WEYMOUTH Public Schools

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Educational Technology Plan

5-Year Plan and Progress Report - Year 4
2016 - 2021

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Scope of Work

Weymouth Public Schools hired an independent consultant to perform an evaluation of the state of technology in the district in 2016. The report identified significant challenges with technology services and identified focus areas to bring the district to industry standard. This report outlines the progress Weymouth has made toward addressing these focus areas and a plan moving forward.

District Technology Summary

6000 Students
600 Staff

2016	2019
938 Chromebooks	5700 Chromebooks
200 wireless access points	600 wireless access points
350 iPads	826 iPads
30 Computer Labs	10 Computer Labs
3000 Desktops	1500 Desktops
Supported Hardware	
680 Projectors and 100 LCD Displays 100 network switches 50 Copiers 1000 Phones	
Supported Service	
1000 phones - Aspen (Cloud) - Email (Cloud Gmail) - Google Apps (Cloud) - Library automation (Cloud)	

- Paging and bell systems
- Video security system
- District Security access
- Foodservice points of sale
- Website
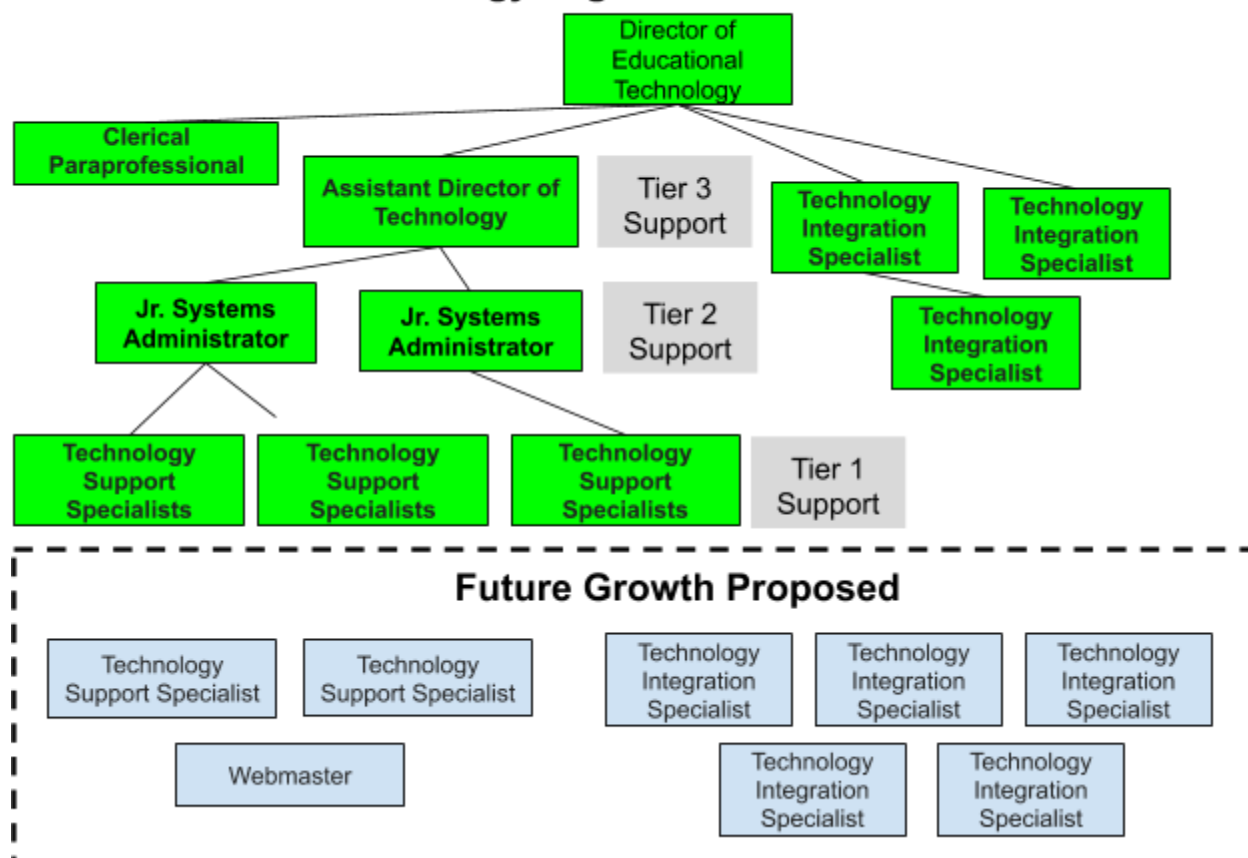- Virtual server/storage environment
- Baseline Edge

