

Milton Public Schools Technology Plan 2018-2020



Superintendent: **Mary C. Gormley**

Assistant Superintendent for Curriculum & HR: **Janet Sheehan**

Assistant Superintendent of Business Affairs: **Dr. Glenn Pavlicek**

Educational Technology Director: **AJ Melanson**

Information Technology Director: **Bob Pattison**

Milton Public Schools
25 Gile Road
Milton, Massachusetts 02186
781.696.5583

District Website: <https://www.miltonps.org/>



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Executive Summary

The Milton Public Schools (MPS) serves approximately 4,200 students in four elementary schools, one middle school and one high school. In addition Milton offers a developmental preschool, before and after school programs and summer school programs. All six of the district's buildings have been rebuilt or updated to state-of-the-art facilities.

Technology is already having an impact on the instruction and learning processes of our teachers and students. As educational technologies become more sophisticated and our teaching culture evolves, there is the potential for transformative changes that will help teachers and students achieve significantly improved outcomes.

The MPS Technology Plan was developed by the Technology Task Force comprised of MPS administrators, faculty, family and community members. The plan aligns with the School Committee Technology goal and the Strategic Plan Technology goal, objectives, and activities. The goal of the plan is to integrate technology to personalize learning, promote excellence, and prepare students for success in an evolving digital culture.

In order to attain the goal, several initiatives have been developed. Milton High School will start a Bring Your Own Device program in the fall of 2018, a comprehensive K-12 Digital Citizen curriculum is being designed, a professional development plan is being implemented, and several technology sub-committees have been formed.

Technology continuously changes. The MPS Technology Plan is an active document that captures the process and outcomes of many individuals and committees. The progress towards achieving goals will be chronicled and new goals will be added as technology and the needs of our district change.

MISSION

Technology in the Milton Public Schools enhances student learning, increases student achievement, helps to improve the efficiency and productivity of staff members, and facilitates communication among students, staff, and guardians.

Every student actively uses technology to develop 21st Century skills within a safe and secure digital environment. This promotes the critical thinking, problem solving, and communication skills that are required for students to become lifelong learners, productive citizens in a global environment. and benefit from enhanced learning opportunities for college and career readiness.

Teachers are able to customize instruction and better measure student outcomes. The availability of instructional technologies enables teachers to better engage students using small groups and online enrichment projects. Professional development is provided for all staff to help them select from and master the wide array of educational technologies.

VISION

Milton Public Schools will foster a teaching and learning environment in which all students use information, technology, and communication tools in sophisticated and responsible ways to enhance learning and achieve at high levels. MPS is committed to providing a technology-rich learning environment where 21st century learners are empowered to think critically, creatively, solve problems, communicate, and collaborate in order to be college and career ready.

MPS will create a professional culture of educators to:

- enrich the learning environment to increase engagement
- tailor curriculum to students' specific needs and interests
- measure student progress with real time data for continuous improvement
- connect teachers to the tools, resources, experts and peers they need to be highly effective and supported.

Milton Public Schools will educate all students in the areas of acceptable technology use, social media, and digital citizenship, creating responsible productive digital citizens.

Milton Public Schools

Strategic Planning

Goal #2

To comprehensively integrate technology to personalize learning, promote excellence, and prepare students for success in an evolving digital culture.



Objective 1:

Create a blueprint for transforming technology use in the Milton Public Schools

Research

Recruit a district wide team and external experts to distill best practice research in the area of technology infused education

Tech Plan

Author a 3-5 year vision with action steps to create, promote, and sustain a dynamic, digital-age learning culture



Research

An integral component to the strategic planning process is to have outside technology education experts assess the strategic technology plan. These experts will help guide MPS towards current and emerging best practices for using technology to enhance instruction and learning outcomes. The SAMR (substitution, augmentation, modification, and redefinition) model will be used to infuse technology into teaching and learning. This model supports and enables teachers to design, develop, and deliver digital learning experiences that utilize technology. The SAMR approach allows teachers to progress from enhancing their traditional lessons with technology, to re-envisioning and redesigning their instruction to utilize the data from normative and formative assessments to engage students of all abilities and learning styles.

