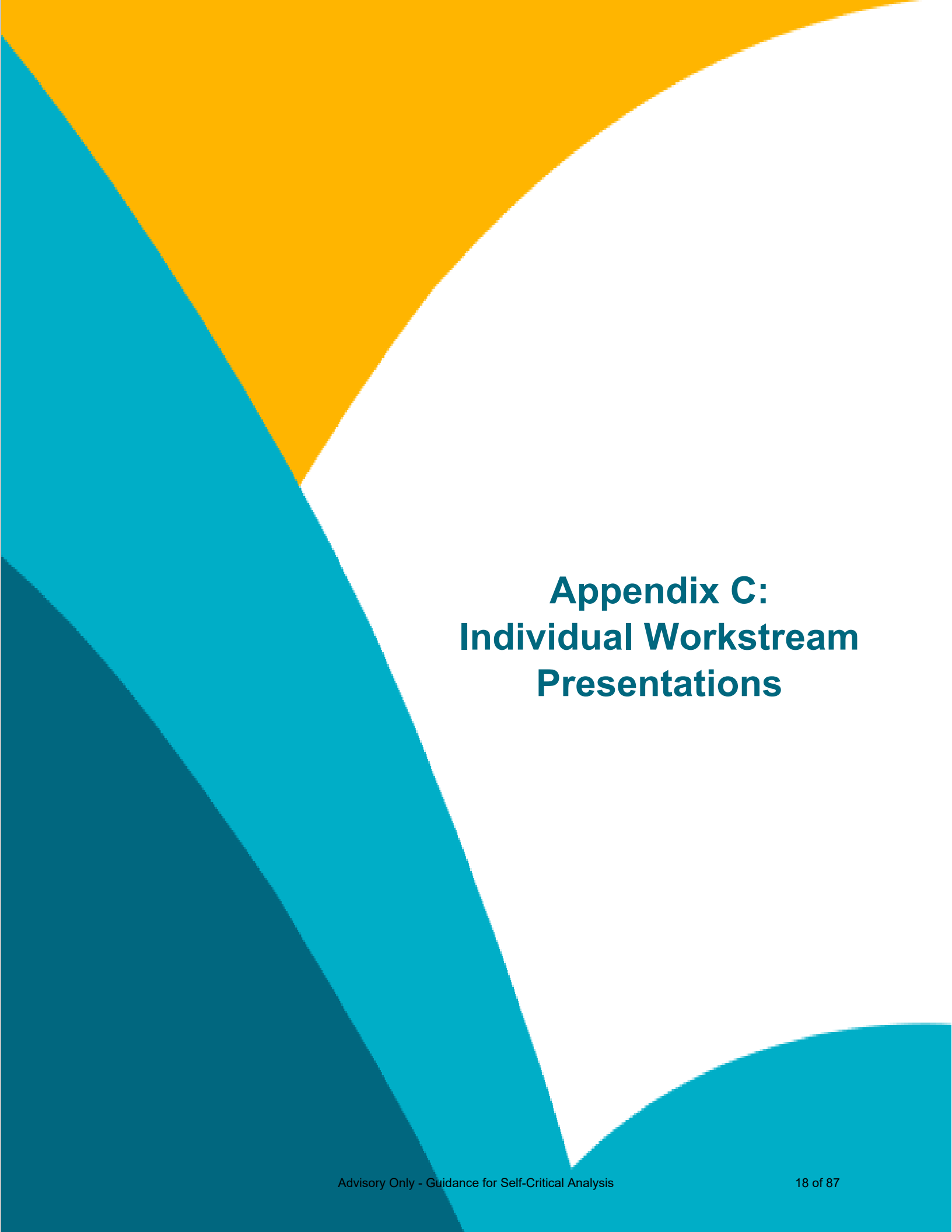
****FCPS Staff Liaison**



Appendix B: Table of Acronyms

Table of Acronyms

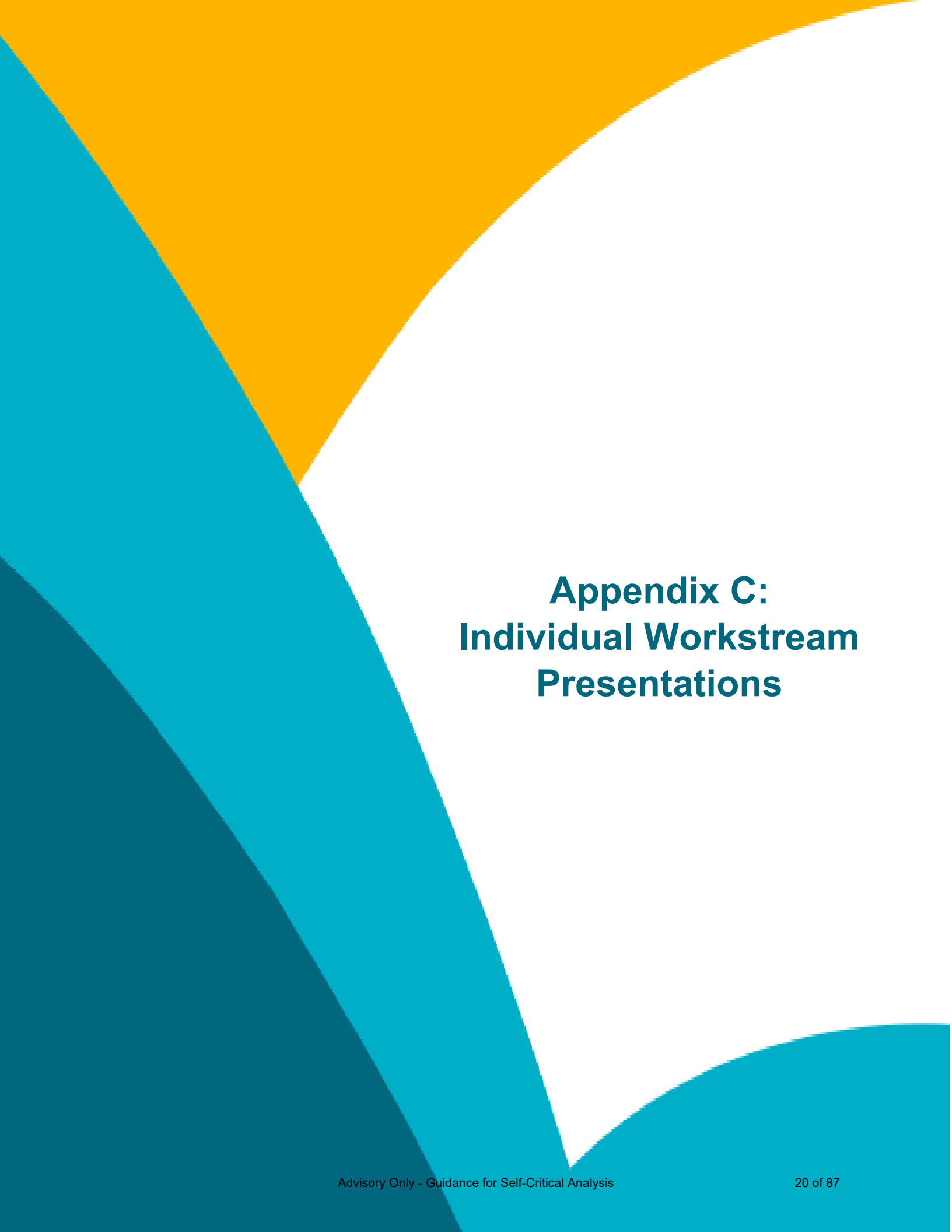
Acronym	Description
AWS	Amazon Web Services
CEO	Chief Executive Officer
CIO	Chief Information Officer
CISO	Chief Information Security Officer
COLO	Colocation (here, refers to a data center facility)
COO	Chief Operating Officer
COVID-19	Coronavirus Disease 2019
FCPS	Fairfax County Public Schools
GDIT	General Dynamics Information Technology
GMU	George Mason University
HR	Human Resources
I&O	Infrastructure and Operations
iLEAD	Improvement Leadership Education and Development
IS	Information Systems
IT	Information Technology
KPIs	Key Performance Indicators
LMS	Learning Management System
MIFI	Mobile WiFi
ORSI	Office of Research and Strategic Improvement
PD	Professional Development
RFP	Request for Proposals
SBTS	School Based Technology Specialist
SLA	Service Level Agreement
TAC	Technology Advisory Council
US	United States
VA	Virginia
WBL	Work Based Learning
WIFI	Wireless Fidelity



Appendix C: Individual Workstream Presentations

Table of Acronyms

Acronym	Description
AWS	Amazon Web Services
CEO	Chief Executive Officer
CIO	Chief Information Officer
CISO	Chief Information Security Officer
COLO	Colocation (here, refers to a data center facility)
COO	Chief Operating Officer
COVID-19	Coronavirus Disease 2019
FCPS	Fairfax County Public Schools
GDIT	General Dynamics Information Technology
GMU	George Mason University
HR	Human Resources
I&O	Infrastructure and Operations
iLEAD	Improvement Leadership Education and Development
IS	Information Systems
IT	Information Technology
KPIs	Key Performance Indicators
LMS	Learning Management System
MIFI	Mobile WiFi
ORSI	Office of Research and Strategic Improvement
PD	Professional Development
RFP	Request for Proposals
SBTS	School Based Technology Specialist
SLA	Service Level Agreement
TAC	Technology Advisory Council
US	United States
VA	Virginia
WBL	Work Based Learning
WIFI	Wireless Fidelity



Appendix C: Individual Workstream Presentations



Fairfax County
PUBLIC SCHOOLS
ENGAGE • INSPIRE • THRIVE

**Superintendent's
Technology Advisory
Council**

Communications and
Change Management

July 1, 2020

Background and Scope

Communications and Change Management Workstream



Bobbie Kilberg
NVTC, President and CEO
Co-Chair Technology Advisory Council



Alisa Whyte
Merritt Group, Senior Partner/CEO
Workstream Lead



Kathleen Walts
FCPS, Executive Director, Office of
Professional Learning and Family Engagement



Tracey Wynne
FCPS, Communications Specialist



Ellen Walsh
Attain, Chief Marketing Officer



Reshma Patel-Jackson
Attain, Senior Principal & Practice Lead
Education, Non-Profit, & Commercial Services

WORKSTREAM PURPOSE

To provide guidance and recommendations regarding preparation and ongoing support for the organization and community related to the adoption of new technologies or technology changes.

Observations and Findings: The Opportunity

Communications and Change Management Workstream

As one of the nation's largest and highest-ranking school systems, FCPS understands the important role that technology will continue to play in underpinning its ongoing focus on excellence in student achievement.



