ACPS
Alexandria City Public Schools

Technology Plan

Infrastructure — Reliable, Scalable, Transparent, Resilient

Professional Learning — Adaptive, On-going, Relevant

Safety, Security, Privacy — Systems, Training, Policies

Learning Environment — Accessible, Engaging, Innovative, Equitable

Alexandria City Public Schools

2023-2028

Table of Contents

I. Background

A. Purpose of the ACPS Technology Plan

The purpose of the ACPS Technology Plan is to support the Division's 2025 Strategic Plan and its mission to ensure success by inspiring students and addressing barriers to learning. The Technology Plan is one component of how the Division aligns work and resources to achieve that mission. The ACPS Technology Services Department leads and manages the implementation of the technology plan.

B. Planning Process

ACPS used a collaborative process to create a technology plan that supports teaching and learning from a variety of perspectives. The Technology Services Leadership team led the planning efforts through committee work, focus groups, and consulting with already established staff groups. The following groups were specifically created to support this work:

ACPS Steering Committee
The ACPS Steering Committee was composed of the Chief, or their designee, from each department to offer guidance on the process, and provide their perspectives on areas of focus for the ACPS Technology Plan. This committee represented their colleagues and departments as they provided ideas and feedback in the drafting of the plan's goals, results, and actions.

Staff Focus Groups
Focus groups were led by an external consultant to solicit feedback from ACPS employees. This included instructional staff, support staff, and school leaders. Multiple opportunities were provided for staff to participate, including soliciting digital feedback via a Google Form and in-person and virtual focus groups. Participation included staff from a variety of settings within the division, including central office and schools spanning early childhood to high school.

Student Focus Groups
Student focus groups were led by Technology Integration Specialists to solicit feedback from students across the division. Participation included students from all elementary, middle, PreK-8, and high schools. Students provided insights on their

current experience with technology in ACPS and identified future technology needs and wants for their learning.

C. Goal Areas and Alignment with the ACPS 2025 Strategic Plan

The 2023-2028 ACPS Technology Plan has four goal areas:

- Learning Environment
- Infrastructure
- Safety, Security, and Privacy
- Professional Learning

The table below maps the Technology Plan Goals to the ACPS 2025 Strategic Plan:

Goal Area	ACPS Technology Goal	ACPS 2025 Goal
Goal I: Learning Environment	Provide accessible, engaging technology resources to create an environment for equitable and innovative teaching and learning.	• Systemic Alignment • Instructional Excellence • Student Accessibility and Support • Strategic Resource Allocation • Family and Community Engagement
Goal II: Infrastructure	Provide a reliable, scalable, transparent, and resilient infrastructure that facilitates the operation of the school.	• Systemic Alignment • Instructional Excellence • Student Accessibility and Support • Strategic Resource Allocation • Family and Community Engagement
Goal III: Safety, Security, and Privacy	Minimize security risks through the use of systems, training, and policies.	• Strategic Resource Allocation
Goal IV: Professional Learning	Provide multiple models of professional learning that provide growth and development for all staff.	• Systemic Alignment • Instructional Excellence • Strategic Resource Allocation

