

District Learning Technology Plan
Regional School Unit 18

Date Approved by School Committee:
Wednesday, June 15th, 2016

Plan Authors:
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Schools Affected by the Plan:
Atwood Primary School
Belgrade Central School
China Middle School
China Primary School
James H Bean School
Messalonskee High School
Messalonskee Middle School
Williams Elementary School

Shared Vision for Learning

Regional School Unit 18 is the result of consolidation between two school systems. The official start-up was July 1, 2009. As part of the efforts to join these two systems together, the Board initiated work to develop an educational vision and direction for the newly combined school district.

In March of 2010, eighty stakeholders, comprised of students, teachers, administrators, school board members, parents and community members participated in a Future Search Visioning Process to define a strategic direction for the district. As a result of this event, mission and vision statements were drafted and shared with staff and community members throughout the fall of 2010. On October 13, 2010 the School Board officially adopted this set of documents, outlining our strategic direction.

In November 2010, vertical (K-12) curriculum teams were created to review our newly created documents. In December of 2010, our District Leadership Team was created, including representatives from all stakeholder groups. Starting in Spring 2011 RSU 18 employees participated in orientation trainings designed to build an understanding of our vision and mission. In October 2011, district leaders organized a strategic planning event including 120 stakeholders. These stakeholders generated feedback that was later used to develop our strategic plan. After several work sessions, a smaller group of stakeholders wrote our strategic plan, which was adopted by our school board on May 2, 2012.

In June of 2015, RSU 18 reconvened many of the original members of the strategic planning committee, with new representation. The goal of this group was to review our progress towards implementing our vision, and to provide feedback and direction moving forward. This feedback has been used by the board, the administrative team, and by district leadership groups to make decisions on all topics, including technology.

Mission Statement

Engaging Learners, Strengthening Communities, Creating Global Leaders

Shared Vision

- All learners are prepared to succeed in society by demonstrating proficiency of a common set of rigorous standards. Parents, educators, business leaders, and community members are cooperative partners to help guide learning.
- All learners are creative problem solvers, critical thinkers, self-directed, effective communicators, collaborative workers, environmental stewards, and productive, healthy citizens. Learners have a voice in their education and share in the development of individual learning plans guided by a dedicated and passionate staff.
- All learners engage in creative and innovative learning strategies. They use technology and other tools to connect to the world outside-of the classroom.
- All learners pursue multiple pathways inside and outside of the classroom to achieve their goals. Learning takes place without boundaries of time and space.
- All learners are successful learners and contributors to their community, nation and world.

Strategic Alignment Plan

- Our learning system provides a structure that supports learning that is customized to individual student needs. This structure supports all learning opportunities inside and outside of the classroom.
- Instruction addresses clearly articulated learning goals, which incorporate complex reasoning processes and habits of mind. Learners will have opportunities to meet learning goals across content areas and through multiple pathways.
- Curriculum is rigorous, relevant, future focused, comprehensive and clearly articulated.
- Our assessment system measures the learning expectations of our rigorous, relevant curriculum. It consists of a collection of evidence that monitors and documents learner progress toward proficiency.
- Reporting has the learner's best interests in mind and reflects progress toward proficiency, as defined in individual learning plans. Evidence of learning over time will be collected. Reporting practices will ultimately reflect learners' best effort as they progress toward proficiency.
- The responsibility for educating our learners is shared by family, school, and community. We are committed to continuously educating and informing all stakeholders about our vision. As a result of this commitment, productive partnerships will be established resulting in an understanding of, support for, and help with the resources necessary to reach our vision.
- All personnel decisions are made with the best interests of our learners in mind. Human resources are a critical element of our success.
- All learners will use technology effectively to enhance their learning experience. Technology-based learning opportunities are an important part of a learner's educational experience.
- We are committed to an ongoing review/evaluation of the effectiveness of our learning system and establishing a culture of continuous improvement in our schools.

Current Status

Student and Teacher Devices

All teachers and administrators in grades K-12 are provided with technology through the Maine Learning Technology Initiative (MLTI). Laptops are provided at a 1:1 ratio for all students at China Middle School (grades 5-8), Messalonskee Middle School (grades 6-8), and Messalonskee High School (grades 7-12). Local funding is used to offset the cost of technology not covered by the MLTI program.

