



Madison Public Schools
Instructional Technology Plan
2017-2020

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Thanks to the Membership of the
Madison Instructional Technology Team

Aronson, Lisa

Bishop, Amber

Boland, Rita

Dahling-Hench, Gail

Docker, Trish

Dunbar, Alicia

Ginsburg, Michael

Hart, Kathryn

Kiefer, Michael

Lopez, Leslie

Mazzola, Thea

Pflomm, Jennifer

Phelps, Julie

Russo, David

Salutari, Anthony

Sickle, Arthur

Seales, Lisa

Sperling, Leslie

Tommaso, Dave

Warner, Lauren

Winkley, Travis

Introduction

In June of 2016, the Connecticut Association of Public Schools Superintendents released an informational summary entitled *Tomorrow's Technology Today*:
http://www.capss.org/uploaded/2014_Redesign/News/2016-2017/Tomorrows_Technology_Today_CAPSS.pdf

Included in this report is a technology future's projection survey that asked technology leaders to identify emerging trends in technology that they believe will direct or transform education over the next five years. The survey was then correlated to national research.

These findings did not drive the work of the Madison Instructional Technology Team, but is considerable confirmation of the outcomes we seek to achieve. The report encourages districts to reconsider how technology will change the expectations for both instructional practice and student learning.

After the expiration of the first district technology plan (state driven), our team was newly reformed in January of 2016, with the purpose of examining our beliefs around the use of technology in the classroom and the impact on learning. Once we could identify the impact on teaching and learning that supported the Madison Vision, we could then study our current reality against those beliefs. This led to the formation of two active sub-committees that focused on:

Team 1: Tools, Software and Learning Management Systems

Co-chairs: Lauren Warner and Michael Kiefer

Team 2: Devices, Hardware and Infrastructure

Co-chairs: Art Sickles and TJ Salutari

The outcome of over a dozen meetings, site visits, surveys, and pilot programs have resulted in a very clear picture of what the Madison Public Schools should include in this district technology plan. We thank the districts who have shared their work and opened their doors: New Canaan; Branford; and Region 4. We also thank our colleagues at the LEARN Regional Technology Network. Above all, we deeply appreciate the members of our team who dedicated countless hours of their time to design a direction for the district that will support the teaching and learning needs we have identified.

Madison Instructional Technology Team
Statement of Beliefs
Student Focus

We believe...

1. All students deserve a high quality education that includes digital learning.
2. All students will be responsible digital citizens.
3. All students will have the opportunity to develop a sense of purpose through authentic learning experiences.
4. All students will have access to devices that allows them to be engaged with the content.
5. All students will be the center of their learning experiences by engaging in inquiry and making real world connections.
6. All students will be able to reach their individual learning potential with a wide variety of appropriate resources.
7. Students will use a variety of mediums that promote innovation, creativity, and choice to reach a specific audience.
8. Students will exchange timely feedback with teachers and peers.

Madison Instructional Technology Team
Statement of Beliefs
Educator Focus

We believe...

1. Educators will use technology to make student learning experiences engaging, authentic, and differentiated to meet individual learners.
2. Educators will have access to a variety of appropriate digital resources and professional learning opportunities for their grade and content.
3. Educators will promote and model digital citizenship through the ethical use and safeguarding of digital information and technology.
4. Educators will engage in professional growth and leadership opportunities, such as local and global digital learning communities, to explore creative applications of technology to improve student learning.
5. All educators will use digital tools to monitor student progress and provide timely feedback to students, families, and other professionals.
6. Educators will develop technology-enhanced learning experiences that allow students to explore their own inquiries/interests and set their own learning goals.
7. Educators will use technology in a way that fosters innovation and creativity, while supporting the adopted curriculum.
8. Educators will develop and model cultural understanding and global awareness, using digital communication and collaboration tools.

What will be the impact of technology on student learning?