D. Technology Plan Conceptual Framework

The conceptual framework for the ACPS 2023-2028 Technology Plan organizes the four Technology Plan goals into a visual representation of how the plan supports the Division's mission. The ACPS Learning Environment (Goal I) is at the core of the graphic and is inspired by the 2025 Strategic Plan. Infrastructure (Goal II), Safety, Security, and Privacy (Goal III), and Professional Learning (Goal IV) surround the core and work together to support the learning environment. Taglines surround each goal to highlight key areas of focus within the goal.
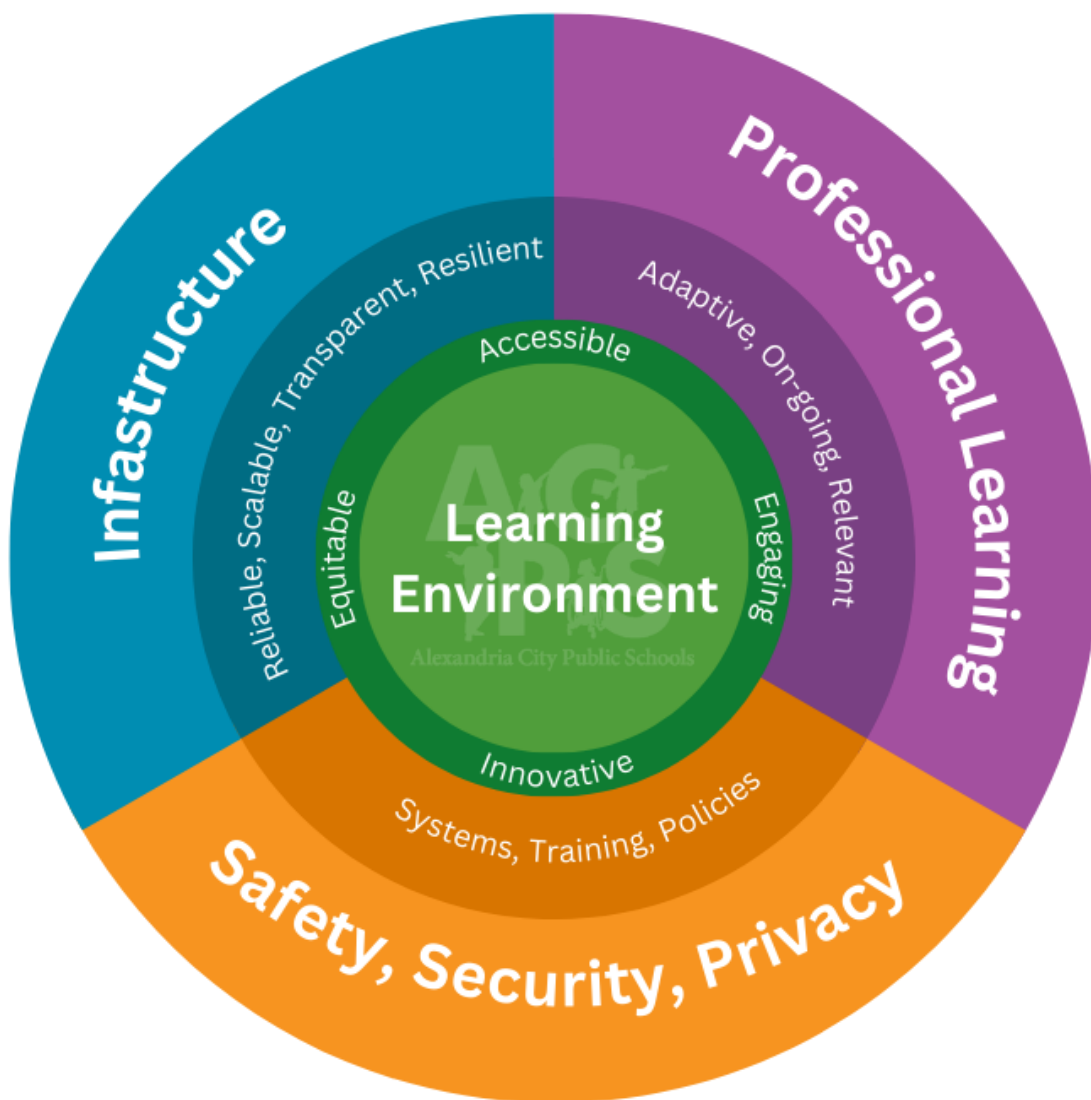
II. Goals

A. Goal Descriptions

Goals were developed based on division-needs and state guidance, as well as standards from national and international professional organizations. Below are the goals in each area with supporting documents.

Goal 1: Learning Environment
Provide accessible, engaging technology resources to create an environment for equitable and innovative teaching and learning.

Taglines: equitable, accessible, engaging, innovative

Supporting Professional Standards for Goal 1:
International Society for Technology in Education (ISTE) Standards for Students
International Society for Technology in Education Standards for Educators
International Society for Technology in Education Standards for Administrators

Goal 2: Infrastructure
Provide a reliable, scalable, transparent and resilient infrastructure that facilitates the operation of the school division and supports greater access and equity.

Taglines: reliable, scalable, transparent, resilient

Supporting Professional Standards for Goal 2:
Future Ready Schools
Institute of Electrical and Electronics Engineers, Inc. (IEEE)
American National Standards Institute (ANSI)

Goal 3: Safety, Security and Privacy
Minimize security risks through the use of systems, training, and policies.