3

Observations and Findings

Communications and Change Management Workstream

- FCPS overcame initial challenges with distance learning after schools closed in response to the pandemic
 - In a much better place now; running smoothly
- Be cognizant of how we're introducing new technology changes given the sensitive environment
- Can't afford another IT or distance learning hiccup
- COVID-19 environment still fluid
 - All eyes on "Return to School" in the Fall
- Address short-term needs, while setting a technology roadmap for the future of FCPS in the years to come

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Our Progress

Communications and Change Management Workstream

- Collaborated with FCPS on a couple of communications to date
- Aligning communications and change management efforts
- Determining near-term priorities and action plan



Target Audiences

Communications and Change Management Workstream

- School Board
- FCPS Leadership Team
- Staff
 - Principals/Administrators
 - Teachers
 - Other School-Based Staff
 - Operational
- Parents and Guardians
- Students
- Broader Fairfax County Community
 - NonFCPS Families
 - Board of Supervisors
 - Business Community
 - Community Groups





FCPS Communications Platforms

Communications and Change Management Workstream

- Brabrand's Briefing
- Action- and Infogram
- Email
 - Enotify
 - News You Choose
- Text
- Website
- News Release
- Social Media
- Intranet

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Communications Considerations

Communications and Change Management Workstream

- Determine how Council communications fit into broader FCPS communications
 - Return to School communications
 - IT communications
- Take a proactive approach to Council communications
 - Peg to Council milestones
 - Create announcement calendar to track upcoming Council milestones and FCPS technology initiatives
 - Gain visibility into what's on the horizon for planning purposes
 - Cadence of 1-2 communications per month
- Determine process/approvals for Council communications moving forward

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Change Management Considerations

Communications and Change Management Workstream

- Understand and stratify the needs and concerns of our stakeholders
- Connect these needs and concerns with investment in and improvements to existing and/or new technologies
 - There should be a synergy (and frequent touchpoints) between the technology and communications and change management workstreams. They should be working hand-in-hand throughout this process
- Provide clear, concise and targeted messaging that shows how technologies directly address needs/concerns
- Establish a change network that is capable of reaching our diverse group of FCPS stakeholders
- Create a framework that engages stakeholders throughout the change journey from awareness, buy-in, proficiency, and adoption

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Recommendations and Next Steps

Communications and Change Management

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Create Process Diagram/workflow showing how to integrate technology initiatives into overall FCPS communications	Near-term (Completed by the start of the school year 2020-2021)	FCPS Communications Team	X
Vision for Role of Technology Establish a clear vision for the role of technology in supporting the learning goals of the district.	Near-term (Completed by the start of the school year 2020-2021)	District Leadership Team	X
Alignment Meetings Schedule introductory meetings with each of the workstream to review their recommendations and ensure alignment and to establish next steps for communications and change management efforts	Near-term (Completed by the start of the school year 2020-2021)	FCPS Communications Team	X
Announcement Calendar Create announcement calendar that includes FCPS technology initiatives in overall FCPS announcement schedule; integrate technology initiatives into other FCPS initiatives to avoid silos (e.g. Return-to-School)	Near-term (Completed by the start of the school year 2020-2021)	FCPS Communications Team	X
Audience/Stakeholder Grid Create grid with Council audiences and communicate method for each; audit what's working and what's not	Near-term (Completed by the start of the school year 2020-2021)	FCPS Communications Team	X
Measurement Framework For communications and change management effort, identify KPIs and outcomes to achieve	Near-term (Completed by the start of the school year 2020-2021)	FCPS Communications Team	

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Workstream 2: Devices and Access Team



Tracy Jewel
FCPS



Toni Stubbs
Cox Communications



Jeff Mao
Edmoxie



Andrew Ko
Amazon



Ellen Goldich
Education
Superhighway

Background and Scope

Devices and Access

Background

- Ensuring that all students of Fairfax County Public Schools has a device for learning with access to the internet.
- FCPS has had experience with devices for several years for High Schools and one year for Middle Schools. Expansion into K-6 is needed.

Objective and Scope

- Identify the optimal solutions that provides a learning device with access to the internet for all learners of FCPS.
- Device considerations for K-6 based on instructional need, TCO, durability and experience
- Create strategies to fulfill all learners with connectivity away from school
- Identify new resources required to support additional technology users.
- Needs for professional development for our educators

Observations and Findings

Devices and Access

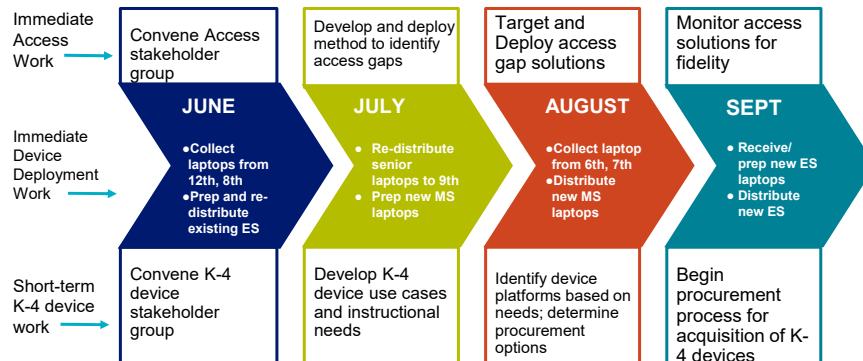
- Prior to COVID-19, FCPS was already underway with device acquisition and management at Middle Schools this year following the prior year's High School plan. K-6 is now in motion for the upcoming 2020-2021 school year.
- FCPS has a diligent job in identifying the right device based on Instructional needs while balancing the total cost of ownership of device and good user experience
- Need for additional staff to support additional technologies
- Coverage gaps and which student/families are without are still not clear. The use of Lightspeed has improved visibility. Surveys and through the communications of Principals are another method of identifying needs.

Recommendations

Device Access and Internet Connectivity

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Use existing contract to order 22K laptops for ES to distribute in September (Grade 6 and Grade 5 at Title I)	COMPLETE		
Expand Lightspeed products and functionality to provide greater reporting on student device activity	Near-term (Completed by the start of the school year 2020-2021)	Tracy Jewell	
Continue MiFi distribution; purchase additional 1,000 MiFi devices to close access gap	Near-term (Completed by the start of the school year 2020-2021)	Tracy Jewell	
Issue existing laptop inventory to all grades preK-4 students for home use	Near-term (Completed by the start of the school year 2020-2021)	Tracy Jewell	
Create and implement plan to accurately identify students with access challenges	Near-term (Completed by the start of the school year 2020-2021)	Tracy Jewell	
Develop requirements for preK-4 device(s) to frame RFP for next round of device refresh	Near-term (Completed by the start of the school year 2020-2021)	Tracy Jewell	
Explore and implement alternatives to MiFi hotspots for home access (i.e. Wi-Fi on buses, county/ business partnerships for access points, etc.)	Near-term (Completed by the start of the school year 2020-2021)	Tracy Jewell	
Seek methods of negotiating better coverage with vendors expanding coverage while saving money; consider assistance with VA Dept Ed or regional negotiations leveraging buying power	Mid-term (Completed during the 2020-2021 school year)	Tracy Jewell	

Technology Plan Timeline







Fairfax County
PUBLIC SCHOOLS
ENGAGE • INSPIRE • THRIVE

**Superintendent's
Technology Advisory
Council**

**Innovation &
Partnerships**

Innovation Contributors



Katrina Stevens

Chan Zuckerberg
Initiative



Michael Horn

Clayton Christensen
Institute



**Karen Corbett
Sanders**

FCPS School Board
Chair



Elizabeth Murphy

Fairfax County School
Foundation



Marty Smith

FCPS, COO



AJ Muir

STUDENT



Andrew Ko

Amazon Web Services



Claire Silvia

FCPS, Project Support
Coach

Background and Scope

Innovation

Background

- FCPS strives to be a leader in innovation.
- Innovation is not a single thing or program but is defined as a culture.
- Technology is a core element of innovation.
- Innovation flourishes when it is seen as an engine to advance the system.

Scope

- Explore exemplars of innovative practices in FCPS, other districts, universities, and high tech growth companies.
- Identify important considerations for increasing innovation at FCPS.
- Make “Portrait of a Graduate” real and measurable for all students.
- Identify scope, process and mechanisms to measure impact with data.
- Maximize partnerships with the business community to gain insight, ideas and investments.
- Ensure that innovation will lead to improved outcomes for vulnerable populations and is equitably distributed.
- Recommendations for spread and scale

Observations and Findings

<Innovation>

- FCPS has strong elements of Innovation programs. Challenges exist to make Innovation a pervading culture and not a one-off ‘project’.
- Identifying and designing a process and mechanism for Innovation to thrive includes:
 - Encourage / incent individuals to participate: students, educators...
 - Measurable for impact – not just anecdotes
 - Must Scale
 - Equity by design
- Culture of any organization is set by the Leader
- Data on impact measurements is critical. Anecdotes doesn’t scale.

Overall Recommendations

Innovation & Partnership

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Consider a FCPS Innovation Lab fostering an innovative culture. This lab would be a physical and virtual property at FCPS design to be a 'safe' sandbox for experiments and pilots to occur. Participants would be educators, students and administrators. Explore student ideas like "School Tank."	Near-term (Completed by the start of the school year 2020-2021)	Marty Smith / Elizabeth Murphy	X
Need a plan for innovation. Identify the focus for innovation, e.g. What vision for the division will serve as the North Star for innovative practices? What parts of the system are ripe for improvement? One option is to build on the existing FCPS Strategic Plan and Plans of Action, as well as Portrait of a Graduate. Rise up existing innovation and improvement work across district. What's working and what could be expanded? What has FCPS learned from this work? Adopt an innovation process that focuses on readdressing inequalities.	Near-term (Completed by the start of the school year 2020-2021)	Elizabeth / Marty Smith	
Refine our current data infrastructure to enable nimble data tool development that facilitates responsive decision making for systems supports and resource allocation.	Near-term (Completed by the start of the school year 2020-2021)	Data Team	
Expand professional learning experiences to build educator capacity with innovative practices and tools, as well as network learning within and across schools, offices and departments.	Mid-term (Completed during the 2020-2021 school year)	Marty Smith	

Overall Recommendations (Cont'd)

Innovation & Partnership

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Develop innovation and improvement plans that include interim monitoring measures for each department, region, and school. It is critical that FCPS evolve towards a data-driven district that can assess/mitigate gaps in real time through a full-time online or hybrid model. Teachers need proper professional development/tools to understand student progression, engagement, retention, diversity/equity/inclusion, etc. in a digital world where classrooms will no longer be 100% physically based.	Near-term (Completed by the start of the school year 2020-2021)	Marty Smith /	
Offer small-scale grants to catalyze new and innovative learning projects, both in-school and out-of school, for focused challenges faced by common Problems of Practice. Leverage this moment to launch a challenge related to mitigating gaps caused by the COVID pandemic. Could leverage process for the Foundation's existing WBL grants for these grants.	Near-term (Completed by the start of the school year 2020-2021)	Elizabeth Murphy / Foundation	
Consider partnering with an organization to lead FCPS through an innovation design process and continuous improvement methodologies that includes students, teachers, administrators and families. Your best ideas will come from within. One example is the FCPS/GMU iLEAD work. Or create co-labs with AWS, Google, Microsoft for advanced technologies.	Near-term (Completed by the start of the school year 2020-2021)	Elizabeth Murphy / Foundation	
Consider staffing needs to help shift culture, could include creating a new cabinet-level Innovation Officer role.	Near-term (Completed by the start of the school year 2020-2021)	Marty Smith	

Options to Consider

Innovation

Item No.	Description
1	Consider a FCPS Innovation Lab fostering an innovative culture. This lab would be a physical and virtual property at FCPS design to be a 'safe' sandbox for experiments and pilots to occur. Participants would be educators, students and administrators.
2	Explore student ideas like "School Tank."
3	Offer small-scale grants to catalyze new and innovative learning projects, both in-school and out-of school, for focused challenges faced by common Problems of Practice. Leverage this moment to launch a challenge related to mitigating gaps caused by the COVID pandemic. Could leverage process for the Foundation's existing WBL grants for these grants.
4	Consider partnering with an organization to lead FCPS through an innovation design process and continuous improvement methodologies that includes students, teachers, administrators and families. Your best ideas will come from within. One example is the FCPS/GMU iLEAD work. Or create co-labs with AWS, Google, Microsoft for advanced technologies.
5	Consider staffing needs to help shift culture, could include creating a new cabinet-level Innovation Officer role.