All students at Atwood Primary School (grades K-2), Belgrade Central School (grades K-5), China Primary School (grades K-4), James H Bean School (grades K-5), and Williams Elementary (grades 3-5) are provided with tablets as an essential tool for learning.

School	Devices	Enrollment	Ratio
Atwood Primary	230	230	1:1
Belgrade Central	293	293	1:1
China Middle	190	190	1:1
China Primary	256	256	1:1
James H. Bean	258	258	1:1
Messalonskee High	776	776	1:1
Messalonskee Middle	512	512	1:1
Williams Elementary	206	206	1:1

Student to Device Ratios (03/2016)

Network Infrastructure/Internet

All schools have gigabit capable wireless (802.11ac) technology. Messalonskee Middle School (MMS) houses the main data center for the District with a 1 Gigabit fiber connection provided by the Maine School Library Network (MSLN). Atwood Primary School (ATW), Messalonskee Middle School (MMS), Messalonskee High School (MHS), Williams Elementary School (WES), RSU 18 Central Office (CO), RSU 18 Bus Garage, Maintenance, and the Biomass Plant all share the MMS connection.

Outlying schools (China, Belgrade, and Sidney) are connected via 200 Megabit fiber on the MSLN network creating a wide area network (WAN). E-Rate funding covers the majority of the expenses for these connections, however in recent years, MSLN has been charging \$1/student/year.

Each incoming Internet connection is equipped with a firewall to prevent cyber attacks, content filter technology and a VPN client for shared resources across the district.

Servers and Cloud Based Services

Google Apps (Email, Drive, Calendars, Sites), iCloud, Pearson Inform, SchoolMessenger, Webbit (Website Content Management System), Meraki Systems Manager (MDM), KimonoCloud (SIF ZIS)

Physical Servers/Appliances	Virtual Servers
60 Network Switches 7 Virtual Environment Physical Hosts 5 Mac OSX Servers (Imaging) 4 Firewall/VPN Servers 4 Content Filter Appliances 5 Camera Surveillance Servers 2 Domain Controllers 1 SIS Server 1 9TB iSCSI Storage Array 1 7TB De-duplication Backup Server/Appliance 1 Financial Application Server 1 Virtual Environment Management Server 1 Phone Server	12 Application Servers 10 File/Print Management/DHCP Servers 2 IIS Web Servers (Educate, Report Server) 2 Database Servers 2 Terminal Servers 1 Digital Document Archive Server 1 VPN Server 1 Access Control/Heating Control Server

Shared Leadership

How does the district involve broad representation of the school community (tech leads, teachers, librarians, students, parents, community members) in the learning through technology planning and implementation process?

RSU 18 continues to solicit feedback on the implementation of all facets of our vision. Our district firmly believes that our technology vision should not be separate, but rather a part of our plan for success. This has been part of our feedback and we have learned a great deal about classroom instruction, interventions, and communication. The feedback from our communities has been shared directly with the board and has helped guide many of our policies and practices in our schools.

Applying Technology to the Vision

The guiding principles for RSU 18 support our belief that technology is a tool that can help ensure a successful implementation of our vision. For example, some of our guiding principles read:

- Students learn in different ways and in different time frames
- Students have unique interests that heighten motivation
- Students demonstrate their intelligence in many ways
- Learning is enhanced when connected to real world situations.

Encouraging and supporting the use of technology as a tool, not a separate class, is supported by these principles. Our guiding principles were developed only after soliciting vast feedback from our school community. In all of our feedback events, a common theme is that technology plays a major role in making these principles successful.

Planning Professional Learning Opportunities

Shared leadership in planning professional development is common in RSU 18. Our district has an active committee structure that includes all teaching staff. Through these structures there is input on prioritizing, planning and the delivery of professional development. Our Program Office Committee and our Teacher Administrator Effectiveness Committee have planned many of our professional development days. How to use technology to make this a successful implementation is at the forefront of conversations.

Selection of Devices, Apps, Programs, and Other Tools

One of our goals for next year is to get a better handle on apps and programs being installed / deployed to devices. Our technology committee has taken this on and they have helped set this goal for our district. They are working on a plan to add consistency in the district for app use and to build efficiency into the requesting process. Finally, and very important, the committee is looking for ways to improve our awareness and compliance with legislation on student data privacy. There has been input from community members, teachers, educational technicians and administrators.

