



CROTON-HARMON

Union Free School District

Instructional Technology Plan
2018-2021

Draft 6/19/2018

Think. Create. Reflect. Respect.

Challenging all students to be critical and creative thinkers.

Table of Contents

District Mission	2
Technology Vision Statement	2
Instructional Technology Summary	3
Technology Planning Process	3
Technology Environment	4
The Curriculum and Instruction Program	5
Professional Development	6
Technology Goal Development	7
Financial Plan	10
Policies & Board Documents	12
• Acceptable Use Policies	
• Internet Safety Policy	
• Cyber Safety Policy	
• Parent Bill of Rights	

**Croton Harmon School District
Instructional Technology Plan
2018-2021**

Think. Create. Reflect. Respect.

Challenging all students to be critical and creative thinkers.

District Mission

The Croton-Harmon School District is committed to...

- Challenging all children with high expectations.
- Including parents and the wider community as partners in this endeavor
- Fostering a climate of mutual respect.
- Having teachers play a strategic role in students' education.
- Developing student skills that will enable them to meet responsibly the challenges that lie ahead of them.
- Croton-Harmon School District graduates will develop into effective communicators, researchers, and problem solvers, individuals who are independent learners and assume responsibility for their own learning and behavior.

Technology Vision Statement

We envision an educational environment which utilizes technology to prepare students to be lifelong learners and productive, responsible members of their community and active participants in a changing, information-based, global society.

- Technology will support and enhance learning in order to achieve the district goals of helping each student to become an effective communicator, creator, collaborator and critical thinker.
- A district technology plan will provide for the safe and equitable access to modern technology with professional development and ongoing support in keeping with the district educational mission and vision.

Instructional Technology Summary

The district use of instructional technology will serve as a part of comprehensive and sustained effort to support rigorous academic standards attainment and performance improvement for students. The district tagline, ***Think. Create. Reflect. Respect.*** ***Challenging all students to be creative and critical thinkers for problem solving,*** sets the path for this instructional technology plan.

The three "pillars" that support the District Mission and Vision are: 1. Learning Standards- what we want students to know and be able to do, 2. Systems, Supports and Structures, the protocols and supports that the system uses to support the accomplishment of mission and vision, and 3. Learning by Design- a backwards design for curriculum, instruction, assessment and technology integration.

By implementing a backwards design process for instructional support, all stakeholders work to start the improvement process by agreeing on what student success (skills and attributes) would look like for Croton-Harmon students and then focus solely on those research-based practices that ensure a coherent PreK-12 system that supports that definition of student success.

The instructional technology goals in this plan will be held to the same rigorous assessment rubrics developed in the strategic coherence 5-year plan thus using the same measurements for student improvement.

Technology Planning Process

The instructional Technology plan is derived from 2-years of work on the District Strategic Coherence Plan. The district has outlined a 5-year comprehensive plan involving all stakeholders and determined 6 strategies to be addressed over the next five years. In each of those 6 strategies are the Outcomes that the district strives to achieve.

Technology is part of those outcomes and strategies. The technology plan is not separate but derived from the Strategic Planning Committee outcomes. The Strategic Coherence plan is looking at learning goals and the instructional technology plan is in concert with achieving those learning goals. Stakeholders included Administrators, Teachers, Community Members, Students and BOE members.

Outcomes from the Strategic Coherence Plan that this Instructional Technology Plan will address are:

- A review of curriculum maps indicates that technology integration is rarely noted (Outcome 2-e) I.
- Only a handful of teachers have received PD in technology (Outcome 2-b) J.
- Evidence collected does not suggest that technology is being used for critical thinking, problem solving and creativity 5

Technology Environment

The Croton-Harmon Union Free School district maintains a robust network infrastructure. The workstation cabling consists of a mix of Cat 5E and Cat 6 UTP Copper cabling run back to distributed IDFs throughout the buildings. In turn these IDFs are connected to building MDFs via multi-mode fiber cabling. The building campuses are connected via private fiber. IDF switches are stacked to maximize performance and maintenance. Workstation switches provide upwards of 1Gbps connections to desktop locations as well as wireless access points and IP telephones. The connections between IDFs and building campuses all run at 20 Gbps. Network infrastructure is monitored and performance logged in near real-time. All critical alerts are emailed and SMS to IT support staff. Switching infrastructure is also backed up every 15 minutes by LogicMonitor.