Objective 1:

Create a blueprint for transforming technology use in the Milton Public Schools

Tech Plan

Author a 3-5 year vision with action steps to create, promote, and sustain a dynamic, digital-age learning culture



Tech Plan

A new redesigned technology plan will be created for the 2018-19 school year. The plan will be developed by the newly created Technology Task Force, and include an updated mission and vision statement, goals aligned with the school committee and technology strategic planning goals. The goals in the plan are developed by: The 1:1 Committee, Assistive Technology Committee, Apps Committee, Digital Learning Team, Instructional Technology Team and Keyboarding Committee. The plan will be a working document, modified as goals are met, needs are brought to light, or any adjustments need to be made.

Objective 2:

Explore models and implement for 1:1 device adoption across all six schools to ensure equitable access to current and emerging technologies and digital resources

Research

Reach out to districts who have adopted 1:1 initiatives to gather information regarding the benefits and challenges of implementation

1:1 Initiative

Design a 1:1 committee, and develop a process for assessing the effectiveness of the 1:1 initiative.



Research

In preparation for the forthcoming one-to-one initiative a subcommittee researched peer school districts (including learning walks) who have implemented one-to-one device programs. The 1:1 team gathered data (cost of device, sustainability...) and weighed the pros and cons to school purchasing devices for each student versus Bring Your Own Device (BYOD). It was unanimous and very clear that the best option for MHS is BYOD.

As we gain experience, a survey will be developed to gather even more information about best practices for incorporating devices into the teaching and learning processes. Once the results of the survey have been analyzed, further guidelines and professional development programs will be implemented. The progress will be reviewed by the Technology Task Force and shared with the District leadership team and School Committee.

Objective 2:

Explore models and implement for 1:1 device adoption across all six schools to ensure equitable access to current and emerging technologies and digital resources

1:1 Initiative

Design a 1:1 committee, and develop a process for assessing the effectiveness of the 1:1 initiative.

Communication Plan

Design a detailed communication plan that will inform all stakeholders with regard to technology initiatives.



Communication Plan

In order to effectively and efficiently communicate technology initiatives with families, students, staff, school committee members, and administrators, a detailed communication plan will be developed. The plan includes dates, topics, and documents to be communicated. The plan will be developed by the Educational Technology Director, and discussed with the Milton Public Schools Technology Task Force.

Professional Development Goals

Prepare staff to:

- offer new approaches to learning-centered classrooms and personalized instruction through 21st century skills and technology
- increase confidence in developing and delivering technology infused lessons
- create and develop a balance of technology-enhanced, formative and summative assessments
- use assessments to help determine particularly challenging time consuming concepts and difficult tasks and then use technology enhanced instruction to help all students achieve mastery
- redefine units to allow for the creation of tasks that could not have been done without the use of the technology
- personalize learning and continually assess each student's progress
- effectively communicate outcomes with students and families

Offerings:

- 7, 3.5, & 1.75 hour Professional Development strands
- PD Half-Days
- TEQ
- Individual learning Opportunities
- CPT
- Department meetings
- Google Academy/Technology Bootcamp



1:1 PROGRESS AND RECOMMENDATIONS

1:1 Initiatives

- BYOD MHS
- Pierce - 1:1 or BYOD
- 1:1 all elementary schools
 - Chromebook 3-5
 - iPads PreK-2
- Additional Tech Support- [MA DESE Guide](#)
 - Educational Tech
 - MHS IT Specialist
 - Pierce IT Specialist
 - IT
 - MHS Technician
 - Pierce Technician



Objective 3:

Promote an environment of professional learning and innovation where educators enhance student learning through the infusion of contemporary technologies and digital resources