Vision: Innovation Lab: Fairfax Public Schools



- Chief Innovation Officer, supported by:
 - Innovation Specialists
 - Foundation for FCPS
 - Office of Research and Strategic Improvement (ORSI)
 - FCPS Data Collection Team
 - Innovation Leads in Schools and Departments
- Acts as a consultant arm of FCPS for continuous improvement of instruction and operations
- Data collection identifies which ideas are successful and can be replicated throughout division
- Foundation advocates for business and community investment in programs and innovative ideas

Student Voice and Perspective

Innovation that Excites

It's Quite Innovative How to get the Proper Student Involvement with Innovation

- Make it a Engaging
 - Competition brings out the best in us
 - We are looking for the best of the best when it comes to FCPS
- Make it Accessible
 - Give the right tools to the right people
 - The more people can play the game, the better
 - Anyone has the power to make a difference with the right tools.
- Make it Count
 - Be sure to recall the 5 Questions for Change
 - This is more than other extra-credit assignment
- Make it Rewarding
 - Allow the anyone to garner experiences that reflect their elite status as an innovator
 - Leave them proud to represent and better FCPS

Student Program: A Concept

"Learn By Doing"



Portrait of a Graduate



1. Each High School has a selected group representing an improvement they see to be made and how they can accomplish it
1. They will be sponsored by an Educator and a community leader (can be anyone approved - business, non profit, gov't, etc)
1. Pitch Day(s)
 - a. Judges Selected from FCPS, Business, Principals, Teacher of the year, ...
 - b. Awards possibly include?
 - i. Superintendent approval to implement
 - ii. Possible investment for a product
 - iii. Scholarship
1. Evening Recognition
 - a. Foundation raises money for pitch day.
 - b. Local leaders invited





Background and Scope

Instructional Technology

Background

- <Enter content>

Scope

- Offer guidance around current learning technology challenges and on-going support to students and parents
- Regularly advise the superintendent
- Help identify best practices in technology architecture and emerging technology
- Look at successful public/ private partnerships and recommend areas for potential partnerships

Observations and Findings

Instructional Technology

- Through pre-work compiled by the FCPS Instructional Technology team and discussions with the workgroup, observations were made about the most important challenges on which to focus in the immediate, near and long term.
- **Immediate/ urgent** challenges
 - Ensuring learning platform reliability and stability for students and teachers, for both existing technologies and those being piloted in Fall 2020
 - Preparing teachers for and supporting them in Fall 2020 given complex technology environment (number of tools) and uncertainty around instructional model for Fall 2020
 - Replacement of synchronous classroom collaboration tool
- **Near-term** challenges
 - Ensuring teachers have appropriate training and support to provide meaningful learning experiences in virtual learning environments
 - Balancing need for agile implementation of innovative digital tools and need to protect student privacy and comply with state and federal laws
 - Balancing need for school/ teacher choice in tools and the ability to effectively train and support teachers in toolset
- **Long-term** challenges
 - Maximizing return on investment and impact on learning through Instructional Technology
 - Ensuring equity of student learning experience throughout the division

Recommendations

Instructional Technology

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Develop a comprehensive roll-out plan for Schoology in the context of a new district online learning vision. The roll-out should be modeled after the FCPSON approach and jointly led by the Office of the CIO and IS under the direct supervision of the Superintendent.	Near-term (Completed by the start of the school year 2020-2021)	Dr. Sloan Presidio	X
Review service level agreements (SLAs) in new LMS contract (Schoology) to determine if any potential risks or gaps exist.	Near-term (Completed by the start of the school year 2020-2021)	Aron Sterling	X
Identify a recommended set of core technologies for Fall 2020 by school grouping (e.g. elementary) or communities of practice (e.g. grade level) and determine roll-out plan in conjunction with Professional Development plan.	Near-term (Completed by the start of the school year 2020-2021)	Shawn DeRose & Aron Sterling	X
Establish RFP process for virtual learning products (synchronous classroom tools)	Near-term (Completed by the start of the school year 2020-2021)	Sandy Kretzer	X
Research Schoology Google Connector tool and assist in removing barriers to implementation and deployment	Near-term (Completed by the start of the school year 2020-2021)	Aron Sterling	
Conduct stress and load testing for recommended core technologies.	Near-term (Completed by the start of the school year 2020-2021)	Dr. Sloan Presidio	
Establish process/ support system at a school-level for selecting technology to achieve school objectives, including teacher training	Mid-term (Completed during the 2020-2021 school year)	Sandy Kretzer	
Evaluate technology review and adoption processes against best practices for balancing choice and standardization; include best practices for inclusion of school representatives and communication back to stakeholders on decisions and parameters (e.g. if tool is approved but only without certain features enabled)	Mid-term (Completed during the 2020-2021 school year)	Sandy Kretzer	

Next Steps

Instructional Technology

Item No.	Description	Milestone Date(s)
1	Establish leads and workgroups for each immediate recommendation	June 29, 2020
2	Begin work on each immediate recommendation	June 30, 2020
3	Initial discussions and action planning for near-term recommendations	August 3, 2020
4	Workstream / FCPS Instructional Technology group working session on long-term strategy and long-term recommendations	August 31, 2020

Scoring Summary Analysis of Alternative Solutions

Instructional Technology

Item No.	Recommendation Description	Potential Benefit / Impact (H/M/L)*	Ability to Execute (H/M/L)**
1			
2			
3			
4			
5			
6			

NOT YET COMPLETED

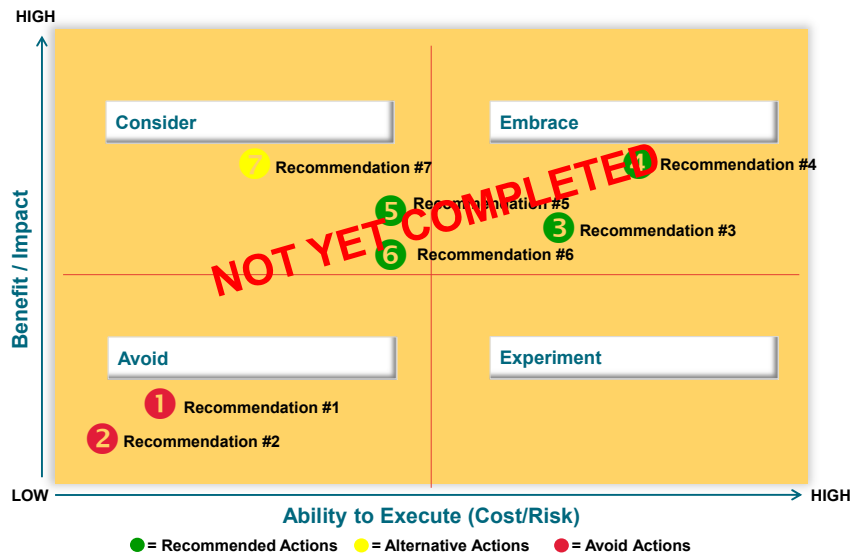
Note(s):

* Factors to consider degree/extent of the impact, as well as, the timing (i.e., near vs. long term)

**Factors to consider include scope of work, budget/cost, time to complete, legal, etc.

Benefit/Risk Analysis

Instructional Technology



Recommended Roadmap

Instructional Technology







Superintendent's Technology Advisory Council

Technology Accessibility

Background and Scope

Technology Accessibility

Who Has Been Impacted By Technology Accessibility Barriers?

- **All Students, Families, and Staff Members**
- **Special Education** Students and Families
- **English Learner** Students and Families
- **Early Childhood** Students and Families
- Students and Families in **Poverty**
- Students with **Limited Parental and Family Support**
- Students who experience **Mental-Health Challenges**

Scope

- 28,051 Students Access Special Education Services
- 36,000 Students Access ESOL Services
- 4,749 Students Access Early Childhood Services

Observations and Findings

Technology Accessibility Workstream

Given the 6/23/2020 release of the FCPS plan to reopen schools:

- It is paramount that technology is used to make curriculum available for all learners AND that all educators and families are taught how to use the technology in a meaningful way.
- The plan includes increased in-person or synchronous instruction for Special Education students and English Language Learners, which should be expanded to include Early Childhood Students.

Observations and Findings

Technology Accessibility Workstream

- We support overlapping recommendations from the Professional Learning Workstream
 - For example, taking advantage of summer break to provide Professional Development (PD) to enhance online teaching skills and create digital professional learning networks.
- **It is critical that components of Professional Development are specifically tailored to the online learning needs of Early Childhood, English Learners, and Special Education Students.**
 - The **complexity** of their learning needs should drive the design of these Professional Development opportunities.