The primary MDF for the district is found at the High School campus and is referred to as the Network Operations Center (NOC). This location houses the physical and virtual servers needed to support the district data and communications systems. Virtual servers are hosted on VMWare infrastructure. HP SANs provide the primary storage for all district data including databases and applications. Microsoft Active Directory serves as the network directory for all user and workstation accounts. The district synchronizes its onsite directory with its G-Suite domain every 15 minutes. District mail is hosted on G-Suite.

The following key systems provide the necessary protection against data loss and corruption:

Firewall:	Fortinet Fortigate FortiGuard
Content/Spam/Virus filtering:	Lightspeed Systems Rocket / Google Email Service / Fortigate Fortiguard
Workstation Antivirus:	Microsoft Endpoint
Server Antivirus:	Microsoft Endpoint
Data Backups:	Barracuda Backup Appliance with Cloud Storage Subscription

Building Technology

Elementary School Configuration - Each classroom is equipped with a presentation station consisting of a desktop computer, document camera and interactive whiteboard or flat screen and 4 student desktop workstations. Starting in the 2018/19 school year, the entire 3rd and 4th grade classrooms will be outfitted with interactive Flat Screens. Additionally, the building shares 3 laptop mobile rolling carts, 10 mobile Chromebook carts and 14 mobile tablet carts. There are 14 iPad mobile carts used in the K-2 environment, each equipped with 5 iPads. There is also a computer lab with 27 desktop workstations and a mobile interactive whiteboard.

Middle School Configuration - Beginning In the 2018/19 school year, we will be implementing a 1:1 student Chromebook deployment. Over the next 4 years, each arriving 5th grade classroom will receive their own personal Chromebooks to be used until the end of their 8th grade year. By the end of 2022, the entire building will be a 1:1 deployment and as we phase in the student chromebooks, we will phase out the shared mobile carts. Additionally, every classroom in the building includes a presentation station consisting of a desktop computer, document camera and an interactive whiteboard. For grades 6-8, the building shares 18 laptop mobile rolling carts and 12 mobile Chromebook carts. There is a computer lab in the building with 27 desktop workstations and an interactive whiteboard as well as a library lab with 18 desktops, an interactive whiteboard and a mobile laptop cart.

High School Configuration- each classroom is equipped with a presentation station consisting of a desktop computer and interactive whiteboard plus a desktop computer for student use. Additionally, the building shares 13 laptop mobile rolling carts and 9 mobile Chromebook carts. There is a computer lab in the building with 27 desktop workstations and an interactive whiteboard as well as a library lab with both a mobile laptop and a mobile chromebook cart. The library also houses 3 Nureva Span Systems, a visual interactive collaboration workspace with an expansive canvas.

The Curriculum & Instruction Program

The Croton-Harmon School District has three building technology committees whose focus is on critical and creative thinking for problem solving. These technology committees will be looking at best practices for using technology to add value to lessons.

Over the next three years, the technology committees will be working with the Croton profile of a graduate and the district created rubrics to align instructional technology solutions with the goals of our district strategic coherence plan.

In our elementary school, our library/media space offers students in grades K-4 learning opportunities in coding. The district has added an experiential design space in our middle school where students can work on cross-disciplinary STEM projects. This Independent Design Lab offers support to students in projects that require critical and creative thinking for problem solving. Additionally, the district has developed a K-8 scope and sequence for coding to align practice across grade levels. These unstructured learning spaces help to promote collaboration and innovation in science, technology, engineering and math for our young learners.

Across the district, technology is integrated into quality learning experiences and students are using a variety of real-world authentic resources. In this Instructional Technology Plan, three goals and action plans have been developed in concert with the district strategic coherence plan. The goals established in this plan will enhance teaching and learning in the areas of quality curriculum, instruction, assessment, and the integration of technology into quality learning experiences. These goals promote a school environment where everyone including students, parents, and staff members feel valued, respected and safe. We are committed to educating all of our students with the tools necessary to be critical thinkers and problem solvers in the 21st century.