Taglines: systems, training, policies

Supporting Professional Standards for Goal 3:
K12 SIX Essential Cybersecurity Protections
National Institute of Standards and Technology (NIST) Computer Security Incident Handling Guide (800-61)

[National Institute of Standards and Technology (NIST) Guide for Cybersecurity Event Recovery (800-184)](#)
[US Department of Education Privacy Technical Assistance Center (PTAC)](#)
[US Department of Homeland Security, Cybersecurity & Infrastructure Security Agency (CISA) Ransomware Response Checklist](#)

Goal 4: Professional Learning
Provide multiple models of professional learning that provide growth and development for all staff.

Taglines: adaptive, on-going, empowering

Supporting Professional Standards for Goal 4:
[Learning Forward Standards for Professional Learning](#)

B. Results and Actions

Each goal is supported by results and actions. The results identify what is to be accomplished through the plan. The actions identify the work to be done to achieve the result and the ultimate goal.

In summary, the below answers the following questions:
- What do we want to accomplish?
- What action will be taken?

Technology Goal I: Learning Environment

Provide accessible, engaging technology resources to create an environment for equitable and innovative teaching and learning.

Result 1	Students and staff will have equitable access to resources that support engaging and innovative learning.
Actions	1.1 Provide equitable hardware for students and staff across division. 1.2 Provide equitable division-wide software/applications, including a learning management system (LMS), course management tools, curricular support, and assessment systems. 1.3 Support the division with access to skilled technology employees. 1.4 Ensure that staff and students have access to a wide variety of high quality instructional technology tools to meet diverse learning needs. 1.5 Encourage appropriate staff use of technology resources by maintaining and communicating division-wide expectations to support equitable technology learning environments, in partnership with ACPS leadership.
Result 2	Technology resources will be utilized to enhance the learning and instructional needs of students and staff.
Actions	2.1 Technology Integration Specialists and Curriculum staff will collaborate to purposefully connect the curriculum with innovative and appropriate resources and strategies. 2.2 Leverage outside partnerships to support the implementation of the VA Computer Science Standards. 2.3 Integrate strategies, processes, and resources for blended learning and technology integration into ongoing professional learning. 2.4 Technology resources will be evaluated annually through user feedback and usage reports.

Result 3	Staff will purposefully balance the use of educational technology with face-to-face instruction to enhance and personalize teaching and learning.
Actions	3.1 Communicate division technology use guidelines that support healthy learning environments. 3.2 Staff allow students varied ways to demonstrate their knowledge with and without technology. 3.3 Provide staff professional learning opportunities focused on the intentional leveraging of technology to enhance, not replace, real-life experiences for students. 3.4 Initiate a multi-year advisory group for healthy implementation of technology across different grade levels. 3.5 Provide resources to identify effective blended learning strategies and support teachers and their implementation of blended learning in the curriculum. 3.6 Students have opportunities to take online courses when face-to-face instruction is not feasible.
Result 4	Instruction for students and staff will include a curriculum focused around the rights, roles, and responsibilities of digital citizenship.
Actions	4.1 Leverage ACPS partnership with Common Sense Education for digital citizenship curriculum and resources. 4.2 Staff will integrate Common Sense Education digital citizenship curriculum into their instruction. 4.3 Maintain ACPS' recognition as a Common Sense Media District.
Result 5	Families will have access to ACPS technology resources to support student learning.
	5.1 Parents and guardians will have access to real-time student records, assessment data, and class/course resources. 5.2 Provide parents and guardians with support resources, such as account troubleshooting and information on specific technology tools. 5.3 Provide parents with tools to manage school-provided devices at home. 5.4 Collaborate with the Family and Community Engagement Center and PTAs to offer presentations, focus groups, and workshops regarding technology resources. 5.5 Provide families an overview of the technologies available to students as well as information regarding how students are expected to use the technologies. 5.6 Facilitate and partner with schools, departments, and Common Sense Media to provide family education events.

Technology Goal II: Infrastructure

Provide a reliable, scalable, transparent and resilient infrastructure that facilitates the operation of the school division and supports greater access and equity.

Result 1	Students and staff have equitable access to computing devices and other digital tools.

Actions
1.1 Provide equitable hardware for students and staff across division.
1.2 All classrooms have a technology ecosystem that allows for presentation, collaboration, and engagement.
1.3 Maintain and support telecommunications, network connectivity, and networked tools.
1.4 Provide, manage, and update division-wide software/applications to support the education and business operations.
1.5 Provide digital tools to support real-time communication with students, staff, and families.