Tech Committee

Create technology subcommittees

Needs Assessment

Conduct technology professional development needs assessment

PD Plan

Develop a plan for ongoing professional development and teacher leader support that includes current and future trends in educational technology



Needs Assessments

- 1:1 Team
 - analyzed research from surrounding school districts compiled by the Technology Task Force; conducted learning walks at East Bridgewater and Westwood High School, with a third walk planned for March 7, 2018 at Hopkinton High School. The team is creating all of the guidelines and forms needed for the successful implementation of the BYOD initiative.
- Assistive Technology Team
 - compiling small list of applications/tools all teachers
 - creating formal process for implementing assistive tech screening/evaluations
 - investigating how personalized learning might look in MPS through the lens of technology, Considering best practices for all grade levels.
- Apps Team
 - deciding which web based applications can have the most significant impact on student achievement, and can be used across all technology devices.
 - discussing the best way deliver clear instruction focusing the applications.
- Digital Learning Team
 - identified the key technology skills all MHS graduates should master.
 - created a chart showcasing how this will look across all grade levels.
 - analyzing the Massachusetts Digital Literacy and Computer Science Curriculum, and ensuring all of the standards are being met in MPS.

Objective 3:

Promote an environment of professional learning and innovation where educators enhance student learning through the infusion of contemporary technologies and digital resources

Tech Committee

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Tech Committees Continued

- Instructional Technology Team
 - investigating best practices with the new elementary ELA curriculum, Reach for Reading, and the Everyday Math curriculum. The team's focus has been on utilizing the best practice of centers. Videos have been created and assessment rubrics have been provided for grade levels to watch and assess Reach for Reading and Everyday Math lesson with a focus on centers.
- Keyboarding Committee
 - researching the appropriate age level to start keyboarding instruction, frequency of lessons, and a free platform that tracks progress.

Professional Development Needs Assessment

It is essential to meet the professional development needs of the teachers. Needs assessments will be conducted throughout the school year in order to establish a professional development plan aligned with the Milton Public Schools technology goals. Once the initial needs assessment has been conducted, a professional development plan will be created and delivered. After each professional development session a follow-up needs assessment survey will be administered. This will ensure all of the staff needs will be met throughout the year. Professional Development Plans will be created for each level, differentiating between the needs of elementary, middle and high school teachers.

Objective 3:

Promote an environment of professional learning and innovation where educators enhance student learning through the infusion of contemporary technologies and digital resources

PD Plan

Develop a plan for ongoing professional development and teacher leader support that includes current and future trends in educational technology

PD Plan

A professional development plan will be created to help the professional staff address Milton Public Schools technology goals and future trends in educational technology. Needs assessments will be administered and evaluated throughout each year to determine staff professional development needs. Professional Development sessions will be guided by the SAMR model.

The SAMR model provides a framework that can be used to classify and evaluate learning activities. Ruben R. Puentedura developed the SAMR model in 2006 as part of his work with the Maine Learning Technologies Initiative (Puentedura, 2006). The model was intended to encourage educators to significantly enhance the quality of education provided via technology in the state of Maine. The SAMR Model consists of the following four classifications of technology use for learning activities:

- Substitution: The technology provides a substitute for other learning activities without functional change.
- Augmentation: The technology provides a substitute for other learning activities but with functional improvements.
- Modification: The technology allows the learning activity to be redesigned.
- Redefinition: The technology allows for the creation of tasks that could not have been done without the use of the technology.

Learning activities that fall within the substitution and augmentation classifications are said to enhance learning, while learning activities that fall within the modification and redefinition classifications are said to transform learning (Puentedura, 2013).