Professional Development

The district recognizes the importance of ongoing and sustained professional development for staff and students. Professional Development opportunities will be provided by the District by offering a variety of instructional technology opportunities for educators that map to District goals, Lower Hudson Regional Information Center (LHRIC) Model Schools, Putnam-Northern Westchester BOCES, and Personal Learning Networks. Additionally, the district requires all staff members to attend training in the Learner Active Technology Infused Classroom program to enhance their teaching and learning skills with respect to student centered learning and the reconfiguration of classrooms to support collaborative learning spaces.

Technology Goals and Action Steps

2018-2021 Goals

Goal 1: Align instructional technology solutions to the district strategic coherence plan rubrics for critical thinking, presentation and/or meta cognition.

Action Step	Description	Responsible Stakeholder	Other Stakeholder	Anticipated Month of Completion
<i>Communication</i>	<i>Further define the elements of the strategic coherence plan in relation to instructional technology</i>	<i>Director of Technology</i>	<i>Building Principals</i>	<i>November 2018</i>
<i>Curriculum</i>	<i>Identify ways district technology resources can be applied to the teaching of the skills in rubrics.</i>	<i>Director of Technology</i>	<i>Building Principals</i>	<i>June 2020</i>
<i>Professional Development</i>	<i>Explicitly apply rubric skills when designing and implementing professional development with teachers</i>	<i>Curriculum and Instruction Leader</i>	<i>Building Principals, Instructional/PD Coach</i>	<i>June 2021</i>
<i>Evaluation</i>	<i>Continually assess the impact of close alignment of technology use to the strategic coherence plan rubrics.</i>	<i>Director of Technology</i>	<i>Curriculum and Instruction Leader</i>	<i>June 2021</i>

Goal 2: Establish partnerships between English Language Learners/Multilingual Learner teachers and mainstream classroom teachers to identify ways technology resources can be applied in all instructional settings in service to this population of students.

Action Step	Description	Responsible Stakeholder	Other Stakeholder	Anticipated Month of Completion
<i>Staffing</i>	<i>Identify teachers to pilot partnerships with</i>	<i>Director of Technology</i>	<i>Other: Director of Pupil Personnel</i>	<i>November 2018</i>
<i>Planning</i>	<i>Establish criteria for pilot</i>	<i>Director of Technology</i>	<i>Other: Director of Pupil Personnel</i>	<i>November 2019</i>
<i>Professional Development</i>	<i>Provide ongoing professional development in the use of technology that supports culturally and linguistically responsive classrooms.</i>	<i>Director of Technology</i>	<i>Classroom Teachers, Instructional/PD Coach</i>	<i>June 2021</i>
<i>Evaluation</i>	<i>Assess the impact of the partnership program.</i>	<i>Director of Technology</i>	<i>Other: Director of Pupil Personnel</i>	<i>June 2021</i>

Goal 3: Prepare students to be critical thinkers relative to the ethical and legal use of technology for problem solving.

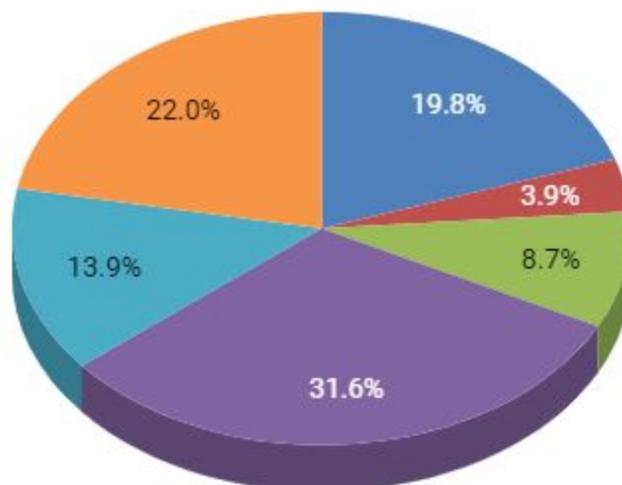
Action Step	Description	Responsible Stakeholder	Other Stakeholder	Anticipated Month of Completion
<i>Planning</i>	<i>Establish a program for student directed learning to improve knowledge and skills</i>	<i>Director of Technology</i>	<i>Classroom Teachers</i>	<i>January 2019</i>
<i>Curriculum</i>	<i>Develop the self improvement process</i>	<i>Director of Technology</i>	<i>Classroom Teachers</i>	<i>January 2019</i>
<i>Implementation</i>	<i>Implement pilot program with students</i>	<i>Building Principal</i>	<i>Classroom Teachers</i>	<i>June 2019</i>
<i>Evaluation</i>	<i>Evaluate the impact of the pilot plan using Clarity.</i>	<i>Director of Technology</i>	<i>Classroom Teachers</i>	<i>June 2019</i>
<i>Planning</i>	<i>Develops a plan for scalability of the student directed learning pathway to other grade levels.</i>	<i>Director of Technology</i>	<i>Curriculum and Instruction Leader</i>	<i>January 2020</i>
<i>Implementation</i>	<i>Implement plan based on evaluation in other grade level(s)</i>	<i>Director of Technology</i>	<i>Curriculum and Instruction Leader</i>	<i>June 2020</i>
<i>Evaluation</i>	<i>Evaluate the impact of the self improvement plan using Clarity data.</i>	<i>Director of Technology</i>	<i>Curriculum and Instruction Leader</i>	<i>June 2020</i>

