

Technology Plan 20013-2016

**RSU #13
28 Lincoln Street
Rockland, Maine 04841**

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Introduction

As this plan is written, Maine is finalizing a new multi-year contract for the Maine Learning Technology Initiative (MLTI), following on ten years of supplying laptops to every 7th and 8 grader and more than half of the state's high school students. At the same time, RSU13 is awaiting the public vote on a budget that attempts to absorb a \$1.6 million decrease in available funding from the state. MLTI's decision will provide stability for the duration of this plan, while budget concerns on the part of everyone in the RSU13 community will cause yearly uncertainty in our ability to execute the plan.

Within this context, the awareness that technological change has had a significant impact on our community cannot be denied. Our schools now strive to bridge the gap between two cultures, one consisting of most of our teachers, parents, and community leaders where technology is something new, requiring relearning and practice, and another consisting of all of our students where technology has been available since birth and is simply assumed to be constantly increasing in both availability and power. "Always on" connectivity is taken for granted, but is still not yet utilized as effectively as it could be within our learning community.

Throughout this plan we will refer to the 2012 report created by the National Association of State Boards of Education (NASBE) titled Born In Another Time – Ensuring Educational Technology Meets the Needs of Students Today – And Tomorrow. The report is available at this address: <http://www.nasbe.org/wp-content/uploads/Born-in-Another-Time-NASBE-full-report.pdf>

This has been a big year for district-wide assessment and planning. We have completed the first Strategic Plan for RSU13 since the consolidation of the previous MSADs 5 and 50, and we have completed the initial accreditation process through NEASC for Oceanside High School. This plan comes on the heels of these, and includes their input.

Members of the RSU 13 community believe that technology should be both a means of instruction and a goal of instruction. In a social studies classroom students might use the Internet to access information about the political and financial decisions leading to the recent sequestration. In this context, the computer is the tool used to help the student achieve the educational result. But in a computer science, video production, or programming class, learning to use the technology itself is the goal. We have a responsibility to ensure that our students can use technology as a transparent tool for the acquisition of other knowledge, but also to ensure that they can learn new technologies as they emerge. This is surely their future.

Technology will be a powerful learning tool when used by a skilled teacher in a pedagogically sound curriculum. Numerous studies indicate that it is not technology by itself but rather technology in the hands of skilled teachers with support and guidance from administrators that makes the difference. Accordingly, we are committed to providing the best professional development that we can for our staff. We can expect the best outcomes from technology when it is seamlessly integrated into a student-centered learning environment.

Since our last Technology Plan was written RSU13 has taken some significant steps.

- Projectors have been installed in all classrooms K-12, though some room shifting has resulted in some ongoing needs
- We have mostly achieved our goal of placing all our technology equipment on a four-year rotation cycle. The recent decision to work with the Macbook Air solution offered by Apple

**"Do not confine your children to your own learning, for they were born in another time."
—Hebrew Proverb**

*"Innovative technologies—from smartphones and smart TVs to iPads and even Leap Pads for preschoolers—have launched our children into a digital age, a period in which the average teenager texts 60 times every day, a large majority of teens have a social networking site, and the combined use of media by students averages 6.5 to nearly 10 hours daily, much of it in a multi-tasking environment. This generation of students truly has been born in a time very different from that of their parents, school board members, principals, and most of their teachers."
--source: NASBE report 2012*

as part of the MLTI bid process from grades 6 through 12 fits with this cycle, and expands our 1-to-1 coverage by one more grade level.

- We will be purchasing the older macbooks that are retiring from the last MLTI contract, allowing us to spread these laptops to the lower grades through the use of mobile carts.
- Every school now has an Internet connection of 25mbps, with 100mbps between buildings.

In addition, we have begun moving toward the state mandate for a proficiency-based diploma for the class of 2018. We have installed software ("Educate") designed to help organize the numerous proficiency statements required as well as to track student progress over the years. We are incorporating the Common Core State Standards (CCSS) into this work, and will soon be joining the Maine Cohort for Customized Learning (MCCL). Some teachers are already moving to a standards-based approach, though as a district we are still just beginning. This is a big change for RSU13, as it is for all Maine schools, a change that would not be possible without the vast increase in technology targeted at education.