Recommendations

Technology Accessibility

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Different Learners Need Different Devices Provide differentiated digital devices to students as determined by age, developmental level & special needs (e.g., iPads for young learners)	Near-term (Completed by the start of the school year 2020-2021)	Information Technology, Instructional Services, & Special Services	X
Provide Differentiated Educator Professional Development Prepare and deliver PD in multiple formats (e.g., asynchronous modules, how-to videos, synchronous sessions, sample interactive learning templates) to plan for online and hybrid learning environments	Near-term (Completed by the start of the school year 2020-2021)	Instructional Services & External Consultants As Needed	X
Build Community Among Families and Educators Establish funding and staffing resources for proactive communication in multiple languages with the families of Early Childhood Students, English Learners, and Special Education Students in preparation for Fall	Near-term (Completed by the start of the school year 2020-2021)	Office of Professional Learning and Family Engagement & Language United	X
Plan to Include Special Populations in the Schoology Pilot Ensure that the Schoology Pilot includes representation from Early Childhood, English Learners, and Special Education Students (all populations and centers)	Near-term (Completed by the start of the school year 2020-2021)	Schoology Pilot Team	X
Support Parents and Caregivers During Distance Learning Provide how-to videos, websites demos, and documents with targeted instructional technology support (in multiple languages) paired with access to a help line that provides real-time answers for parents and caregivers who need assistance supporting their children	Near-term (Completed by the start of the school year 2020-2021)	Office of Professional Learning and Family Engagement & Language United	

Recommendations (Cont'd)

Technology Accessibility

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Interactive Technology & Remote Access Develop or Enable remote access to technology devices that will promote interactive learning between the student and the educator as well as reliable assessment opportunities.	Mid-term (Completed during the 2020-2021 school year)	Information Technology & Special Services	
Specialized Supports for Instructional Staff •Continue to deliver differentiated PD to increase educator knowledge of asynchronous and synchronous instructional strategies aligned with the principles of Universal Design for Learning to address the needs of learners in specialized groups •Augment and modify existing educator evaluation systems to address complex teaching and learning needs in a technology-rich learning environment	Mid-term (Completed during the 2020-2021 school year)	Office of Professional Learning and Family Engagement, Special Services, & External Consultants	
Adapt for Special Needs During the Schoology Pilot Research, test, and implement Schoology Plug-ins that support accessibility during the pilot; consult with Schoology staff and Divisions that have already implemented the accessibility-related features	Mid-term (Completed during the 2020-2021 school year)	Schoology Pilot Team	

Recommendations (Cont'd)

Technology Accessibility

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Needs Assessment Conduct a needs assessment to understand what is working well for learners in specialized groups and what could be better in their online/hybrid learning experience	Mid-term (Completed during the 2020-2021 school year)	ORSI, Instructional Services & Special Services	
Specialized Supports for Instructional Staff Increase educator knowledge of assistive technology supports built-into existing technology (e.g., PowerPoint features for students with visual impairments) and other assistive technology tools (e.g., communication devices) to address the needs of learners in specialized groups	Mid-term (Completed during the 2020-2021 school year)	Special Services & Office of Professional Learning and Family Engagement	
Engage in Regular Feedback with Instructional Staff Use assessment and evaluation data to provide coaching support for continuous skill development	Mid-term (Completed during the 2020-2021 school year)	Human Resources	
Utilize Technology for Assessments and Procedural Supports Use technology to increase access to initial assessments and other eligibilities that are critical for student success	Mid-term (Completed during the 2020-2021 school year)	Special Services & Information Technology	

Recommendations (Cont'd)

Technology Accessibility

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Address Findings from the Needs Assessment Refine Professional Development plan and services delivery plan as appropriate	Longer-term (Completed during 2021-2022 school year or beyond)	Special Services, Instructional Services & Office of Professional Learning and Family Engagement	
Continue to Develop Professional Knowledge of Instructional Staff Build capacity to increase the effective use of Universal Design for Learning to meet the needs of a variety of learners in multiple learning environments as part of an ongoing professional development plan	Longer-term (Completed during 2021-2022 school year or beyond)	Instructional Services & special Services	
Enhance Technology for Related Services Delivery Use technology to provide effective teletherapy services to students and families	Longer-term (Completed during 2021-2022 school year or beyond)	Special Services & Information Technology	
Expedited Technology Review Process Streamline the technology review process with IT to improve timely access to technology resources designed for specialized instruction.	Longer-term (Completed during 2021-2022 school year or beyond)	Information Technology	



Superintendent's Technology Advisory Council

Technology Accessibility
Delivered June 11, 2020

Background and Scope

Technology Accessibility

Who Has Been Impacted By Technology Accessibility Barriers?

- **All Students, Families, and Staff Members**
- **Special Education** Students and Families
- **English Learner** Students and Families
- **Early Childhood** Students and Families
- Students and Families in **Poverty**
- Students with **Limited Parental and Family Support**
- Students who experience **Mental-Health Challenges**

Scope

- 28,051 Students Access Special Education Services
- 36,000 Students Access ESOL Services
- 4,749 Students Access Early Childhood Services

Technology Accessibility Awareness

Device and WiFi
Accessibility
vs.
Accessible Learning
Opportunities

Remote Teaching and
Learning
vs.
Accessible Content
for All

Web Content
Accessibility Guidelines
(WCAG)

Universal Design for
Learning (UDL)

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Covid-19 Response During Distance Learning

Technology Accessibility

- Prepared comprehensive Distance Learning Plan that included a balance of Synchronous and Asynchronous instruction
- Provided weekly instructional packets to students PreK through grade 8 accessing adapted curriculum and early childhood curriculum.
- Distributed an additional 22,600 Laptops and 2071 MiFi Devices to students and families since COVID
- Provided special education procedural supports around Temporary Learning Plans, IEP meetings, and eligibility meetings.
- Utilized a Multimedia Platform for the delivery of Special Education Related Services
- Increased support of parent phone lines in multiple languages and school-based parent liaisons
- Provided help to Early Childhood families to gain access to the Learning Management System

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Covid-19 Response For Summer Months

Technology Accessibility

- Provide Distance Learning Workbook and Online Resources for All Students
- Target School-Based Academic Learning Supports for All Learners
- Offer Specialized Academic Support for English Learners
- Provide Virtual Extended School Year (ESY) for Special Education Students
- Expand the FCPS Online Campus and Reduce Fees to Increase Accessibility
- Provide Virtual Credit Recovery Programs for Secondary Students
- Provide Online Enrichment Programs for All Students

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Observations and Findings: The Challenges

- Based on a review of literature, between 58% to 91% of K-12 websites were found to be inaccessible (Shaheen & Watlak, 2019).
- Based on a random sample of 6,226 K-12 websites, more than 65% of websites failed on at least one of the web accessibility guidelines (Kimmons & Smith, 2019).
- In a computer-adapted test, 20.55% of 42 test questions could not be answered by blind students due to inaccessibility (Kamei-Hannan, 2008)
- Based on a review of 478 random Khan Academy lessons, most were not fully aligned with UDL principles and were not fully accessible to students with disabilities (Smith & Harvey, 2015)

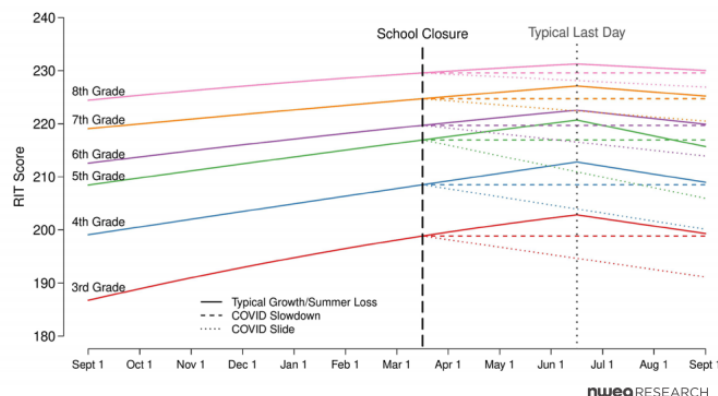
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Observations and Findings: The Challenges

Technology Accessibility

- Forecasts are surfacing regarding academic setbacks due to COVID ([see article](#)) in both reading and math with a projected 70% of the learning gains in reading and 50% in math relative to a typical school year (Kuhfeld & Tarasawa, 2020)

Figure 1. Mathematics forecast



Observations and Findings: The Opportunities

- Accessible technology meets four overarching goals—accessible technology is perceivable, operable, understandable, and robust (Lazar et al., 2015)
- Research on virtual school courses highlights the importance of accessibility (both physical and content accessibility) in order to benefit students with disabilities (e.g., Rice, 2018).
- Overcoming accessibility barriers:
 - Improve knowledge about accessibility and universal design
 - Establish collaborations between district technology and special education departments,
 - Incorporate accessibility into technology procurement, and
 - Increase funding (Shaheen & Watlak, 2019).

All FCPS Students & Families

Technology Accessibility

Observations	<ul style="list-style-type: none"> Required to Have a Reliable Digital Device and Internet Connection Challenges Receiving and Acting On Division, School, and Classroom Communications Increased Need for Parent/Guardian Support of Students in a Distance Learning Environment
Risks	<ul style="list-style-type: none"> Academic Gaps and Connectivity Gaps Can Grow Inconsistent Implementation of Student Supports Negative Impact on Student Readiness (Academically, Behaviorally, Social/Emotionally) for the Upcoming Year and Subsequent Years Limited Ability to Maintain an Effective Distance Learning Environment in the Fall or Transition to One in the Event it is Needed in the Future

Special Education Students & Families

Technology Accessibility

Observations	<ul style="list-style-type: none"> Students Experienced Difficulties Engaging With Instruction In A Distance Learning Environment Challenging to Provide Accommodations During Distance Learning Students are Required to Possess Increased Organizational and Executive Functioning Skills Complexities with Special Education Procedural Requirements Such as IEP Meetings and Assessments for Initial Eligibility and Re-Evaluation Difficulties Delivering Related-Services
Risks	<ul style="list-style-type: none"> Increasing Gaps in All Critical Domains (Academic, Behavioral, Social & Emotional) Limited Instructional Effectiveness During Implementation of Services Hours, Supports, and Accommodations Inability to Access Critical Medical, Physical, Mental Health Supports, and Related Services that Students and Families Only Access Through Schools Disproportionate Impact on Students and Families that are Dually-Identified in Multiple At-Risk Categories

English Learner (EL) Students & Families

Technology Accessibility

Observations	<ul style="list-style-type: none"> Students and Families Require Instructional and Technical Support in Multiple Languages to Use Laptops, Mi-Fis, and to Access Distance Learning Platforms Quality of Wi-Fi Connections and MiFi Device Capability is Sporadic and Does Not Support Some Students Particularly High-Density Housing Difficulties Implementing Initial Assessments and Completing Registrations for English Learners Limited Ability to Provide High-Quality English Language Models for ELs in a Synchronous or Asynchronous Distance Learning Environment
Risks	<ul style="list-style-type: none"> Increasing Gaps in All Critical Domains (Academic, Behavioral, Social & Emotional) for ELs at all levels (1-4 & Former ELs) Decreased Sense of Belonging and Familiarity to Schools for Students and Families who Need Increased Levels of Connection Inability to Access Social Services and Other Wrap-Around Services that are Only Available Through Schools Minimal Supports for Transient Populations and Students That Are New to Division and/or Country

Early Childhood Students & Families

Technology Accessibility

Observations	<ul style="list-style-type: none"> Limited Access to Basic Digital Devices and Specialized Assistive Technology Digital Devices Available to Early Childhood Learners Are Often Not Developmentally Appropriate Increased Screen Time Required in the Distance Learning Environment is Often Not Age Appropriate Decreased Access to Manipulatives, Materials, and Social Interactions Reduces Effectiveness of Instruction Inability to Deliver Critical Initial Assessments and Ongoing Progress Monitoring in a Virtual Setting
Risks	<ul style="list-style-type: none"> Increased Academic, Social-Emotional, and Mental Health Needs During an Important Developmental Period Reduced Opportunities to Develop Critical Social Skills and Establish Peer and Adult Relationships Decreased Resiliency and Executive Functioning Skills Limited Instructional Effectiveness During Implementation of IEP Services Hours, Supports, and Accommodations

Recommendations

Technology Accessibility

Item No.	Description
1	Ensure student progress academically, socially, emotionally, and behaviorally in a blended learning environment through high-quality specialized instruction and service delivery .
2	Prioritize needs of learners in considering different devices, assistive technologies, teaching methods, assessment choices, and supports necessary for success.
3	Identify a reliable multi-media platform that will allow valid virtual assessment, delivery of related services, and accurate progress monitoring.
4	Build capacity for schools to effectively communicate with and support families who facilitate access to technology for their children (e.g., school-based teams, technology specialists, parent liaisons, call center staffing, language service organization).
5	Provide explicit instruction in technology usage for adults and students who need it.
6	Allocate resources to support implementation.