Financial Plan

The Croton-Harmon School District is committed to maintaining technological systems, equipment and professional development for the education of our students and for the staff and administration. To support technology, the Croton-Harmon School District will use several funding sources including: Smart Schools Bond, General fund budget and Erate as applicable. The district will also pursue state and federal grants as they become available as well as possible grants from the local education foundation. In order to avoid spikes in budgetary expenditures, the district relies on a five year replacement schedule for large expenditures such as infrastructure upgrades, replacement of servers and increased bandwidth for internet. The district has also developed a multi-year budget plan to ensure that it can maintain a strong technological environment while staying within the tax levy cap.

2018-19 Technology Budget Plan Information - Funding Year 2018/19

Account Title	2017/2018 Budget	2018/2019 Proposed	\$ Diff.	% Diff
Salaries	190,390	222,200	31,810	16.71%
Equipment	44,000	44,000	-	0.00%
BOCES Services	102,650	97,822	(4,828)	-4.70%
Contracted Services	383,764	354,218	(29,546)	-7.70%
Software	120,383	155,525	35,142	29.19%
Supplies/Other	246,282	247,002	720	0.29%
TOTALS	1,087,469	1,120,767	33,298	3.06%



The Croton-Harmon School District presents the following as the anticipated 2018-2021 Technology Budget:

	2018/19 proposed	2019/20 proposed	2020/21 proposed
Infrastructure Equip.	24,000.00	24,048.00	24,096.10
Bandwidth/Connectivity	35,000.00	35,070.00	35,140.14
Hardware/Devices	232,002.00	232,466.00	232,930.94
Boces Services - includes professional development, & district reporting systems	97,822.00	98,017.64	98,213.68
Contracted Services- operations costs for infrastructure and salaries for technical staff	541,418.00	542,500.84	543,585.84
Peripherals	35,000.00	35,070.00	35,140.14
Software	155,525.00	155,836.05	156,147.72
Total	1,120,767.00	1,123,008.534	1,125,254.55

District Policies and Documents:

- [ACCEPTABLE USE FOR COMPUTER AND INTERNET ACCESS REGULATION](#) [Policy 4526-R]
- [ACCEPTABLE USE CONTRACT FOR COMPUTER AND INTERNET USE](#) (STUDENT GRADES 7-12 AND FACULTY/STAFF/COMMUNITY MEMBER) [Policy 4526-E.1]
- [CROTON-HARMON SCHOOL DISTRICT ACCEPTABLE USE POLICY \(AUP\) for K-6](#) Students Rules and Code of Ethics Agreement for Student Network and Internet Users [Policy 4526-E.2]
- [INTERNET SAFETY POLICY](#) [Policy 4526.1]
- [CYBER BULLYING POLICY](#) [Policy 0115 DIGNITY FOR ALL STUDENTS: PROHIBITING BULLYING, DISCRIMINATION AND HARASSMENT OF STUDENTS]
- [PARENTS' BILL OF RIGHTS FOR DATA PRIVACY AND SECURITY OF DATA](#)