Organizational Structure

Prior to 2016, Weymouth Public Schools Educational Technology Department consisted of a Director of Technology, Coordinator of Technology Infrastructure and two Technology Support Specialists. This small team was having difficulty supporting a district of this size; a third Technology Support Specialist and Clerical Paraprofessional were added to begin building a more adequate support team.
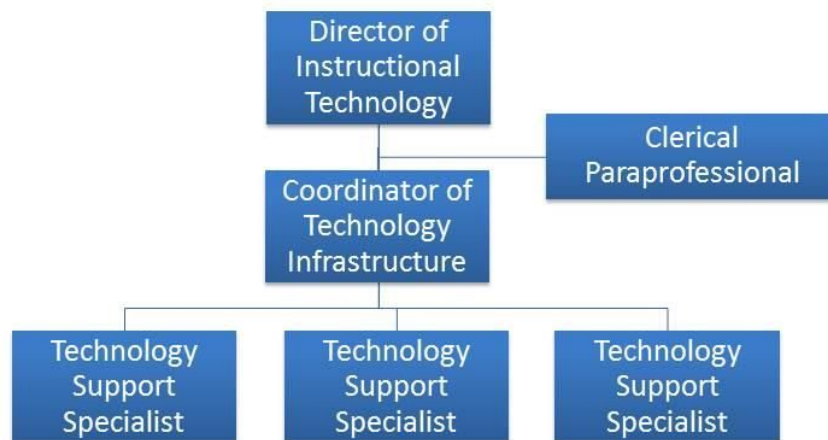
The independent evaluation called for further expansion adding 2 Jr Systems Administrator positions and aligning the 3 technology integration team under Edtech. The integration specialists were previously assigned to specific schools which limited their ability to support the district in its entirety, including the primary schools. This new team has significantly improved service levels across the district propelling Weymouth Public Schools to a technology leader.

WPS Technology Organizational Growth Overview

Director of Educational Technology

Clerical Paraprofessional

Assistant Director of Technology

Tier 3 Support

Technology Integration Specialist

Technology Integration Specialist

Jr. Systems Administrator

Jr. Systems Administrator

Tier 2 Support

Technology Integration Specialist

Technology Support Specialists

Technology Support Specialists

Technology Support Specialists

Tier 1 Support

Future Growth Proposed

Technology Support Specialist

Technology Support Specialist

Technology Integration Specialist

Technology Integration Specialist

Technology Integration Specialist

Webmaster

Technology Integration Specialist

Technology Integration Specialist

Our improvement plan calls for additional growth in Technology Support and Technology Integration to continue service levels as technology initiatives grow. Adding seven proposed positions by 2021 will ensure WPS remains a technology leader for years to come.

Technology Department Decision Making

We have made significant progress centralizing all technology purchases through the Educational Technology Department. This has allowed us to maintain appropriate standards for long term success.

Technical Infrastructure

- Bandwidth
  - The core recommendation of the report was to increase Internet bandwidth. Weymouth Public Schools had a single 100Mb/s connection at the time of the

evaluation. This bandwidth limit was insufficient for Weymouth's needs and prevented Weymouth from leveraging many beneficial cloud platforms.
- Weymouth has made substantial improvements to our internet bandwidth with a total of 3Gb/s (30x increase since 2016). Weymouth has also created diversity and redundancy by splitting this bandwidth between two physically separate locations. This allows for failover and greater uptime.

● Infrastructure

- The Weymouth Public Schools infrastructure was in need of significant upgrades.
  - Data switches and wiring were ten or more years old
  - Server and storage hardware was no longer supported
  - The wireless network was oversaturated and provided inadequate coverage
  - Lack of reliable data backups
- All data switches were upgraded and fiber connectivity upgraded to 10Gb.
- Our data center was updated with a new storage and virtual environment.
- Full wireless coverage was added across the district with a focus on optimizing wireless services in every classroom.
- These upgrades have proven effective in the success of our Chromebook 1:1 program.