Next Steps

Technology Accessibility

Item No.	Description:	Milestone Date(s)
1	<ul style="list-style-type: none">○ Conduct a needs assessment regarding the integration of remote and face-to-face instruction with learner progress○ Explore existing models for blended learning○ Review organizational expectations within blended learning environments○ Review levels of engagement among educators and students/families○ Design or acquire professional development resources aligned with the needs of a blended learning environment○ Increase educator knowledge of asynchronous and synchronous instructional strategies○ Increase educator knowledge of assistive technology supports built-into existing technology and other assistive technology tools○ Increase educator knowledge of Universal Design for Learning○ Modify existing evaluation systems to address complex teaching and learning needs○ Utilize feedback cycles and coaching to support progress	

Next Steps

Technology Accessibility

Item No.	Description:	Milestone Date(s)
2	<ul style="list-style-type: none">o Differentiate device selection by the developmental and chronological needs of the students (e.g., consider tablets or desktops over laptops for some learners)o Consider synchronous (live) vs. asynchronous service deliveryo Allow remote access to technology devices that will promote interactive learning opportunities between the student and the educatoro Incorporate modeling software and practices for iPad users to support communication and modeling; for example, REFLECTOR or ExplainEverything paired with GoToMeetingo Identify learning programs and resources that are optimal for a blended environment	

Next Steps

Technology Accessibility

Item No.	Description	Milestone Date(s)
3	<ul style="list-style-type: none">o Review existing multi-media options relative to available systems for best fito Streamline the technology review process with IT to approve access to technology resources designed for specialized instructiono Deploy flexible technology and resources to increase access to specific initial assessments and eligibilities that are critical for student successo Utilize technology to deliver wrap-around services to students and families	
4	<ul style="list-style-type: none">o Transition from troubleshooting to proactive engagement	
5	<ul style="list-style-type: none">o Teach parents and caregivers to model and work with their learners (e.g., videos, modeling, coaching, low-tech options)o Teach educators how to engage effectively with complex learners and their families within the context of blended learning environments	
6	<ul style="list-style-type: none">o Allocate resources equal to or greater than current budget levels for Special Education, ESOL, and EC in support of accessible technology for blended environments	





Superintendent's Technology Advisory Council

Technology Infrastructure and Operations

Background and Scope

Infrastructure & Operations Workstream

Background

- The Infrastructure and Operations (I&O) workstream members met with FCPS's IT Department to understand the issues that contributed to FCPS' slower start for distance learning in March 2020.

Scope

- The Technology Infrastructure and Operations workstream provides guidance and recommendations related to FCPS's technology infrastructure and operations including use of cloud, data, technology security, disaster recovery, help desk practices, and remote working. The I&O workstream researched underlying IT concerns by conducting deep dives with FCPS's IT Department to identify process and technology gaps that may result in future outages or delays. The I&O workstream was directed by the Superintendent Technology Advisory Council (TAC) to develop recommendations and suggested timing of these actions to mitigate identified risks to prevent future outages or delays in providing distance learning to FCPS.

Observations and Findings

Infrastructure & Operations Workstream

- The I&O workstream observations and findings as outlined in this presentation must be addressed for a successful launch of distance learning for the 2020/2021 school year based on the **FCPS Plan for Return to School** options put forth on June 23rd.
 - Full-time online instruction. Virtual, face to face instruction will be provided four days a week. [Details.](#)
 - At least two full days of instruction in school each week with students engaged in independent study and work on the days they are not in the school building. [Details.](#)
- Due to the demands of distance learning, the I&O workstream has recommended changes to:
 - IT Leadership
 - IT Governance
 - IT Security
 - IT Infrastructure

Recommendations

Technology Infrastructure and Operations

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Hire a CIO The I&O workstream recommends that FCPS retract the current CIO posting and refine the job description. This role should be at the top level of the organization, reporting into the Superintendent. The team recommends FCPS look for a candidate with IT modernization experience, specifically around Cloud and SaaS based solutions. The CIO must be hired prior to the end of the summer. This role is critical for the development of the long term strategic plan for FCPS.	Near-term (Completed by the start of the school year 2020-2021)	Chief Operating Officer (COO)	X
Hire a CISO The I&O workstream recommends that FCPS hire a CISO prior to the end of the summer; and we are currently providing feedback on the job description. This role should be at the top level of the organization, reporting into the Superintendent and not the CIO. The CISO role is critical for the development of the long term strategic plan for FCPS.	Near-term (Completed by the start of the school year 2020-2021)	Chief Operating Officer (COO)	X
Contact Center Support The I&O workstream recommends that FCPS retains a multi-channel (i.e., phone, email, etc.) Contact Center Support contractor prior to the start of the school year. This service desk should be focused on assisting the parents of the FCPS students at the start of the 2020/2021 school year. The workstream has identified this as a risk and potential failure should FCPS be unable to address the concerns of the parents, students, and faculty as school restarts in the Fall 2020.	Near-term (Completed by the start of the school year 2020-2021)	IT Support Center	X

Recommendations (Cont'd)

Technology Infrastructure and Operations

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Application Inventory The I&O workstream recommends that FCPS must develop a full inventory of its applications and contracts. The comprehensive list should include all functional and business areas applications including those that do not currently fall under the CIO. The workstream recommends parsing through the consolidated application list to identify redundant applications that would provide a savings for re-investment.	Mid-term (Completed during the 2020-2021 school year)	Chief Operating Officer (COO)	
Assign Tiers to Applications The I&O workstream recommends that the IT Department assigns tiers to all applications. Tiers will define service levels, infrastructure/security requirements, and internal/external support models. The focus should be on tier 1 / business critical applications for the 2020/2021 school year.	Mid-term (Completed during the 2020-2021 school year)	Department of Information Technology	
Cloud Migration & Data Center Consolidation The I&O workstream recommends the IT department begin migrating systems and applications to the Cloud. FCPS IT should move out of their legacy data centers and leverage the FCPS co-lo data center investments.	Mid-term (Completed during the 2020-2021 school year)	Chief Operating Officer (COO)	
Centralize IT Organization The I&O workstream recommends that FCPS centralize division-wide personnel, budgets, systems, and applications under the IT organization, reporting directly to CIO. The CIO will be responsible under this model to drive innovation and the strategic IT goals of FCPS. *Note: There are technology budgets, personnel and systems in other departments that are not currently under the purview of IT and that create inconsistencies, non-standard practices, and tremendous challenges in IT governance.	Mid-term (Completed during the 2020-2021 school year)	Chief Operating Officer (COO)	

Recommendations (Cont'd)

Technology Infrastructure and Operations

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Centralize IT Budgets The I&O workstream recommends that FCPS centralize new application and systems budgets under CIO, for visibility, accountability (with system owner for functionality and user experience), oversight and management purposes.	Mid-term (Completed during the 2020-2021 school year)	Department of Information Technology	
Updated Governance Model The I&O workstream recommends that FCPS deploy line of business specific steering committees with department leaders to align functional areas with IT (e.g., Finance / IT Steering Committee, HR / IT steering committee, Operations/IT steering committee).	Mid-term (Completed during the 2020-2021 school year)	Department of Information Technology	
Strategic Plan and Roadmaps The I&O workstream recommends that the CIO and CISO work together to develop a 3-5 year roadmap for critical infrastructure, applications, and security. The roadmap will align with the strategic plans of FCPS.	Longer-term (Completed during 2021-2022 school year or beyond)	IT Operations	
IT Personnel The I&O workstream recommends that the CIO work closely with the FCPS HR department to calibrate IT job titles and compensation to align with industry standards, and identify short term and long term resource needs.	Longer-term (Completed during 2021-2022 school year or beyond)	Chief Information Officer (CIO)	
Security Investment The I&O workstream recommends that FCPS investigate cloud-based two factor authentication for access control. FCPS should review encryption for sensitive data in storage (at rest) and in transit.	Longer-term (Completed during 2021-2022 school year or beyond)	CISO and Department of Information Technology	



Backup Slides

Infrastructure and Operations

Superintendent's
Technology Advisory
Council

June 3, 2020



Technology Support Structure - Covid Response



- Distributed over 2,000 MiFi devices and over 17,000 laptops
- Staff provided onsite support for critical needs
- IT Support Staff leveraged a customer call back process supported by RequestIT to improve support and customer care
- Added cloud management capabilities to manage devices offsite, providing operating system patches to remote devices
- Delivered application and video conferencing training sessions virtually to School Board members, Leadership Team, and teachers and school staff
- Adapted hardware repair and loaner system to support student needs within Health Department guidelines, so that students would not be without a device

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Technology Support Structure - Covid Response



- Communicated with Internet Service Provider (ISP) vendors during the week of March 16 to make them aware of the FCPS plan to use distance learning and remote work so that they were aware of traffic changes on our circuits
- Staffed the Network Operation Center throughout the Covid19 closure by technicians and network support personnel, to monitor critical internet circuits and network infrastructure, given the dependency on the network for remote work capabilities and Virtual Private Network functionality

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Incident Volume since March 13 closure:

- **28,278** out of **30,728** incidents and service requests resolved
 - includes **13,013** out of **13,794** parent tickets resolved
- **92.2%** of all incidents resolved within the established 5-day SLA
- **97.7%** Customer Satisfaction Score

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Industry News on the rise of Cyber Attacks

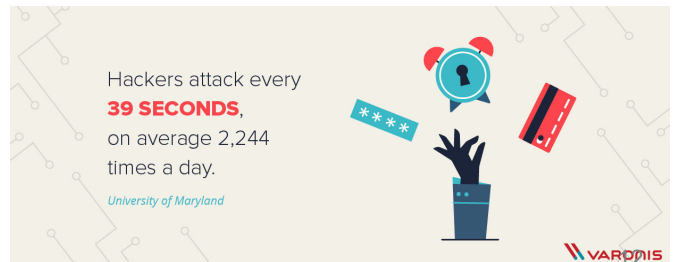
McAfee, a leading cybersecurity company in the industry noted:

- *External attacks on cloud accounts grew 630 percent from January to April 2020*
- *Overall enterprise use of cloud services increased by 50 percent over the same period*
- *Cisco WebEx, Zoom, Microsoft Teams and Slack saw an increase of up to 600 percent in usage, led by the education sector, over the same period*

Source: McAfee website - https://www.mcafee.com/enterprise/en-us/about/newsroom/press-releases/press-release.html?news_id=20200526005883

Varonis, a leader in cybersecurity solutions developed a report on cybersecurity statistics and stated:

"The increasing amount of large-scale, well-publicized breaches suggests that not only are the number of security breaches going up — they're increasing in severity, as well."