District Learning Technology Data and Action Plan

Part A: Student Learning & Teacher Practice

Results of the Data

- At China Middle School, Messalonskee Middle School and Messalonskee High School, only 22% report using assistive technology on a monthly or better basis. In addition, only 14% report using it on a weekly basis. (BrightBytes survey 2016) Based on observations and communications with elementary teachers, our elementary school data is similar. Using assistive technology is one way to help differentiate classroom instruction in order to meet the various needs in a classroom. This principle supports our vision.
- 50% of teachers regularly post course materials online. (BrightBytes survey 2016) Observational data from our elementary school shows similar results.
- Three of the last four years, based on data comparison of RSU 18 to the State of Maine, The majority of data points for our district have been below the state average for both math and reading. We will focus staff on using online resources to help analyze data, and to use technology more as an intervention tool to help differentiate instruction and provide needed support. (data below is from Maine DOE data warehouse)

READING												
Grade	2011-2012 (Fall 2011)			2012-2013 (Fall 2012)			2013-2014 (Fall 2013)			2014-2015 (Spring 2015)		
	RSU	State	RSU - State	RSU	State	RSU - State	RSU	State	RSU - State	RSU	State	RSU - State
3	72	72.2	-0.2	62	68.5	-6.5	72	67.9	4.1	49	48	1
4	73	70.7	2.3	71	68.8	2.2	62	65.6	-3.6	44	47	-3
5	63	68.2	-5.2	76	71.4	4.6	66	71	-5	50	51	-1
6	63	72.2	-9.2	67	71	-4	69	70.2	-1.2	45	46	-1
7	66	70.1	-4.1	54	69.1	-15.1	61	68.9	-7.9	53	48	5
8	78	76.9	1.1	76	76.6	-0.6	61	71.3	-10.3	49	48	1

MATH												
Grade	2011-2012 (Fall 2011)			2012-2013 (Fall 2012)			2013-2014 (Fall 2013)			2014-2015 (Spring 2015)		
	RSU	State	RSU - State	RSU	State	RSU - State	RSU	State	RSU - State	RSU	State	RSU - State
3	67	63.9	3.1	56	61.6	-5.6	48	59.6	-11.6	40	45	-5
4	71	65.5	5.5	60	65.1	-5.1	57	62.8	-5.8	32	40	-8
5	60	64.3	-4.3	67	62.2	4.8	57	62.9	-5.9	28	35	-7
6	63	64.4	-1.4	56	63.9	-7.9	59	60.7	-1.7	28	34	-6
7	60	60.6	-0.6	55	58.8	-3.8	48	59	-11	38	36	2
8	61	60	1	61	61	0	48	56.2	-8.2	32	33	-1

Implications

Technology is used at RSU 18 to support and document learning and also to improve academic achievement. A variety of software, including web-based, is used to collect, analyze, inform and guide quality instructional and programmatic decisions. In addition, RSU 18 will continue to transform technology to be a tool for learning in all grade levels.

Technology literacy is an expectation of all students in RSU #18 and is included in the curriculum that has been adopted for the district. Funds expended for teachers to integrate technology effectively into curricula and instruction is outlined in the following chart.

<i>Goals</i>	<i>Target Date</i>	<i>Costs</i>	<i>Funding</i>
Network Components (Switches)	07/2020	\$60k	Tech Lease/E-Rate
Intrusion Detection System	07/2020	\$15k	Tech Lease
Network Monitoring	07/2020	\$10k	Tech Lease
Virtual Environment Physical Hosts	07/2020	\$15k	Tech Lease
Network Redundancy/Failover	07/2020	\$15k	Tech Lease/E-Rate
Building Access Controls	07/2020	\$20k	Tech Lease
Server Licensing	07/2020	\$15k/yr	Tech Lease
Central Office Workstations	07/2020	\$20k	Tech Lease
1:1 Student/Teacher Devices 9-12	Ongoing	\$222k/yr	Tech Lease/MLTI
1:1 Student/Teacher Devices 6-8	Ongoing	\$91k/yr	Tech Lease/MLTI
1:1 Student Devices K-5	Ongoing	\$200k/yr	Tech Lease
Elementary Teacher Devices	Ongoing	\$52k/yr	Tech Lease/MLTI
Classroom Displays	Ongoing	\$6k/yr	Tech Lease
Software/App Licensing	Ongoing	\$2k/yr	Tech Lease