● Cloud

- The aging infrastructure and limited bandwidth had prevented Weymouth from implementing the many cloud-based platforms that have been emerging in K12 Educational Technology. With significant progress in upgrading bandwidth and infrastructure, Weymouth has been able to pursue cloud services to reduce the support load on the Edtech team and focus on more strategic projects.
- Weymouth has since moved many services to the cloud including:
  - Gmail Email platform
  - Aspen SIS
  - File storage with Google Drive
  - Destiny Library Management
  - SNAP is scheduled for a cloud migration

● G Suite for Education

  - Increasing bandwidth has allowed Weymouth Public Schools to fully embrace the G Suite for Education platform. Moving to the Google environment has significantly improved teaching and learning through increased collaboration, flexibility, and was an important step to adopting

Chromebooks for a 1:1 program. Moving to Gmail as the district email platform and Google Drive for file storage has offloaded a great deal of server maintenance from the Technology team.

- ## Industry Standard Platforms
  - ○ As a result of a limited budget, the Technology Department had implemented free Unix-based open source infrastructure solutions. While cost-effective, this has led to specialized solutions that are often difficult to find staffing and vendors to support.
  - ○ This year, the Technology Department is replacing the majority of these open-source platforms with Industry Standard solutions that are supported and offer certification paths for the Education Technology Team.
  - ○ We have adopted the Smoothwall platform to unify our security strategy in order to keep students safe for years to come.

Devices

- ## Chromebook 1:1
  - ○ With significant progress to our infrastructure upgrades, WPS launched a formal Chromebook 1:1 program to grades 7 and 10 and teachers in the fall of 2018.
    - ■ A technology committee met monthly during the 2017-2018 school year to plan the details and policies of our 1:1 program
    - ■ Mandatory Parent information sessions were set up to ensure families were aware of all the details of this program and provided internet safety training
    - ■ All devices were purchased with 3-year Leasing cycles which allowed us to accelerate the program and create predictable refresh cycles.
    - ■ All devices were purchased with insurance for accidental damage protection
    - ■ Please visit our Edtech website which summarizes all details, policies, and procedures to enroll in this program. edtech.weymouthps.org

- ## Interactive LCD Displays
  - ○ WPS has 780 classrooms with a variety of display technologies including interactive touch capability. Many of these displays were well past their useful life and prone to failure causing interruptions in teaching and learning and inadequate service levels. In 2017, the Edtech team began piloting Interactive LCD displays to determine the best and most cost-effective solution to update this fleet.

- Demos were conducted on 3 major LCD brands; In Focus, Cleartouch, and Promethean.
- In Focus LCD panels were chosen for a Pilot program where every school received a panel on wheels.
- The Promethean Interactive display was selected as our standard mounted on the center of the front wall of every classroom. Promethean offered decades of experience with a bundled training program.
- We completed our first bulk deployment of 50 Promethean panels in the summer of 2018 and plan to double that effort in the summer of 2019.

- ● Desktop Labs
  - ○ WPS has 30 computer labs across the district which totals more than 900 computers and a total value of over 500K. These resources have created a distinct budgetary challenge.
  - ○ Progress with infrastructure and mobile device initiatives have allowed us to scale back this fleet to only the most critical 10 teaching labs at the high school which is a total of 300 devices or 180K.

Technology Budget Plan

We have developed a strategy to ensure all technology is maintained and refreshed on a predictable budget cycle to effectively meet teaching and learning needs. Leases have proven effective in creating this structure for devices and we plan to apply these same concepts for infrastructure planning to ensure WPS doesn't get behind again. Leasing also accommodates the large scale of purchases required to refresh equipment in a large district. The chart below demonstrates our leasing cycle for our Chromebook, iPad, and interactive Panels and we plan to create a similar cycle for Infrastructure hardware.