Source: <https://www.varonis.com/blog/cybersecurity-statistics/>

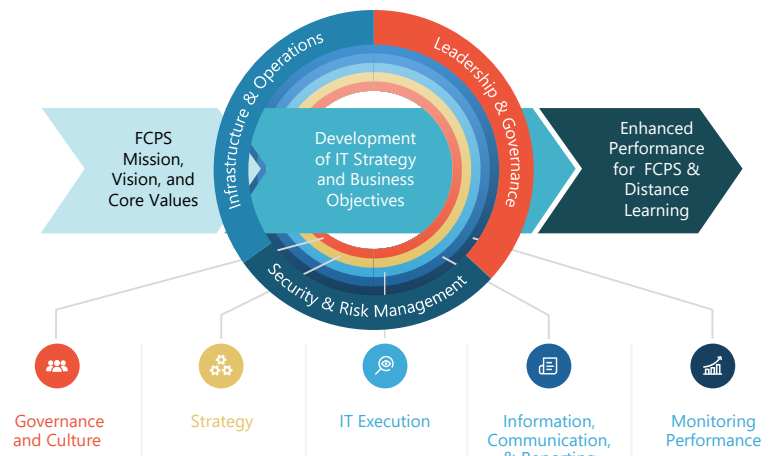
Infrastructure & Operations Workstream

Approach & Focus areas

The following slides are the product of the Superintendent's Technology Advisory Counsel Infrastructure and Operations workstream to provide guidance and leadership on infrastructure and operational issues.

Members of the Infrastructure and Operations workstream met with FCPS's IT Department to understand:

- **Current Situation:** What issues contributed to FCPS's slower start for distance learning
- **Investigate:** Research underlying IT concerns by conducting technical deep dives with FCPS's IT Department to identify process and technology gaps that may result in future outages or delays
- **Recommendation:** Develop next steps and suggested timing of recommended actions to mitigate identified risks to prevent future outages or delays in providing distance learning to FCPS



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Infrastructure & Operations Workstream



FCPS IT Leadership Roles

Current Situation	<ul style="list-style-type: none"> • CIO role is vacant and chief information security officer (CISO) role does not exist • IT and business are not aligned on priorities • Key system decisions are made without a governance process or IT involvement • Limited vision and strategy on direction of IT within FCPS due to decision-making framework • IT is not an equal partner with other departments and instructional needs • Multiple technology functions are present in other departments not under the control of IT
Next Steps	<ul style="list-style-type: none"> • Create business case and obtain funding approval for CISO role (ASAP) • Staff CIO and CISO roles with progressive IT leaders with cloud experience • Centralize IT organization, budgets and applications reporting directly to CIO • Budget CISO separately who works closely with CIO but reports to Superintendent (ASAP) • Develop a 3-5 year roadmap for critical infrastructure and applications (2021) • Calibrate IT titles and compensation to align with industry standards, identify short term and long term resource needs (2021)
Risk	<ul style="list-style-type: none"> • Liability created for FCPS leadership without critical roles in place • FCPS students and faculty may experience distance learning issues by delaying IT vision, strategy planning, and implementation of recommendations • FCPS stakeholders will see limited value from a continued decentralized IT function and inconsistent standards due to duplicative and outdated solutions

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Infrastructure & Operations Workstream



Cyber Security and Risk Management

Current Situation	<ul style="list-style-type: none"> Chief Information Security Officer (CISO) role does not exist Limited IT security resources to assess, monitor, investigate, and respond to threats FCPS Security Policy (regulation 6225) is based upon NIST 800-171, with adaptations to fit into the K12 environment FCPS Security Profile is used to provide application-level security standards used for application assessment process IT has created a security program, but lacks the funding and CISO-level management, decision-making, and communication ability to impact security for the entire organization Office of Auditor General audit in 2017 found the program to be consistent with established industry standards
Next Steps	<ul style="list-style-type: none"> Create business case, obtain funding approval and hire CISO role (ASAP) Budget to proactively monitor, investigate, and respond to threats, at least monthly, with critical assets more frequently (2021 budget) Adopt NIST Cyber Security Framework (CSF) for systems and applications to allow a consistent cyber risk discussion at all levels of an organization from Executive/Board, to system owners to CIO/IT, CISO and internal audit functions Identify key third party partners, tools and services to enable FCPS cyber security strategy Establish quarterly Information Security Steering Committee including CISO, CIO, FCPS Executive /Board to align on risk posture, cyber threat landscape, resources, priorities and investments
Risk	<ul style="list-style-type: none"> Inadequately staffing cyber and risk management functions result in vulnerabilities, insider threats that lead to reputational risk, data loss and security and privacy concerns for FCPS stakeholders Lack of a framework (e.g., NIST CSF) results in risk at all levels of the organization

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Infrastructure & Operations Workstream



Application Portfolio Management

Current Situation	<ul style="list-style-type: none"> Proliferation of both on-premise and cloud applications across enterprise, system owners in various departments Maintaining current versions outside of IT department inadequate due to lack of budget, automated migration tools, resources, and lack of prioritization from system owners outside of IT to apply consistent security standard. Applications tend to be highly complex and customized to meet user requirements, which makes maintenance, security updates, and disaster recovery challenging
Next Steps	<ul style="list-style-type: none"> With the system owners, CIO/IT would lead an effort to: <ul style="list-style-type: none"> Build an inventory of all applications in use by FCPS Assign tiers to all applications. Tiers will define service levels, infrastructure/security requirements, internal and external support models. Focus on tier 1 / business critical applications. Define costs, usage, support, version, criticality, redundancy and rank order Develop plan to address application inventory to migrate to cloud over time Eliminate redundant applications and consolidate into enterprise systems Establish list of approved software and enforce with technology
Risk	<ul style="list-style-type: none"> Increased security data breaches and incidents due to unknown assets/resources Lack of maintenance and support decreases user experience, scalability and increases vulnerabilities Applications may not be aligned to instructional and/or administrative purpose Increased costs of unused or unapproved applications

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Infrastructure & Operations Workstream



Data Center, Network & Infrastructure

Current Situation	<ul style="list-style-type: none"> Primary FCPS Data Center requires upgrades to outdated infrastructure. Lack of funding has inhibited the use of cloud infrastructure for server and systems for disaster recovery Core network services, server backups and storage are redundant between data centers.
Next Steps	<ul style="list-style-type: none"> Adopt a "Cloud First Strategy" and migrate to Cloud Service Provider(s) (CSP) and solicit input from CSP Investigate cloud-based two factor authentication for access control. Review encryption for sensitive data in storage and in transit. Estimate investment for cloud migration. Provide to FCPS leadership for approval. Define cost, governance, security, risk, continuity and compliance factors
Risk	<ul style="list-style-type: none"> Increased maintenance/upgrade cost of outdated equipment and software. Limited availability to scale with current data centers. For certain systems, FCPS data centers make it difficult to recover from system-level disasters quickly due to system complexity, size, resources and funding challenges. Hackers target Legacy software and hardware Current applications and systems in data centers are not prepared for higher utilization and peak periods

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Infrastructure & Operations Workstream



Business Alignment Strategy

Current Situation	<ul style="list-style-type: none"> Decentralized IT department functions allow for FCPS business units to develop systems over time with lack of consistent coding, security, modernization, and customization standards Decentralized IT department functions make it difficult for IT to provide ongoing support and maintenance of these applications (as described in the previous slide)
Next Steps	<ul style="list-style-type: none"> Centralize new application and systems budgets under CIO, for visibility, accountability (with system owner for functionality and user experience), oversight and management purposes For new applications, CIO/IT will work with system owners for requirements (what is needed) and CIO/IT will determine best practices (how to build) and budget required to build, operate and maintain a Cloud First Strategy that works for the benefit of FCPS stakeholders. Deploy line of business specific steering committees with department leaders to align functional areas with IT – e.g. Finance / IT Steering Committee, HR / IT steering committee
Risk	<ul style="list-style-type: none"> Misaligned organizational system needs, priorities, and budget Existing IT structure not optimized to meet FCPS business objectives Lack of direct oversight by Division Superintendent impedes critical decision-making

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Infrastructure Backup Slides

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Data Centers

Wilton Woods Center Network Operations Center (NOC)

- Primary data center housing enterprise-level server, storage, and network equipment and circuits
- 5,000 square foot environmentally-controlled data center facility
- 24/7/365 operational facility, continually staffed by NOC personnel
- Monitoring and escalation to support teams; provide 24/7 Tier 1 after-hours service desk support
- Redundant street power, generators, and power conditioning systems**.
- Monthly maintenance and testing performed on NOC power infrastructure systems, in conjunction with Facilities.

**FY21, UPS units scheduled to be replaced.

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Data Centers



Willow Oaks Network Operations Center (backup NOC)

- Secondary data center housing redundant enterprise-level server, storage, and network equipment and circuits
- 1,000 square foot environmentally-controlled data center facility located within the Willow Oaks Center Administrative Building.

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Network



Wide-Area Network (WAN) and Core Network

FCPS maintains an institutional network (I-Net), in conjunction with County resources and staff.

- WAN and Data Centers
 - Fiber network, dual-ring provides high availability, connectivity to all sites.
 - Managed by FCPS network staff, long term planning and refresh equipment funding co-managed with County I-Net staff; fiber-related outages and breaks supported by Cox Communications
 - Redundant WAN, Internet and voice circuits at Wilton Woods and Willow Oaks
 - Enterprise network security appliances at both data centers designed to protect against external threats and for network management.
 - Bandwidth management in place to control non-educational application usage
 - Intrusion detection systems in place to block nefarious and malicious attacks
 - Denial of service vendor in place to protect network against attacks.