I. Community and Parental Involvement

RSU13 has just completed a new Strategic Plan, available at this address:
<http://rsu13.org/sites/default/files/Strategic%20Plan%20SB%20Approved%203-7-13.pdf>

The Strategic Plan was developed over more than a year and included numerous meetings with all stakeholder groups. It represents the most comprehensive attempt to gather public input since the consolidation of the former districts MSAD5 and MSAD50.

In addition to the Strategic Planning process, the merging of the two former high schools, Rockland HS and Georges Valley HS, into Oceanside High School required a new accreditation through NEASC, completed in 2013. This process also required extensive input from the public.

The development of this Technology Plan included specific input from the people shown below. Together these groups and planning processes provided the input necessary to assess where RSU 13 is and where we want to be in the future. The individuals involved were:

Loren Andrews Board Member, Parent	Shannon Parker Adult Education Director
Bruce Johnson Technology Director	Laurie Walsh Technology Integrator
Neal Guyer Director of School Improvement	Kristen Gould Teacher, parent
Jeff Monohan Technology Staff	Hank Read Technology Integrator
Scott Vaitones Business Manager	

The Strategic Plan includes the following statements about the district's goals for technology:

Recurring Themes from the public

- *Integrating technology while significantly enhancing staff training in technology-based learning applications.*
- *Examining the role of technology in learning, district-wide, making access equitable while emphasizing a high level of student and teacher basic proficiency and advanced applications.*
- *Preparing students so that they learn how to learn, how to access and analyze information, how to research a topic, and how to work collaboratively with others in groups.*
- *Moving the district forward to a standards-based approach to teaching, learning, and accountability.*

Teaching and Learning – Lead Objective 1 – School Culture

- *Action Strategy 1D: Expand technologies to foster communication and common experiences with students from other parts of the world.*

Lead Objective 4 □ STEM Curriculum and Programming

- *Action Strategy G: Develop a comprehensive technology plan focused on successful learning and effective teaching throughout the district and at ALL grade levels with equally effective access to all students and expecting model proficiency by all faculty and staff.*

II. Vision and Beliefs

Technology Department Vision Statement

The RSU 13 Learning Community will be technologically literate life-long learners. Students and staff will interact successfully in a technologically rich environment to achieve their personal, educational, and career goals. They will skillfully and responsibly use technology to access, retrieve, integrate, and create information and to collaborate within RSU 13 schools, communities and globally. RSU 13 will teach students and staff to use technology to achieve these goals and life skills.

Technology Department Mission Statement

The Technology Office of RSU 13 will provide and maintain the technology necessary to support the educational goals of the district. The Technology Office will also provide leadership to integrate state-of-the art computer and network technology into classrooms to achieve desired educational outcomes for all our students.

We believe:

- That technology is primarily a tool of education and not an end in and of itself. As such, educational goals and district curriculum should drive technology use. At the same time, however, emerging technology should allow for the development of new programs and educational practices.
- That RSU 13's technology goals should extend to the entire educational community. We will provide the community with information and resources that give our students every opportunity to be successful in school, at work, and in life. Technology will provide connections between the schools, community groups and the world so that our students can take advantage of the expertise of others, anywhere and anytime.
- That computer technology must be integrated into every area of the curriculum where its use is an appropriate choice to achieve a given educational goal. Technology will be used to enhance the curricular opportunities offered to students. Staff will receive support necessary for them to help students achieve their goals.
- That RSU 13 should make every effort to find timesaving technological solutions for routine tasks. Reducing time spent on routine support tasks allows more time for direct teaching and learning activities.
- That technology can and should be used to improve communications between all segments of the school community. The RSU 13 web site will be a source of timely information about our schools. It will be a repository for all policy and handbook information including the district budget, and will provide the community with e-mail access to all staff members.
- That our school district must produce students who are technologically capable and ready for life and work in a changing world. It is our desire to be aware of emerging technology and to make these available to all of our learners, staff and community.
- That our technology vision can be achieved with available financial resources, balancing educational benefits against cost. We will evaluate new technology to help ensure that we are meeting our goals and objectives in a cost-effective way.