Result 2	Students and staff have access to technology and support that enable high quality and reliable access to the Internet and other networks used by students and staff.

Actions
2.1 Provide reliable, universally available on-site Internet access for students, staff, and guests.
2.2 Provide reliable off-site Internet access for students as needed.
2.3 Use security monitoring tools and filters to help ensure reliability and availability of ACPS resources.
2.4 Maintain Responsible Use Policies (RUP) with staff and students to preserve integrity of technical resources.
2.5 Maintain Virginia's Standards of Quality (SOQs) requiring one technology support person and one Technology Integration Specialist per 1,000 students.
2.6 Maintain staffing to support operations and other division functions, including state and federal requirements.
2.7 Maintain student-facing helpdesk support in the secondary schools.
2.8 Maintain all schools and staff with responsive helpdesk services.

Result 3	A reliable and resilient infrastructure is maintained.

Actions
3.1 Annually assess network equipment and make necessary upgrades to maintain network performance, reliability, and manageability.
3.2 Use network security monitoring and practices.
3.3 Maintain industry project management practices.

Technology Goal III: Safety, Security, and Privacy

Minimize security risks through the use of systems, training, and policies.

Result 1	A secured network is maintained and managed for staff and students.

Actions

1.1 Block access to known malicious online content using filtering technology.
1.2 Protect users from email-based scams and fraud with email system content filters.
1.3 Establish safeguards and practices for access to critical internal and external services.
1.4 Utilize Security Event and Incident Management (SEIM) and a Security Operations Center (SOC) for 24/7 security monitoring.

Result 2	Student and staff identities, data, and devices are protected.

Actions

2.1 Keep devices protected and in compliance with security policies.
2.2 Ensure device usage for school remains safe from inappropriate external access.
2.3 Implement multi-factor authentication (MFA) to safeguard against compromised passwords.
2.4 Improve password and account management.
2.5 Minimize risk from vendor tools and services.

Result 3	ACPS network and assets are continuously improved to protect against cyber attacks.

Actions

3.1 Protect against known vulnerabilities through timely patching of IT systems, computers, and equipment.
3.2 Enact policies to regularly backup, archive, and/or delete sensitive data and documents.
3.3 Maintain Cyber Incident Response Policy, plan and playbooks.
3.4 Train to improve cybersecurity awareness.

Technology Goal IV: Professional Learning

Provide multiple models of professional learning that provide growth
and development for all staff.

Result 1	Instructional staff have professional learning opportunities that create an environment for equitable and innovative teaching and learning.
Actions	1.1 Provide access to professional learning that directly supports the use of ACPS instructional technology applications and resources in a variety of formats. 1.2 Develop and annually update a professional learning continuum that develops instructional technology leaders from within the school division. 1.3 Create learning opportunities for school and division leaders to understand, promote, and implement best practices related to the purposeful, effective, and balanced use of resources to support equitable and innovative technology learning environments. 1.4 Address the importance of using technology in a balanced and deliberate manner to promote a healthy student learning environment.
Result 2	All staff have access to professional learning that directly supports the use of operational and business applications.
Actions	2.1 Provide training opportunities for all ACPS staff in the use of job-related essential resources/systems throughout the year. 2.2 Provide staff with flexible access to professional learning opportunities, such as synchronous and asynchronous webinars, self-paced modules, and face-to-face training. 2.3 Provide ACPS leaders with training and tools to execute essential responsibilities.
Result 3	Staff are trained, aware, and utilize ethical techniques for the collection, use, storage, and destruction of data in current, emerging, and future technologies.
Actions	3.1 Train staff around compliance with federal, state and local laws. 3.2 Train staff on procedures and best practices for keeping the ACPS network secure. 3.3 Ensure the appropriate use of data to mitigate risk of misuse, loss or exposure through policies and training on appropriate usage training and policy. 3.4 The division communicates information to families about the collection, use and protection of student data. 3.5 Empower staff to evaluate technologies with curiosity and skepticism.

III. Crosswalk Documents

The purpose of the "crosswalk documents" is to unpack each goal's results in a more practical way. They also maintain evidence towards attainment of the desired results. These documents are meant to be flexible, living-documents that reflect how the division is working towards each result. They will be maintained/adapted annually.