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LAN and Wireless Network



Local-area (LAN) and enterprise wireless users designed to provide secure, reliable connectivity for instructional and administrative purposes. Uptime FY20 = 99.86%

- Local Area and Wireless Network
 - Enterprise-wide wired and wireless network available in all school and administrative buildings
 - **Supports 145,000+ daily concurrent wireless users**
 - **257,372 total BYOD and Guest devices registered in FY20**
- Voice-over-IP Infrastructure
 - Cisco VoIP systems, redundant, active-active infrastructure at both data centers (high availability); 25,000+ VoIP phones deployed
 - Implemented public address (PA) function over VoIP system at locations w/out PA capability

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Servers, Data Storage and Archive



Enterprise server and data storage backup and replication services.

- Server virtualization in place for approximately 770 out of 1,100 servers in NOC.
 - Efficient utilization of NOC resources - space, cooling and power
 - Allows for ease of replication and restoration for disaster recovery
- All data on mass storage appliances in NOC are replicated to Willow Oaks daily
- Virtual and physical server data backed up to Willow Oaks and Azure cloud
- Monitoring of backups conducted by NOC, 24/7
- Daily, weekly, monthly and yearly backups performed and monitored.

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Cloud Services

Infrastructure-as-a-Service (IaaS) and Software-as-a-Service (SaaS) offerings have allowed us to expand our data center footprint into cloud services, with data backup and archive being the primary usage.

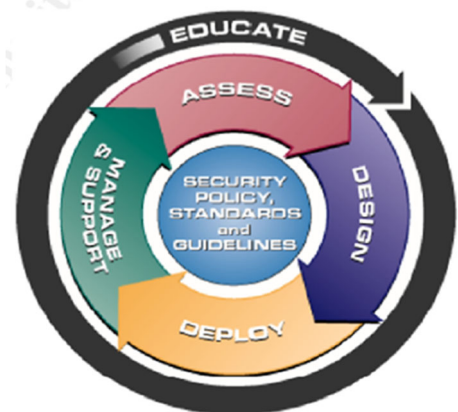
- Utilization of Microsoft cloud services for virtual servers and offsite data backups
- Exchange Online environment implemented in 2016
- Increased utilization of Microsoft Teams
- Microsoft OneDrive migration in progress
- Sharepoint Online migration planned
- Use of multi-factor authentication (MFA) for Azure administrative accounts and Outlook Web Access (OWA)
- Cloud Management Gateway used to extend control to offsite domain computers (Covid-19)

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Data Security

Our Values:

- **Continual improvement:** Security standards and best practices keep changing
- **Collaborative approach:** Security analysts need to be solution architects. We believe in upholding the security standards; equally important is for security to understand the both the technology and the business need, and provide solutions and recommendations that meet both requirements.
- Security is about people, policy, process, and technology, in that order



Security Life Cycle

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Data Security



Unique K-12 environment challenges for Information Security:

- *Unique regulation compliance environment*, FERPA and IDEA
- *Unique business objectives and organizational culture*
 - Unlike a government agency or business entity, an educational institution calls for a relatively open and dynamic environment
- *Unique user base*
 - Majority of the users are students who are learning to be responsible digital citizens, which makes the collaboration between IT and instructional team critically important
- Resource and funding restrictions inherent in the K-12 environment

FCPS Information Security Program based on industry best practice framework ISO 27002 and uses NIST 800-171 as the initial template, with adaptations to the educational environment.

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Data Security



Written policy and guidelines provide security framework and guidance to the organization...

- FCPS Information Security Policy (based upon NIST 800-171)
 - Defines the objectives, roles and responsibilities, and the security principles and practices of FCPS.
- FCPS Security Profile
 - Serves as the application security standards; embedded in both RFP and technical assessment processes.
- Technical Guidelines
 - Email Security, User Storage, G Suite for Education Data Security, to name a few.
- Technical Bulletins
 - More detailed configuration standards and procedures followed by operational teams.
- Security Awareness
 - Annual AUP acceptance and Computer Security Basics video as part of password change process through Identity Management system.

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IT standard processes and procedures to support data security and disaster recovery efforts, and help mitigate risk.

- Configuration Management
 - Infrastructure and system inventory tracking in place.
- Change Management:
 - Defines process and procedures for the submittal, review and approval of infrastructure and system changes by the Change Advisory Board (CAB).
- Architectural Review Committee
 - Works in conjunction with change management process to review any changes requiring changes to the perimeter firewall and/or network.

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- Investigations, Support, and Monitoring
 - Incident Handling and Investigations
 - Student health and safety emergencies, sexting-related incidents, employee and student AUP violations, data breaches, and malware activities and network interruptions.
 - Coordination, collaboration, and communication with schools, administrators, central office staff, Legal, Fairfax County Police Department and other outside agencies.
 - Vulnerability Assessments
 - Annual internal and external vulnerability assessments
 - Proactive networking monitoring and log aggregation/analysis using Security Information Event Management system (SIEM).
 - Regulation compliance and security consultation services.

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Data Security



- Current Challenges

- Limited resources and personnel; team is often dedicated to handling incident investigations and responding to daily issues working with operational teams.
- Due to business and user requirements, FCPS systems are often highly customized and complex, which are considerable challenges to effective security (and disaster recovery) best processes and practice.
- System owners often do not consider data security as a priority over functionality.

- Improvements being Considered

- Early detection capability and smart incident response for malware infections. While we have recently implemented SIEM, and have configured the system to collect logs from various sources; our next steps are to develop and implement use cases, which is needed for detection and smart response capabilities on the FCPS network.

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Data Security



- Highly available and redundant core network and system infrastructure between primary and secondary data centers.
- Backups and redundant storage data located at Willow Oaks and Azure Cloud.
- Complexity and size of systems presents challenge to provide standby and ready on-premise hardware/environment.
- Highly customized environments present a challenge for migration to cloud.
- Identify systems to move to cloud to improve availability and resiliency.
 - Define strategic goals and objectives.
 - Solicit industry-standard expertise from cloud solution providers.
 - Create a cloud technology roadmap for existing applications and systems.
 - Define cost, governance, security, risk, business continuity, and compliance factors.

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Disaster Recovery



*By implementing networks and systems that are **redundant and highly available at both primary and secondary data centers**, we have been able to address some of our disaster recovery needs...*

- Internet connectivity and content filtering
- Wide Area Network connectivity
- Voice-over-IP circuits and systems
- Active Directory Domain Services
- Virtual Private Network (VPN)
- Domain Name Services (DNS) name resolution
- NOC Load Balancer infrastructure
- Redundant storage systems, and virtual backup tape libraries
 - Backup data located at Willow Oaks and Azure cloud (Technical Bulletin 405)
- MyTime, IDM, and SIS redundant server infrastructure
- FCPS 24/7 backup authentication services hosted in cloud
- VMWare environment allows for restoration of virtual servers at backup NOC

Disaster Recovery



- Challenges
 - Complexity and size of systems presents challenge to provide standby and ready on-premise hardware/environment.
 - Limited space and resources at Willow Oaks backup data center to house equipment for stand-by system hardware.
 - Not all systems are capable of server virtualization or utilizing cloud resources. Buy-in from application/system owners is required to move to a non-physical platform due to possible migration cost, business need and/or desire to stay on-premise.

Foundation of FCPS IT Service Design



- Began to adopt ITIL Practices in 2005 to meet FCPS instructional and business needs:
 - Service Desk, Incident Management, Change Management
 - Service Catalog Management, Request Fulfillment, Service Asset Management
 - IT Service Continuity Management, Information Security Management
- Trained key staff in ITIL v2, v3 and ITIL 4
- Leveraged Help Desk Institute (HDI) training for key staff (HDI practices are ITIL based and support our customer experience goals)
- Implemented RequestIT Service Management System for Incident, Change, Asset Management and Information (including 280 discrete IT Services).
- Established IT Service Management Governance
- Established a Change Advisory Board (CAB) to review / approve Normal changes biweekly

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Additional Backup Slides About IT Services

Technology Support Structure



Layered and leveled support model

- **On-site Technology Support Specialists (TSSpecs)** serve on-site at schools and administrative centers to provide technology support and services on all FCPS approved technologies
 - Note that School-Based Technology Specialists (SBTS) are also stationed at schools and provide professional development to teachers on embedding technology in instruction.
- **IT Service Catalog with Level 0 support** provides access to IT Service, Support and Information including Level 0 self-help user guides and additional information (Knowledge)
- **IT Service Desk** provides Level 1/2 and advanced Service Desk support and fulfills enterprise wide Services, Change Requests and coordinated problem resolution via RequestIT, email, phone, walk-in and remote desktop support
- **Functional Application Support Team (FAST)** provides Level 2 application deep-dive support via email and phone in addition to testing changes/updates, providing documentation and training

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Technology Support Structure



- **RequestIT** - Ticketing and Incident Management system to request IT assistance. Automated routing to appropriate IT Support Partners for assistance with:
 - Break/fix
 - Security/investigation
 - Infrastructure issues (i.e. network functionality)
 - Change Requests
 - Malware Response and Remediation
 - Internet Content Filtering (LightSpeed)
 - Computer System Management (Detailed on next slide)
 - Various IT Service Requests (280 discrete IT Services)



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Technology Support Structure



- **Centralized Computer Management** - managing and pushing updates, patches and applications
 - Comprehensive Client/Server Configuration Mgmt (Microsoft Endpoint Manager)
 - Malware Prevention, Remediation, and Reporting (McAfee)
 - System Image, Application and Group Policy Deployment
 - Detailed client reporting
 - Off Premises Cloud Management
- **In-house Repair Services**
 - Depot-based intake and parts management facility for hardware
 - On-site repair for A/V, network, server, and Life Systems equipment
 - Sixty security investigations conducted since the start of distance learning.

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Technology Support Structure



- **Over 220,000 Incidents and Service Requests Resolved Annually**
 - 93.95% percent within SLA
 - 96.4% average customer satisfaction rating
- **Service Request categories include:**
 - Account processing and support
 - Student Password Management (includes self-service)
 - Technology Asset Management
 - Software Support, Licensing, Deployment and Delivery
 - Reports

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Technology Support Structure - Covid Response



- On-site support transitioned to remote work, receiving tickets and resolving issues via remote access
- Distributed over 2,000 MiFi devices and over 21,000 laptops
- Staff provided onsite support for critical needs including VIPs
- All IT Support Staff leveraged a customer call back process supported by RequestIT to improve support and customer care
- Adapted Break/Fix model and loaner system to support student needs within Health Department guidelines
- Added cloud mgmt. to Microsoft Endpoint Manager to manage devices off-prem
- Delivered application training virtually for wide audience - School Board, Teachers, LT teams
- Internal support teams were able to transition resources to meet surges with Parent, Online Resources access and Virtual Conferencing tools

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Technology Support Structure - Covid Response



Remote Support Challenges:

- Existing phone system made providing a call-in number prohibitive with remote work.
 - Work-around: Clients submit tickets with a call-back number
- Supporting *students* remotely provided logistical challenges with interaction.
 - Work-around: Engage teacher as first POC and intermediary with students
- Supporting parents remotely provided logistical challenges with interaction.
 - Work-around: Parents can request support via online web forms, as well as access some self-help resources

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Overall Tech Support Goals



1. Review needs and gaps with phone system to provide solution for remote service desk personnel to receive direct calls.
2. Implement synchronous chat tool for staff support as a supplement to phone.
3. Review and implement options for providing more direct remote support to students.
4. Improve availability of self-help resources for staff, students and parents/families.
5. Review needs and gaps to provide better Level 0 and 1 technical supports to families.
6. Address need for multi-lingual support and potential after hours support.
7. Review and address resource needs to provide technical and repair support for an increase in device inventory.