Interventions and Next Steps	Person/Position Responsible	Timeline
<p>A group of teachers who are using assistive technology will be identified by November of the 2016 – 2017 school year. These teachers will be provided opportunities to share best practices in technology and how they use these practices to support our vision.</p>	<p>Building level administration and the district technology director</p>	<p>Opportunities will be provided over the next two years.</p>
<p>The staff throughout RSU 18 will be trained in how to use assessment tools to better inform instruction and interventions. The new NWEA website, and RSU 18 online system of tracking data / learning targets will be the focus of training.</p>	<p>Assistant Superintendent / Chief Academic Officer will work with administration to provide this training.</p>	<p>Training will happen throughout the 2016 – 2017 school year. Data will be evaluated annually and presented to the Board of Directors.</p>
<p>RSU 18 will increase by 10% the number of teachers / courses with online information posted for student / parent access.</p>	<p>Technology Director and the Computer Integration Assistants.</p>	<p>Over the next three years.</p>
<p>At our high school we will use technology tools to help us develop / improve our intervention system. The goal will be to have interventions built into the schedule for all students on a daily basis.</p>	<p>High School Principal and the High School Computer Specialist.</p>	<p>By the spring of 2017 we will have a system working effectively.</p>

Part B: Leadership for Learning Through Technology

Results of the Data

- From a staff survey launched in the spring of 2016, the results show 44% of teachers were clear in how to write their growth plan for our new evaluation system, and only 14% were very clear in how to write a student learning objective. Our district Teacher and Administrator Effectiveness committee has been empowered to lead this implementation and make decisions that will promote success. This new system relies heavily on the use of district technology.
- Prior to the start of the 2015 – 2016 school year, RSU 18 hosted a community feedback event to help our district check and adjust on the implementation of our educational vision. In the feedback from participants, including parents, teachers, community members, and students, 75% of the comments received about our online system of tracking progress on learning targets were negative. We currently use a program called Empower. This program was chosen because it supports our vision. There will need to be a goal to improve in this area.

Implications

RSU 18 has adopted a teacher and administrator effectiveness program that is based on professional goals, student performance and teacher growth. A key component to this system is feedback given by administrators and teachers that is connected to our instructional framework (Marzano's Framework). RSU 18 administrators use an online tool, iObservation, to collect data and provide this valuable feedback to teachers. In addition, teachers use this tool to help set goals and access professional development.

RSU 18 has an active committee structure that shares leadership of all aspects of our vision and supports continuous improvement. Our vertical teams, our program office committee, and our parent / teacher leadership groups helped design and host a feedback session during the summer of 2015.

Interventions and Next Steps	Person/Position Responsible	Timeline
A team of teachers and administrators will provide support to staff members on i-Observation, the program RSU 18 uses as an observation tool. In addition, time will be dedicated improve the technology skills needed to implement our new feedback / evaluation system.	Teacher / Administrator Effectiveness committee	Reviewed annually by steering committee.
RSU 18 will create and budget for a position to increase communication with the community. The district website and a new district Facebook page will be updated on a regular basis.	District Admin Team and Leadership Teams	Evaluated annually
Changes will be made in our online system of tracking learning. All parents will be sent academic progress reports at least four times per year.	Assistant Superintendent / Chief Academic Officer	Evaluated annually

Part C: Professional Learning

Results of the Data

- 68% of teachers in RSU 18 want to learn more about effective use of technology for teaching and learning. (BrightBytes survey 2016)
- 58% of the elementary teachers reported using their 1 to 1 devices on a regular basis in the classroom. (district staff survey)
- Only 7% of teachers report that using technology on a regular basis has a negative effect on student engagement. (BrightBytes survey 2016)

Implications

Having 1 to 1 technology in our elementary schools is new for k - 5 staff members. Professional development is needed in all buildings to improve our use of these devices. Our district has committed to a successful implementation of this technology. This includes ensuring that we find a balance between regular use of student devices and responsible levels of screen time. This also includes monitoring progress to make sure academic results are being realized. Finally, we must do everything we can to ensure that proper safeguards are in place for safe use.