21st Century Learning Goals

Students will be educated and trained to:

- solve complex problems in real time
- think and work creatively in both digital and non-digital environments
- develop unique and useful skills and solutions
- submit assignments electronically
- take online assessments
- collaborate effectively and efficiently through 21st century skills and technology
- compare, contrast, evaluate, synthesize, evaluate, and apply higher order thinking skills
- use applications to display, organize and access critical thoughts
- utilize applications to organize thoughts while problem solving
- conduct online research to help solve problems
- communicate professionally
- own their learning process and outcomes
- consume information critically and intentionally
- communicate clearly and powerfully.
- become ethical users of information



Objective 4:

Establish and promote policies and practices for safe, legal, and ethical use of digital information and technology

Digital Citizenship

Develop a PreK-12
Digital Citizen
Curriculum.

Embed opportunities
throughout the
curriculum for the
development of
responsible digital
citizen skills

Evaluate effectiveness
of Digital Citizenship
Curriculum



Digital Citizenship

In today's digital society, it is critical to teach students how to respect others and protect themselves and others online. From kindergarten through grade twelve, students will have a Digital Citizen curriculum, teaching them to be responsible and productive digital citizens. Students will learn proper etiquette, understand how their technology usage impacts others including the laws associated with the use of digital information and tools (copyright, cyberbullying, sexting...), They will come to know their rights and responsibilities, the risks of communicating with strangers, the difference between private and public personal information, the rationale for having software and applications that protect them from online intruders, how to create and manage strong passwords, and more.

Key Outcomes

1. Advocate and practice safe, legal, and responsible use of information and technology.
2. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
3. Demonstrate personal responsibility for lifelong learning.
4. Exhibit leadership for digital citizenship.

The curriculum will be reviewed by the Educational Technology Director, the Elementary School Instructional Technology Specialists, and middle and high school technology teachers. This will ensure the curriculum is current and impactful.

Digital Citizenship Goals

Students will:

- create positive digital footprints
- become upstanding digital citizens
- demonstrate a positive self image
- create secure passwords
- protect your identity & personal information
- understand and follow copyright laws
- understand the social media benefits and pitfalls



Objective 5:

Increase use of technology to personalize learning

Best Practices

Visit exemplar schools to explore models for the effective use of technology to personalized learning

Pilot

Identify teachers to pilot best practice models & tools for personalizing learning using technology



Best Practices

Personalized learning has the potential to motivate and engage students by recognizing their needs and learning styles resulting in improved student achievement. In the beginning stages, teachers use assessment data to analyze student learning outcomes. Teachers can share this critical information with students, and help them understand their strengths and weaknesses. Together, the teacher and student create goals. Students have the opportunity to select instructional practices that suit their learning style and to undertake activities that will allow them to showcase mastery of material. Over time, students will take increased ownership of their learning practices, progress, and meeting goals.

Pilot

In an effort to establish best practices, innovative teachers will be asked to volunteer to pilot personalized learning initiatives. Once identified, they will receive special professional development to develop and implement the strategies for personalizing adaptive instruction and reflect on the challenges and successes. The volunteer teachers will share their experiences with their colleagues to implement into their classroom.

Objective 5:

Increase use of technology to personalize learning

Replicable Practices

Identify replicable practices & tools, and create a plan to expand personalized learning models

Replicable Practices

The train-the-trainer model will be used to further expand the implementation of the personalized learning initiative. Volunteer teachers will be filmed allowing best practice videos to be created, shared, and assessed. The videos will be posted on the Milton Public Schools Technology Google Site. Teachers will be encouraged to view the videos and assess the lesson(s). In addition, implementation ideas will be shared on the Google Site as well.



Necessary Professional Resources

Based upon a review of staffing in peer districts we recommend a modest staffing increase in IT and Instructional support

IT Support - maintain appropriate and sufficient support throughout the Milton Public Schools

- One additional full-time IT support specialist assigned to MHS
- Utilize local college interns

Instructional Support - develop a resource plan based upon the needs of Milton Public Schools, and best practices of peer School districts.

- Hire a 6-12 Instructional Technology Specialist
OR
- Hire grade level Instructional Technology Coaches