There are four distinct conditions that need to exist, Prek-12, for all students to benefit:

Student Centered Access	Engagement	Authentic Learning	Meaningful Feedback
Curriculum and content in real time	Provide choice	Real world connections	Immediate and Seamless
Systems for access: Different learners Connections everywhere	Needs and Interests	Problem Solving	Individualized
Students can work on demand: 24/7 access to work in progress Collect learning overtime	Student voice: product variation	Skills and Concepts	Related to quality outcomes
Age appropriate access/restrictions	Inspiration/passion inspired	Purpose is worthy of effort	When work in progress informs instruction
Digital Citizenship	Pathways and pace variation	Calls upon thinking	Various stakeholders to gather feedback
Gradual Release of Restrictions	Fun and enjoyable learning	Calls upon transferrable learning	teacher to student
Progressions to learn technologies staff/students	Hands on- minds on	Synthesize information from a variety of sources	student to student
When use is best serving learning objectives	Creative		student to curriculum
Access to worthy information/tools	Project Based Learning		Authentic audience (community, college, world)

Student Centered Access

Access to technology will allow educators to provide creative learning experiences that are authentic and highly engaging. This is a value currently embedded in the Madison Curriculum Design Criteria. Access to technology and tools will foster meaningful collaboration, where students can take control of their learning through systems that support student inquiry. Students are able to ask and answer their own questions in a manner where teachers are facilitators of growing understanding, rather than lecturers who provide knowledge. Students learn about ethical use of online resources and the importance of being responsible content creators as they see and experience the impact of broad communication in a progressively broadening audience: among peers and teachers; parents; the community and the world. The Instructional Technology Specialists have been designing modules to build digital citizenship for all students. These modules will be used within the curriculum as they apply to the experiences within units.

Engagement

Authentic Learning

Resources are now defined as the collective understanding of the masses, rather the confines of a copyright date. This moves our work away from the purchase of textbooks and toward the importance of access. The extension of resources promotes teaching that is rich with global content and teaching that extends beyond the memorization of information. Students are able to drive their learning by accessing information presented in a variety of ways that leverage their best learning style. Regardless of individual need, they will have the instant ability to have increased choice in how they gain access to all aspects of the curriculum and demonstrate learning. Accommodations for all students can be made instantaneously to clarify content or extend concepts.

Meaningful Feedback

Information is organized for, and by, students in a manner consistent with how they experience and explore their world: by using tools to collect their work as well as the thinking from others. They can add, delete and augment information collected from a topic or perspective as they build awareness and the critical thinking skills needed to take a position. Students can reflect upon and revise their thinking through the guidance of others. Progress and feedback toward objectives can be ongoing, and informed by the teacher, peer and sometimes experts along the way. Parents and teachers are able to communicate seamlessly as ongoing access to growth is not determined by constructs of various points in time set by a district calendar.

Madison Instructional Technology Team - *The Software Tools & Learning Management System Report*

The Software Tools & Learning Management System (LMS) Subcommittee has concluded that ease of access to resources and instructional tools on the Web is the critical goal. We are constantly looking for Web resources and software applications which improve the four distinct conditions the MITT committee identified as necessary for technology to have the greatest impact: **Student Centered Access, Engagement, Authentic Learning, and Meaningful Feedback**. While the new student privacy law, PA189, has made this more challenging, our students continue to have access to a variety of digital communication, collaboration, and creation tools. The Google Suite of apps, in particular, is at the center of a broad spectrum of tools our teachers and students use on a near daily basis to enhance teaching and learning.

We have looked at our existing LMS for grades 5-12 (Finalsite) and compared it to Google Classroom through a pilot study involving 40 teachers, grades 3-12. We have concluded that Google Classroom is showing great promise as a LMS, specifically for its instructional tools and tight integration with the rest of GSuite for Education (Drive, Docs, Forms, etc.). However, at this time we propose that Finalsite's contract be renewed. This decision was based on Classroom's current limitations as a parent communication tool.

The benefits of Classroom:

- Seamless integration with Drive/Docs
- Easy access/sign-on
- Great for organizing digitally submitted work...difficult to lose anything
- The ability to "push" websites/articles to the students, making it easy to get the whole class on the same page
- Anywhere, anytime access, including a mobile app
- Notifications
- The ability to "push" websites/articles to the students, making it easy to get the whole class to a page that I wanted them to get to

The benefits of Finalsite:

- Organization of resources into folders
- Parents can access with their own login credentials
- Homework and extracurricular calendars
- Rostering synced to our student information system, Infinite Campus

THE PLAN

STEP ONE: Use Classroom as an instructional tool and continue to have teachers post to Finalsite for parent communication

- Teachers continue to post homework on Finalsite for parent communication

- Students and teachers (paras) can work in classroom and work in the tools for instruction
- Teachers would have PD offerings to educate in Google Classroom/Finalsite.

STEP TWO: Create a plan to migrate to Google classroom for the district. Pick a time during a period and pull the switch. The “switch” would be determined when;

- PA-189 compliance: Student Data Privacy Act (state working on this);
- Classroom website, calendar and posts in Google Classroom are accessible to all parents with a common design.