Lease Groups (Year of Graduation)	Devices	2018-2019 (1:1 Grades 7 and 10)	2019-2020 (1:1 Grades 7,8,10,11)	2020-2021 (1:1 Grades PreK-12)
Grade 7 (2024) and 10 (2021)	1000 Chromebooks	$92,614	$92,614	$92,614
Grade 7 (2025) and 10 (2022)	1000 Chromebooks		$92,614	$92,614
Grade 7 (2026) and 10 (2023)	1000 Chromebooks			$92,614
3-12 Teacher 1:1	500 Chromebooks	$46,458	$46,458	$46,458
PK-2 Teacher 1:1	100 iPads	$12,384	$12,384	$12,384
Refresh Grade 3-6 (1900 total)	400 Chromebooks	$37,221	$37,221	$37,221
	750 Chromebooks		$69,536	$69,536
	750 Chromebooks			$69,536
iPad refresh PreK to 2 (1:2) (750 total)	450 iPads	$55,731	$55,731	$55,731
	150 iPads		$18,577	$18,577
	150 iPads			$18,577
Interactive Displays	120 panels		$68,165	$68, 165
	120 panels			$68,165
Total	6,490	$244,408	$493,300	$742, 193

● Technology Integration

- ○ Technology Integration is essential to long term success helping teachers and students use technology to best achieve educational goals.
- ○ The current team of three specialists are responsible for training, coaching, and mentoring teachers and students to use technology more effectively.
- ○ This role synthesizes all the areas of teaching and learning with technology: curriculum, instruction, software, teacher workflow, feedback, and assessment.
- ○ We have focused on marketing this long misunderstood role ensuring teachers and students get the most effective support using technology.
  - ■ Restructured the integration team under the umbrella of Educational Technology with a district focus.
  - ■ Collaboration with the curriculum team to create strategies that are aligned with district goals including collaboration on the technology vetting process and related Professional development opportunities.

- We are seeking to expand this team to better serve the needs of the whole district where there are currently 3 integration specialists serving the needs of 6000 students and 600+ teachers.
  - Continue working with students and staff using the SAMR model as a template for creating and vetting technology in the curriculum
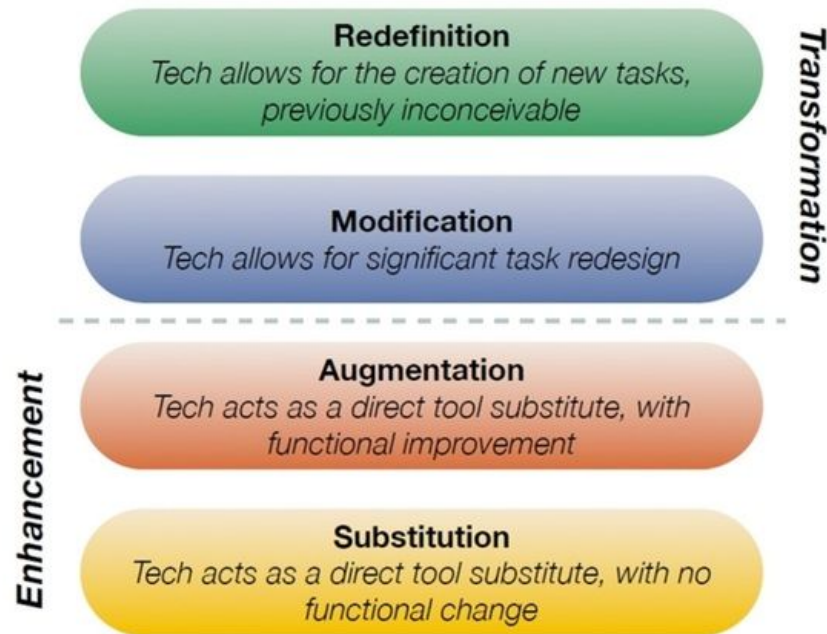
Summary

Significant progress on our technology goals has elevated WPS from a struggling district to a technology leader. With a state of the art infrastructure, new organizational structure, and successful device initiatives in progress, WPS is ready to accommodate all our teaching and learning goals for years to come. The focus moving forward will be maintaining these tools by continuing to grow our team and expand the capacity of our integration team to ensure technology is used effectively.

References

- Weymouth Technology Report 2016 (Original district technology evaluation - Gail/MX)
- Technology Improvement Plan Update 2019-2020 (School Committee Presentation)