LEARNING ENVIRONMENT

Accessible, Engaging, Innovative, Equitable

Provide accessible, engaging technology resources to create an environment for equitable and innovative teaching and learning.

Result 1: Students and staff will have equitable access to resources that support engaging and innovative learning.

What does it look like?

1:1 device program PreK-12
- PreK-K: Chrome Tablets
- Grades 1-12: Chromebooks

Essential Software
- Student Information System (PowerSchool)
- Learning Management System (Canvas)
- Single Sign On Portal (Clever)
- Productivity and Email Suite (Google Workspace)
- Curricular and Instructional Support Tools (e.g., BrainPOP, Nearpod, Discovery Education, WeVideo)

Skilled Technology Teams
- Technology Integration Specialists
- Infrastructure and Support
- Education and Business Applications

Strategic Plan Alignment

- Systemic Alignment
- Instructional Excellence
- Student Accessibility and Support
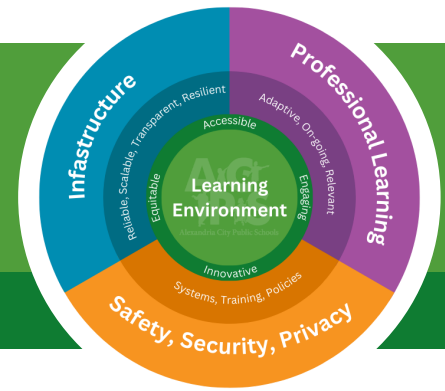- Strategic Resource Allocation
- Family and Community Engagement

Staff Resources

- Teaching and Learning with Technology Course

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LEARNING ENVIRONMENT

Accessible, Engaging, Innovative, Equitable

Provide accessible, engaging technology resources to create an environment for equitable and innovative teaching and learning.

Result 2: Technology resources will be utilized to enhance the learning and instructional needs of students and staff.

What does it look like?

Utilization of Software

- Canvas allows for anywhere, anytime learning and personalization to best fit staff and student needs.
- Google Workspace provides collaboration and creation tools for staff and students to deepen learning.
- A suite of multimedia and blended learning tools serve to give staff and students access to learning resources, activities, and creation tools.

Instructional Planning

- Collaboration with the Office of Instructional Support to explicitly connect the use of instructional technology with the ACPS Curriculum.
- Partnership with the Virginia Tech Innovation Campus and Amazon to plan for implementation of VA Computer Science Standards.

Strategic Plan Alignment

- Systemic Alignment
- Instructional Excellence
- Student Accessibility and Support
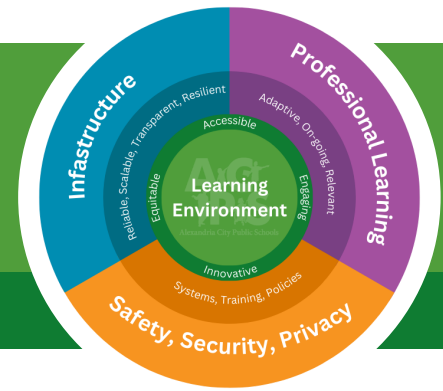- Strategic Resource Allocation
- Family and Community Engagement

Staff Resources

- ACPS K-12 Instructional Tools
- ACPS Curriculum Guides
- Computer Science Education Standards
- ISTE Standards

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LEARNING ENVIRONMENT

Accessible, Engaging, Innovative, Equitable

Provide accessible, engaging technology resources to create an environment for equitable and innovative teaching and learning.

Result 3: Staff will purposefully balance the use of educational technology with face-to-face instruction to enhance and personalize teaching and learning.

Result 4: Instruction for students and staff will include a curriculum focused around the rights, roles, and responsibilities of digital citizenship.

What does it look like?

Intentional Technology Usage:
- ACPS Technology Use Guidelines
- Focus on blending face-to-face with technology
- Technology used as a tool for enhancing curriculum
- Classroom management that includes time without screens
- Advisory committee focused on healthy implementation of technology in ACPS

Digital Citizenship:
- Common Sense Education Curriculum utilized in classrooms
- Common Sense Recognized District

Strategic Plan Alignment

- Systemic Alignment
- Instructional Excellence
- Student Accessibility and Support
- Strategic Resource Allocation
- Family and Community Engagement

Staff Resources

- Common Sense Education Curriculum
- Common Sense Professional Learning
- Teaching and Learning with Technology Course

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LEARNING ENVIRONMENT

Accessible, Engaging, Innovative, Equitable

Provide accessible, engaging technology resources to create an environment for equitable and innovative teaching and learning.