III. Goals

1. Student achievement and performance will improve through the use of technology.
2. Technology will support and enhance curriculum, instruction, and assessment.
3. Technology will support the move toward a proficiency-based system.
4. The use of technology in administration, management and communications will support and enhance the teaching and learning process.
5. Students and staff will have the technology necessary to achieve district educational goals.
6. Adequate and timely technical support will be available to all students and staff, to support the teaching and learning process.

IV. Identify Necessary Technology

Technology At All Schools:

Connectivity: 100mbps fiber to Central Office; 50mbps fiber from Central Office to MSLN

Teacher and Administrator Devices: Macbook Air for each teacher and administrator

Student Devices: 1-to-1 Macbook Air grades 6-12 , others as noted below

Technology By School:

Cushing Community

Administrative Office: iMac; 2 networked printers

Students: Win 7 PC lab; 1 classroom of iPads; 1 cart macbooks; 2 networked printers

Gilford Butler

Administrative Office 1- Win 7 PC; 2 networked printers

Students: 1 cart macbooks; 1 win 7 PC lab; 2 networked printers

Lura Libby

Administrative Office 1- Win 7 PC; 2 networked printers

Students: 1 PC lab Win 7; 1 cart macbooks; 5 networked printers

Owls Head

Administrative Office 1- Win 7 PC; 1 networked printer, 1 standalone printer

Students: 1 cart macbooks; 1 networked printer

Rockland District Middle

Administrative Office 2- Win 7 PCs; 2 standalone printer, 2 networked printers

Students: 1 cart macbooks (gr 5), 1-to-1 MLTI MacbookAir (grades 6-7)

South

Administrative Office 2- Win 7 PCs; 1 standalone printer, 1 networked printer

Students: 2 classes iPad pilot, 1 cart macbook, 1 lab macbooks; 4 networked printers

St George

Administrative Office: 2- Win 7 PC; 3 networked printers

Students: Win 7 PC lab, 1 classroom of iPads; 2 carts macbooks; 4 networked printers

Thomaston Grammar

Administrative Office 1- Win 7 PC; 2 networked printers

Students: 1 cart macbooks (gr 5), MLTI Macbook Air (gr 6-7); 3 networked printers

Oceanside HS east

Administrative Office: 6- Win 7 Pcs; 4 networked printers

Students: 1-to-1 MLTI Macbook Air; 6 networked printers

Oceanside HS west

Administrative Office: 2- Win 7 PCs, 2- iMacs; 1 standalone printer, 3 networked printers

Students: 1-to-1 MLTI Macbook Air; 3 networked printers

The MLTI project will provide 1-to-1 laptops from grades 6 – 12 for the duration of this plan. We anticipate continuing growth in technology that is used in the district. Part of the conversation this year involved the expansion of 1-to-1 to include all grades from k – 12, with tablets as the primary device. Although this was not the final decision, due primarily to the budget constraints noted earlier, it does seem almost inevitable that this is where we are headed.

A pilot project this year involving the use of iPads with younger students has demonstrated the value of touch-screen, app-driven devices within the lower grades. At this time, we await the spring testing results (NWEA) that are expected to bear out the impression that such technology works very well with our youngest students and results in increased rates of learning.

The NASBE report includes statements of current realities that match our own:

- Most of our students have never experienced a world where they are not connected to both information and peers.
- However, despite their experience with connectivity, *“...when it comes to information, even the best students can be digital doofuses. In other words, just because they have a more intuitive grasp of how to make technology “work” doesn’t mean students automatically know*

how to use it as a tool for learning. Students still need to be taught foundational research skills and processes that can be enhanced by technology use. This means students—and educators—need to understand that doing research is more than just sorting through what pops up via online search engines.” (p.7)

- Increased information accessibility has resulted in decreased structure of the information of the kind that textbooks used to provide.
- The “always on” generation seems to be constantly multi-tasking, and this causes concerns about the ability to maintain attention on one task for an extended period of time.
- The ability to copy and paste has impacted the ability to write extemporaneously, and handwriting is becoming a lost art.