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Hardware Repair Services



- Field Services
 - Audio-visual equipment including interactive boards, projectors, two-way radios.
 - Computing devices including laptops, desktops, printers, iPads.
 - Field and depot technician model.
 - FCPSON devices are sent to the computer repair facility via FCPS Pony service for repair and delivered back to schools.
 - Manages copier vendor for all school and administrative office copiers (2,200+)
 - Manages parts department for IT for hardware repairs. 190K+ parts dispersed annually.
- Field Information Systems
 - Life-safety systems including fire alarm, security and door access, public address, clocks and bells, and cable television infrastructure.
 - Administration of Voice-over-IP system; moves/add/changes, user settings, phone devices.
- Current Challenges
 - **Proliferation of student devices requires additional technicians and resources for hardware repair.**

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Information Technology Overview

IT Support Services

- IT Service Desk
- ITFASTeam
- Project Management
- Integrated Digital and Technology Services
- Teaching Materials Preparation Center
- Technology Support Service Center (TSSpecs)
- Desktop Management
- Technology Program Management

Enterprise Information Services and Assessment

- Database Services
- Business Systems
- Student Systems
- Document Management and Records Center
- Instructional Systems
- Decision Support
- Technology Architecture and Assessment
- Enterprise Applications such as Identity Management, Lawson, UConnect, Student Information Systems (SIS)

IT Operations

- Network Services
- Life-Safety Systems
- Voice Systems
- 24/7 Network Operations Center
- Data Security
- Servers, Storage and Backups
- Cloud Infrastructure
- Hardware Repair Services
- Virtual Private Network (VPN) Services
- Exchange Email

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Improvements Along our ITCSI Journey

2006 – 2010	2010 – 2013	2014 –2015
<ul style="list-style-type: none"> ✓ Assessed core ITIL processes including Incident, Problem, Change and the Service Desk function ✓ Launched ITCSI focused on improving core processes ✓ Implemented RequestIT ✓ Launched Self Service in RequestIT ✓ Improvements to Change Management ✓ ITIL v3 Assessment via <u>PinkScan</u> tool 	<ul style="list-style-type: none"> ✓ Updated Continuity and Disaster Recovery Plans ✓ Redesigned Service Catalog to improve user experience ✓ Established Joint OPS as CAB (Change Mgmt.) ✓ Improved Incident, Change and Request Fulfillment ✓ Improved /documented Availability and Capacity Mgmt. ✓ Documented SLAs in the IT Service Catalog 	<ul style="list-style-type: none"> ✓ Improved Software Change Management using RequestIT ✓ Est. standard support and request fulfillment models ✓ Improved configuration and asset management using (ADDM discovery). ✓ Project to implement Asset Mgmt. using RequestIT (ACIS) ✓ IT Staff Certified as ITIL Expert

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Improvements Along our ITCSI Journey



2015 – 2017	2018–2020
<ul style="list-style-type: none"> ✓ Evaluated and made recommendations in the area of Service Design to strengthen process around new and changed services ✓ Leveraged Service Management Governance biweekly meetings and Change Management Process to make incremental improvements to RequestIT, the IT Service Catalog and related business and IT process ✓ Certified two additional staff members as ITIL Experts ✓ Developed and deployed the RequestIT Asset system 	<ul style="list-style-type: none"> ✓ Certified key staff member as ITIL 4 Managing Professional ✓ Completed evaluation of RequestIT (Remedy System). Upgrade was recommended by vendor. ✓ Developed <u>FCPSOn</u> capabilities in RequestIT including Asset Check in/out, break/fix management and a more streamlined process for <u>FCPSOn</u> device support ✓ Launched project to upgrade and improve RequestIT to include improved problem management, knowledge, chat and an overall improved customer support experience

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Superintendent's Technology Advisory Council

Professional Development and
Human Capital



Richard Culatta
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Workstream Lead



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Jay Nocco
Director of Professional Growth
and Career Development
FCPS



Derek Kelley
Coordinator, instructional Technology
Integration
FCPS

How Might We...

How might we ensure *all* FCPS teachers are prepared to use technology to **support learning**, **increase engagement**, and **create an equitable learning environment**?



Setting the Stage

Key Trends in the Field

- Recognizing that "tool training" is *not* the same as effective technology training
- Learning needs determine IT priorities
- Blurring the lines between the "office of instruction" and "instructional technology"
- Professionalizing the role of instructional tech coaches
- Embedding instructional technology in *all* content professional learning

Case Studies



Professional Learning Programs at FCPS

Instructional Services

School Based Information Technology (SBTS)

Instructional technology coaches (full time at MS, HS, and ES over 550). Evaluated by principal

Curriculum Based Inservices and Cohorts

Ad hoc training focused on a variety of topics or content

FCPSOn Professional Learning

Develop leadership on instructional technology, literacy and Portrait of a Graduate for teachers in 1:1 schools

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Office of Professional Learning and Family Engagement

Great Beginnings

Intensive week-long summer Induction program and year long support for new teachers and those new to Fairfax
*(not all teachers participate)

Instructional Coaches

School based leaders supporting teachers with job-embedded PD focused on the instructional cycle

FCPS Academy/North Tier Courses

PD for educators offered in 3 semesters (Fall, Spring and Summer) after school hours and during the summer

The Good News



- Highly competent team offering a wide variety of professional learning opportunities
- Instructional technology coaches (SBTS) in place in most schools
- The challenges are clear and addressable

The Bad News



- **No common vision** for using technology to support learning
 - Inconsistencies/lack of alignment across PD programs
 - Inconsistencies in teacher evaluation/accountability
- **Inconsistent implementation**
 - PD around effective tech use varies greatly from school to school (not a perceived as district-level priority)
 - SBTS roles vary greatly from school to school (over 50% of elementary schools use SBTS for purposes other than tech coaching).
 - PD needs to be job-embedded
- No clear expectation around tech expertise for teacher prep programs that supply FCPS educators
- No district-wide online Professional Learning Networks



Reset 1: District Vision

Professional Learning Workstream

- Develop a clear vision/language for how tech will be used in the district to support learning
- Align PD programs need to this common vision/language
- Align teacher evaluation to this vision/language
- Align expectations of pre-service programs to this vision
- Articulate basic competencies for teachers and students (e.g. Digital Citizenship refocus)



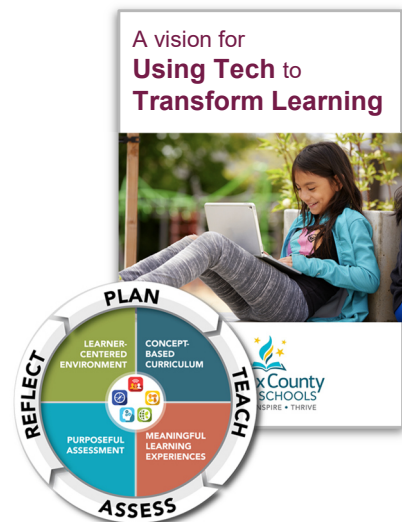
Reset 1: District Vision

Professional Learning Workstream

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- Align PD programs need to this common vision/language
- Align teacher evaluation to this vision/language
- Align expectations of pre-service programs to this vision
- Articulate basic competencies for teachers and students (e.g. Digital Citizenship refocus)

Cautions:

- Does not need to be a long document
- Should not take a year to develop
- Should not mention software
- Cannot be a product of the IT or IS shops



Reset 2: Schoology Rollout

Professional Learning Workstream

- Software provides a great opportunity to drive change
- Leverage Schoology as an opportunity to reset expectations for learning
- Tie roll-out to learning goals
 - Increase pilot size based on school readiness



Reset 2: Schoology Rollout

Professional Learning Workstream

- Software provides a great opportunity to drive change
- Leverage Schoology as an opportunity to reset expectations for learning
- Tie roll-out to learning goals
 - Increase pilot size based on school readiness



Cautions:

- Don't treat this like just a Blackboard replacement
- 1-year roll-out is too long

Reset 3: SBTS Program

Professional Learning Workstream

- Role of ed tech coach (SBTS) needs to be consistent
- SBTS training needs to be formalized and externally validated
- Evaluation of SBTS should be consistent
- Align work with Instructional Coaches



Reset 3: SBTS Program

Professional Learning Workstream

- Role of ed tech coach (SBTS) needs to be consistent
- SBTS training needs to be formalized and externally validated
- Evaluation of SBTS should be consistent
- Align work with Instructional Coaches

Cautions:

- Don't reinvent the wheel (look at districts that are ahead of FCPS)
- Leverage existing standards/models



Recommendations (Near-term)

Professional Development and Human Capital

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Take advantage of the summer break to provide basic online learning foundation to all FCPS faculty	Near-term (Completed by the start of the school year 2020-2021)	Office of Professional Learning and Family Engagement	
Establish a clear vision for the role of technology in supporting the learning goals of the district.	Near-term (Completed by the start of the school year 2020-2021)	District Leadership Team	
Develop resources to support planning of all Return to School PD that would include leveraging technology	Near-term (Completed by the start of the school year 2020-2021)	Office of Professional Learning and Family Engagement	
Adjust the Schoology roll-out communications, instructional expectations, and timeline to align with new division wide vision for instructional technology	Near-term (Completed by the start of the school year 2020-2021)	Schoology Project Team	

Recommendations (Mid-term)

Professional Development and Human Capital

Recommendation	Recommended Timeframe	FCPS Owner(s)	Highest Priority
Reset SBTS program with singular goal of realizing district tech vision (consistent role, consistent training, formalized evaluation, etc.)	Mid-term (Completed during the 2020-2021 school year)	Dr. B / Human Resources	
Align all FCPS PD programs with district tech vision/language/principles (e.g. tech PD not separate from instructional PD)	Mid-term (Completed during the 2020-2021 school year)	Office of Professional Learning and Family Engagement	
Develop system to recognize teacher professional skillsets (e.g. micro-credentialing)	Mid-term (Completed during the 2020-2021 school year)	Office of Professional Learning and Family Engagement	
Establish clear expectations for teacher prep institutions providing teacher candidates to FCPS aligned to district tech vision	Mid-term (Completed during the 2020-2021 school year)	Instructional Services	
Align Digital Citizenship goals and Acceptable Use Policy to district tech vision	Mid-term (Completed during the 2020-2021 school year)	Instructional Services	
Create digital Professional Learning Networks for peer-based professional learning	Mid-term (Completed during the 2020-2021 school year)	Instructional Services	