Result 5: Families will have access to ACPS technology resources to support student learning.

What does it look like?

Student Information System (PowerSchool)
- Check grades and attendance
- Update contact information
- Class and bus schedules

Learning Management System (Canvas)
- Observer accounts linked to student
- Access class specific resources, assignments, and announcements

Communication Platform (ParentSquare)
- Receive messages from schools in preferred language
- Two-way texting with translation
- Attendance notification
- Conference sign ups and permission slips

Internet Content Filter (Securly)
- Allows families to filter their student's device when off the ACPS network
- 24/7 monitoring for potential self-harm, violence, or bullying

Strategic Plan Alignment

- Systemic Alignment
- Instructional Excellence
- Student Accessibility and Support
- Strategic Resource Allocation
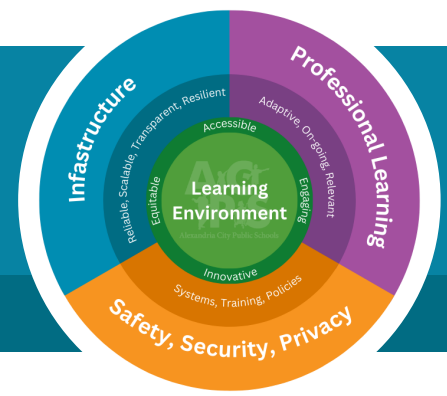- Family and Community Engagement

Family Resources

- Common Sense Media
- School-based family nights that include technology tutorials and tips
- Division-wide collaboration workshops between Technology Services and Family and Communication Engagement (FACE)

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INFRASTRUCTURE

Reliable, Scalable, Transparent, Resilient

Provide a reliable, scalable, transparent, and resilient infrastructure that facilitates the operation of the school division and supports greater access and equity.

Result 1: Students and staff have equitable access to computing devices and other digital tools.

Result 2: Students and staff have access to technology and support that enable high quality and reliable access to the Internet and other networks used by students and staff.

What does it look like?

Instructional

- 1:1 Program PreK-12
- Classrooms are equipped with
  - SmartBoards or projection systems
  - Document cameras
  - Web cameras
- Out-of-school internet access provided for students in need through Kajeets or Internet Essentials

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Operational

- Staff are provided with a laptop computer and web access to job-related operational software, e.g., Munis, Executime, Edulog, TalentED, PowerSchool, Google Workspace.
- Four-year replenishment cycle for devices

How does this support the learning environment?

Students and staff need reliable tools and resources to access the learning and working environment.

Strategic Plan Alignment

- Systemic Alignment
- Instructional Excellence
- Student Accessibility and Support
- Strategic Resource Allocation
- Family and Community Engagement

Staff Resources

- Incident IQ
- Application Request Form

INFRASTRUCTURE

Reliable, Scalable, Transparent, Resilient

Provide a reliable, scalable, transparent, and resilient infrastructure that facilitates the operation of the school division and supports greater access and equity.

Result 3: A reliable and resilient infrastructure is maintained.

What does it look like?

Infrastructure Components

- 10 Gigabit internet service for staff, students, and guests
- Wi-fi on all sites
- CIPA and COPPA compliant internet filters
- Next-Generation firewall
- Security monitoring
- Cloud-based phone systems
- Upgraded paging and bell systems
- Distributed antenna system for cellular access

Fast Facts

- ACHS King Street is the largest managed Wi-fi network in Alexandria City.
- Average bandwidth usage is 8Gb per day.
- On average, 1,400 Helpdesk tickets are submitted per month, with 94% closure rate.
- Approximately 28% of incoming emails are flagged as suspicious, and therefore, not delivered.

How does this support the learning environment?

Students and staff need reliable tools and resources to access the learning and working environment.

Strategic Plan Alignment

- Systemic Alignment
- Instructional Excellence
- Student Accessibility and Support
- Strategic Resource Allocation
- Family and Community Engagement

Staff Resources

- Incident IQ

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SAFETY, SECURITY, AND PRIVACY

Systems, Training, Policies

Minimize security risks through the use of systems, training, and policies.