Therefore, we need:

- To provide connectivity in all locations and with sufficient bandwidth to support what our students have come to expect.
- To specifically teach the digital literacy skills that will bring students to higher order thinking and synthesis of divergent ideas.
- To specifically teach the attention and organizational skills that will prepare students for the demands of more complex learning environments, including post secondary education and the workplace.

It’s not all about the students, though. As noted earlier, many of the adults in our community are still learning to use the technology that is available to them. It is imperative that they do so in order to create the learning environment that works for the connected students. RSU13 provides support for such learning through the Technology Integration Specialists (Integrators), but continues to struggle to find the time required during the school day and year for teachers and administrators to increase their skill set with the technologies that students take for granted. As the NASBE report notes, *“Professional learning for veteran teachers has too often not kept pace with advances in technology or new ways of learning, even as the number and quality of these training opportunities have fallen significantly due to budget cuts.” p.23)*

Therefore, we need:

- To develop an assessment system of essential teacher technology skills and include such skills in both interviewing new teacher candidates and evaluating current teachers.
- To utilize substitute teachers to relieve teachers from the classroom for brief duration training sessions with the Integrators.
- To increase the number of tech-focused professional development days.

V. Collaboration with Adult Literacy Service Providers

RSU13’s technology team works closely with RSU13’s Adult and Community Education to support staff, instructional efforts and the program’s data reporting needs. RSU13’s Technology team configures all technology systems for adult education, from employee workstations to student computer labs. Ongoing support is provided for enhancements and troubleshooting as needed. RSU13’s Technology Director works on the administrative team with RSU13’s Adult Education Director and provides year-round support for the state-mandated MIS student database for adult literacy learners. In addition, the directors will work together to become compliant for the new GED computer-based test, which will be in effect January, 2014. Lastly, Adult Education was the recipient of a MDOE Technology Grant in FY13, one which provided a Tandberg unit to the district as well as several laptops. Use of the Tandberg and laptops are granted to the district technology team and all staff members upon request. RSU13’s Adult Education program partners with—and is co-located with—Literacy Volunteers of Mid-Coast Maine to provide literacy services to nearly one hundred citizens annually. The two agencies also partner to provide Family Literacy (with Rockland Public Library), Health Literacy and Technology Literacy. RSU13’s technology team supports the

administrative technology station for the Director of Literacy Volunteers of Mid-Coast Maine. RSU13's Adult Education programs serves over 700 students annually.

VI. Strategies for Improving Academic Achievement and Teacher Effectiveness.

We see educational technology as a means by which students are able to achieve academic goals. The first step in improving academic achievement is to ensure that teachers have the skills to use the available technology to both define and accomplish learning goals. This includes expanding the traditional location of learning beyond the local school and classroom to include web-accessible sites and systems. Behind the scenes, it also includes the development of a data and reporting system to track student performances from kindergarten through grade 12 as we transition toward a proficiency-based system.

In general, the emphasis for development of technology skill for both teachers and students has been on integration within existing classes and curricula rather than separate technology classes. The district employs 2 ½ technology integrators who work with both teachers and students. Some specific offerings in technology have increased in recent years, with the addition of classes in web design, programming, app development, and office skills. However, for the 2013-14 school year, the significant constraints of the budget process have caused these classes to be reduced to half-year, half-credit. Overall, the consensus seems to have been that technology is best delivered via an integrated approach within existing curricula.

Brief training sessions in the use of technology for teachers and educational technicians are regularly held, during Common Planning Time, or after school. Topics, for example, are on creating web sites to support classes, using social media sites, using the Google For Education suite of tools, developing a paperless environment, using the Educate software, and accessing and interpreting NWEA scores. Time to deliver such training continues to be elusive. We plan to begin using substitute teachers to gain release time for teachers to receive tech support, either directly through meeting with district Integrators, or through attendance at remote trainings sponsored by MLTI.