Madison Instructional Technology Team – *Device Subcommittee Report:*

Three Year Plan - Devices

The Device Subcommittee has concluded that more student devices capable of accessing the internet are needed to effectively deliver the curriculum. Extensive discussions during committee meetings resulted in the development of an evaluation process which led to this conclusion. The process included sharing information about the current device inventory by building, conducting a comprehensive survey of Madison Public Schools certified staff, as well as a site visit and conference call with two other districts.

The committee considered many types of instructional technology devices including iPads, Chromebooks, Windows laptops, desktops, Smart Boards, LED Monitors, video streamers like Apple TV, Chromecast, and more.

Consideration was given to budgetary concerns, existing and increased obsolescence replacement requirements, shrinking enrollment, and the evolving Facilities Plan. Additionally, the District will look for efficiencies regarding the distribution of existing equipment within and across buildings.

A phased approach is recommended to allow for consistency of annual funding requests, and the simultaneous phased implementation of improvements to Wifi and network infrastructure. These improvements are necessary to support any significant addition to the number of devices to the network, as well as ever-increasing bandwidth requirements for web content and video traffic.

New device types will be purchased based on grade-level appropriateness. iPads will be favored in grades K-2 and Chromebooks will be favored in grades 3-12. Occasional access to other devices will be necessary. In general, mobility will be strongly favored over stationary labs, but exceptions will be necessary and evaluated on a case by case basis as our current computer labs approach the end of their respective lifecycles. Devices identified for special needs students, regardless of grade level, will continue to be provided based on individual need.

The committee recognizes that Smart Boards are valuable tools for presentation and student engagement, however the committee concluded no additional investment should be made in this type of device over the next three years. This decision is based on how rapidly this particular technology is changing, cost, and the unpredictability of building configurations over the next three years. This topic should be revisited within the context of school construction or renovation projects.

Device / Availability Recommendations:

K-2 6 full size iPads per classroom with occasional access to Chromebooks.

3-4 1 Chromebook cart (25 units) per every 2 classrooms with occasional access to iPads on an as needed basis.

5-8 Chromebooks to be allocated 1 chromebook per every 2 students at a minimum. The goal for the end of this 3 year plan is to approach a 1:1 ratio. This ratio is to be achieved purchasing a minimal number of devices given shrinking enrollment and potentially replacing one or more stationary labs with mobile devices.

9-12 Formally implement a Bring Your Own Device (BYOD) Model to achieve a 1:1 program, phasing the program in over 4 years, starting with the 9th grade student population.

- Minimum specifications for student-owned devices will be published annually. Students will be allowed, and encouraged to bring and use their own device. For those students who cannot afford to, or choose not to bring their own, a Chromebook will be provided and assigned to that student for the year.
- To take advantage of a district-owned device, families will have to pay a fee of \$50 per device per year. These fees will be pooled as something like an insurance fund. These funds would be used to fund repairs and replacements as needed. Families experiencing financial hardship will be accounted for in the plan. Internet filtering (off campus) for district-owned devices will be implemented.

All Grade Levels:

Gradual implementation of dedicated video streamer devices (Apple TV, Chromecast, Roku...) will begin with this plan. The roll-out of streaming devices will be prioritized by need and the likelihood the classroom configuration will remain stable. LED Monitors are to be implemented rather than projectors where no projection currently exists, and where mounted LCD projectors require replacement.

Project	Current	Target	2017-18	2018-19	2019-20	Comments
Elementary Grades K-2 iPad access (iPads / Classroom)	3.8	6	X	X		
Elementary Chromebook access Grades 3-4 (Carts : Classrooms)	1 : 3.2	1 : 2	X	X		
Grades 5-8 Chromebook : Student Ratio Increases	1 : 1.9	1 : 1		X		Student enrollment decline to have positive impact on ratio.
Video streamer and projection devices - all grade levels		1 per classroom as needed	X	X	X	On-going project
Phased implementation of BYOD 1 : 1 Devices for Students in Grades 9-12	1 : 2*	1 : 1	X	X	X	Start with incoming 9th Grade for all 3 years of plan. Existing inventory to supplement and complete 1 :1 after year 3
Funding for increasing obsolescence replacement requirements			X	X	X	On-going
Infrastructure improvements required to support future growth			X	X	X	On-going / Phased
Elementary Grades K-2 iPad access (iPads / Classroom)	3.8	6	X	X		

*Current device: student count includes chromebooks, windows laptops, and stationary desktop labs

Current ration of chromebooks to students is 1 : 4 in grades 9-12