Result 1: A secured network is maintained and managed for staff and students.

Result 2: Student and staff identities, data, and devices are protected.

Result 3: ACPS network and assets are continuously improved to protect against cyber attacks.

What does it look like?

Systems

- 24/7 monitoring of ACPS Network
- Email content filters for phishing and spam
- Securly internet content filter at school and home
- Implementation of Multifactor authentication (MFA)

Policies and Practices

- Cyber Incident Response policy, plan, and playbooks
- Staff and student Technology Use Agreements updated annually
- Third-party data privacy agreements
- Phishing campaigns

Related training for safety and security is found in Goal 4 Result 3.

How does this support the learning environment?

The systems, policies, and training are designed to maintain a safe and secure learning environment for students and staff.

Strategic Plan Alignment
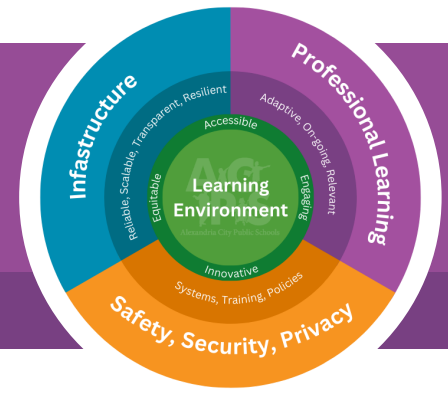
- Strategic Resource Allocation

Staff Resources

- ACPS Responsible Use Policy
- Student Technology Use Agreement (PK-5 & 6-12)
- Staff Technology Use Agreement
- Data Privacy Agreement
- WebTool Consent Form

PROFESSIONAL LEARNING

Adaptive, On-going, Relevant

Provide multiple models of professional learning that provide growth and development for all staff.

Result 1: Instructional staff have professional learning opportunities that create an environment for equitable and innovative teaching and learning.

What does it look like?

Division - Wide Opportunities
- Teacher Leadership Project
- Alexandria City Digital Certifications
- Bite-sized professional learning
- Professional Learning Days
- School leadership training opportunities and cohorts
- Support and training sessions for new staff
- Asynchronous offerings in Canvas

School - Based Opportunities
- Professional learning during PLCs
- 1:1 Modeling, co-teaching, collaborating
- Drop-in sessions
- TIS-led tech cohorts
- Self-paced learning in Canvas
- How-to guides
- Newsletters

How does this support the learning environment?

Staff participation in high-quality professional learning equips educators with skills to create equitable and innovative learning environments.

Strategic Plan Alignment

- Systemic Alignment
- Instructional Excellence
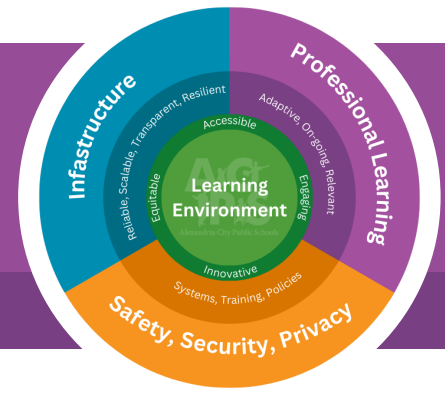- Strategic Resource Allocation

Staff Resources

- Teaching and Learning with Technology
- PLMS

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PROFESSIONAL LEARNING

Adaptive, On-going, Relevant

Provide multiple models of professional learning that provide growth and development for all staff.

Result 2: All staff have access to professional learning that directly supports the use of operational and business applications.

Result 3: Staff are trained, aware, and utilize ethical techniques for the collection, use, storage, and destruction of data in current, emerging, and future technologies.

What does it look like?

Operational and Business Applications
- Self-Paced modules in Vector and Canvas
- Skillsets Online
- Synchronous and asynchronous webinars
- Face-to-face training

Data Usage and Protection
- Common Sense Educator training
- Responsible Use Policy
- Self-paced modules
- Training to support state and federal laws (e.g., FERPA)

How does this support the learning environment?

Efficient use of operation and business applications allows increased focus on the learning environment. Training supports a safe and secure learning environment for students and staff.

Strategic Plan Alignment

- Systemic Alignment
- Instructional Excellence
- Strategic Resource Allocation

Staff Resources

- Protecting Student Privacy

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