Our expansion of the MLTI solution to include grades 6 through 12 in 2013-14 will help to stabilize the past variability in the delivery of technology. We anticipate continued expansion in future years, probably with tablets at the lower grades, as funding permits.

The district continues to use Infinite Campus as its primary student information system. Each student and parent has a unique login account in order to view class information and progress reports. Teachers are required to update student information within Infinite Campus regularly in order to provide parents with current achievement reports. Timely communication with parents is essential so that they can support teachers in their work.

Maine is requiring all high schools to implement a proficiency-based diploma for the class of 2018. In 2013 we began working with the Educate software on a pilot basis with a handful of teachers at many grade levels. This system is designed to manage proficiency data, and is championed by the Maine Cohort for Customized Learning (MCCL) This use will continue to expand as the use of data to assess student proficiencies becomes more prevalent. This will be a big change, requiring teachers to maintain an extensive data set about student work, and they need an efficient system to do so.

All schools and all departments have been working on clarifying and standardizing the structure and language of our proficiency based system, starting with the Common Core State Standards (CCSS) and the Maine Learning Results (MLR). Academic departments at Oceanside East and West have focused on graduation standards, and this work is ongoing. Ultimately, our schools will define and

work with a coordinated system of standards based on CCSS and MLR that will guide our teachers in the planning and delivery of instruction and in the assessment of students.

Technology provides tools that have not been available previously. As the cost to storage continues to decline, we anticipate retaining samples of student work that demonstrate proficiency or progress at every level of growth. – an entire k-12 portfolio for each student. Our current system of grading will fade away, to be replaced with Learning Targets, Scoring Guides, and Samples of Work. This will be a big change for teachers and parents, but will ultimately provide a more accurate picture of the skills of our students as they progress through our system.

In 2012-13, the two Oceanside schools, grades 8-12, began using the Student Feedback Survey (SFS). This is an online assessment where students are able to provide information to teachers on their perceptions of qualities of teaching, according to the “Seven –Cs” (Care, Control, Clarify, Challenge, Captivate, Confer, Consolidate). Teachers used the first data set as a baseline and established goals for the next set. This is an interesting assessment for us because it is the first time that the new tools of technology have been used to directly assess teachers and improve the qualities of teaching.

VII. Integration of Technology with Curricula, Instruction, and Assessment

The curriculum of RSU13 has been aligned with the Maine Learning Results for some time, and is now in the process of aligning with the Common Core State Standards wherever such standards have been adopted.

The goals and current achievements of RSU 13’s Community Technology Plan are district-wide and apply to the entire community. We believe that technology competency is vital to our children’s education and to the continuing education of all of our staff. The ability to communicate freely and easily, and to continue to learn throughout life, is supported by the expansion of 1-to-1 in grade 6 - 12 and continued availability of computers in carts, libraries, and labs throughout RSU 13. Computer availability is essential even as we enter an age where students are carrying their own connected devices.

We believe that students are best served when technology is a seamless tool to help achieve learning goals. As such, it must be used within classrooms. MLTI provides a wonderful solution in our one-to-one grade levels, grade 6-12. Where 1-to-1 is not yet possible, we must continue to provide carts that can be brought into classrooms.

There is a desire among some on our Board to provide 1-to-1 devices for all students K-12. In the 2012-2013 year a pilot project was implemented that provided iPads for each student in two kindergarten classes, two 4th grade classes, and a special education resource room. Feedback from these teachers has been consistent in revealing that such an approach has yielded measureable progress for students in basic skills acquisition, but that the time required for teacher attention to the managing the devices has been a burden.

Overall, this pilot seems to have clarified district thinking that iPads are the most appropriate device at the younger grades. A recent position statement developed by the administrative team called for expanding the MLTI solution down to grade 5, and implementing an ipad solution (regardless of the MLTI decision) into grades K-4, with priority given to grade K-2 if budget constraints present an obstacle to full implementation. At this writing, the budget will not support this degree of expansion, though there is still energy to seek private funding.