There will be a review to evaluate the benefits vs expense of having 1 to 1 devices at all levels.

Interventions and Next Steps	Person/Position Responsible	Timeline
Professional development options that focus on technology will be built into at least 50% of district professional development days.	Assistant Superintendent / Chief Academic Officer	Over the next two years - 2016-17 - 2017-18
RSU 18 will identify at least two elements from the Art & Science of Teaching that focus on the use of technology and student engagement. These elements will be focus points for classroom observations.	Teacher / Administrator Effectiveness Steering Committee.	2016 – 2017 and 2017 – 2018 school year.

Part D: Learning-Focused Access

Results of the Data

- Only 13% of the elementary teachers reported having no issues with access to the wireless network. (district staff survey)
- 36% of the RSU 18 teachers did not feel they could easily find the technological resources to meet their teaching goals. (BrightBytes survey 2016) Based on observations and communications with elementary teachers, these results would be similar in the elementary grades as well.
- In the staff survey given in the spring of the 2015 – 2016 school year, 61% of the staff responding noted that there is a need for more online resources for classroom teachers. (RSU 18 district staff survey)

Implications

Reliable connectivity and support are critical components to facilitate the use of technology as a tool in the classroom. When inconveniences arise with technology, the result is often that less people will use this tool in their classroom. Not having the appropriate technological resources is another inconvenience that discourages the use of technology and it is important that this be addressed.

Interventions and Next Steps	Person/Position Responsible	Timeline
RSU 18 will improve access for teacher and students at all of our schools that are not part of the MLTI initiative. (Connectivity in the MLTI schools is not an issue)	RSU 18 Technology Director	By January of 2017
RSU 18 will develop procedures to make access to technology tools / apps more accessible in 100% of the elementary classrooms.	District administrative team and Technology Director.	By January of 2017 - ongoing
The elementary technology integration staff will meet monthly to discuss strategies to assist teachers in using technology in their classrooms.	RSU 18 Technology Director	By the fall of 2017

Responsible Use

Federal Law Compliance

FERPA, CIPA, and COPPA are laws governing the responsible use of technology. They touch upon the use and sharing of student data, keeping children safe while online, and set age limits restricting the use of certain online resources. We are aware of these laws and it is our intent to continue to learn as much about them and continue to work with our outside resources to address concerns around them. We strive to build awareness of each of these topics with our staff through the goals outlined in this plan.

Sustainability

Funding plays an important role in providing technology as a tool in the classroom. Without garnering support through committee members, the board, and the community by providing a solid plan for technology, funding can be very challenging. Part of the plan must include replacement costs for new purchases. It is our intent to determine the lifespan of any new hardware and software and so that may be used to build into future budgets.

Disaster Recovery

Security is a broad subject but one piece that has not been focused on in the past, mostly due to lack of funding, is business continuity and disaster recovery, or BCDR. Section IV of this plan speaks to the impact on reliability in the classroom and we must identify ways to make technology more reliable. In the event of an environmental disaster, we must have a plan to recover. The goal is to identify best practices in terms of disaster recovery and begin moving in a direction to reduce our Recovery Time Objective (RTO) and Recovery Point Objective (RPO).

Review of technology policies

Technology policies are ever changing. We must be vigilant as the technology evolves to keep these policies up to date. It is our intent to review these on an annual basis.

Section VI: Certifications:

By signing below, the superintendent is acknowledging the following:

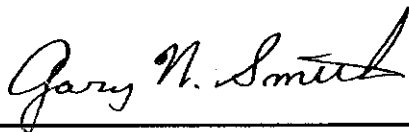
- The district has completed one Technology Access Survey per school in the district
- The information submitted in the Technology Access Survey is accurate
- The Learning Technology Plan has been approved by the SAU's school committee
- The district is committing to work the plan (recognizing that plans do evolve over time)

Regional School Unit No. 18

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SAU MEDMS ID # & Name

Superintendent Email



06/27/2016

Superintendent Signature

Date

Gary N. Smith