We continue to use the NWEA computer adaptive testing system know as MAP (Measured Academic Progress), though we have scaled back somewhat so that we are only testing reading and math. Since this test uses state-of-the-art technology, results are available within a few days,

which makes this a highly effective tool for improving learning. RSU 13 will continue to provide the necessary technology and support for this assessment tool.

Two separate tech-based feedback systems for teachers have been implemented, and will continue. One is the “Student Feedback Survey”, where students access a web-based survey to answer questions about the qualities of their experiences in that class. Data for each teacher from all classes is pooled to show a composite of patterns for that teacher from the students’ point of view. The other, known as “IWalkthrough”, is a process where an outside observer enters a classroom to record a quick set of Likert-style ratings on everything happening in the classroom at that time, including classroom configuration, student engagement, activity type, taxonomy level, teacher interactions, learning approaches, class size. These observations are pooled into a data warehouse that can be queried from any combination of data sets, including comparison with other schools across Maine, yielding a picture of patterns from our classes. Tools like these are enabled by the growth of technology, and we are just beginning to seize the value that they can have on the qualities of teaching and learning in our schools.

VIII. Technology Type and Costs, and Coordination with Funding Resources

Goals from Section III.

1. Student achievement and performance will improve through the use of technology.
2. Technology will support and enhance curriculum, instruction, and assessment.
3. Technology will support the move toward a proficiency-based system.
4. The use of technology in administration, management, and communications will support and enhance the teaching and learning process.
5. Students and staff will have the technology necessary to achieve district educational goals.
6. Adequate and timely technical support will be available to all students and staff, to support the teaching and learning process.

Goals	Activities	Hardware/ Software	Costs	Funding Source
1, 2, 3,5	Provide 1-to-1 laptops for grades 6 - 12	MLTI Macbook Air	\$273/student in grades 6 & 9-12 (MLTI covers cost of 7-8)	Local budget
2, 3, 4, 5	Provide laptops for teachers and admin	MLTI Macbook Air	\$273ea for teachers k-6 (MLTI covers cost of 7-12)	Local budget
1, 2, 5	Provide projectors for all instructional rooms	Lease classroom projectors	\$19,000/yr	Local budget
4	Provide productivity software for admin offices in all schools:	Microsoft lease for Windows 7 and Office in all admin offices	\$27,000/yr	Local budget
4	Provide administrative computers	Daktech lease for PCs in all admin offices	\$12,000/yr	Local budget
4	Provide emergency notification system:	"OneCall"	\$4,500/yr	Local budget
1, 2, 3, 4, 5	Provide proficiency tracking system:	"Educate"	\$4,000/yr	Local budget
6	Provide online system for professional training:	"Atomic Learning"	\$2,300/yr	Local budget
4, 6	Provide cell phones for technicians, integrators, admin	Cell phones	\$24,000/yr	Local budget
4, 6	Provide wired phones for all admin offices	Wired phones	\$24,800/yr	Local budget

IX. Supporting Resources

In order to use technology as an effective learning tool RSU 13 must provide:

- Technology support resources: adequate staff and funding to maintain our infrastructure and hardware
- Bandwidth: to ensure that network resources and content are delivered to computer desktops.
- Computer hardware and software
- Training: to ensure that both students and staff have the skills and knowledge necessary to take full advantage of technology as a learning tool.

The district will work to ensure that the necessary supporting resources, above, are in place so that students will have every possible chance to succeed. Recent years' budget constraints and especially those of the current year have resulted in small but significant cuts in personnel, when we actually would hope for an increase to support the rapid growth in technology. Current staffing is 6.0 FTE for hardware/network support, and 2.5 FTE for instructional support. This represents a 0.5 FTE reduction on the hardware/network side matched by an equivalent increase on the instructional side. While these roles are defined by job description, the reality is that all these personnel are qualified to work both sides and will do so when needed.

The goal of moving toward 1-to-1 in all grades, K-12, is still in the planning stages, but as we move toward this goal it seems clear that we will need additional personnel in both the hardware and instructional roles.

We feel strongly about the need for additional technology integrators, as funding allows. Why? Teachers are experts in curriculum, in instructional techniques, and in child development and learning. They cannot be expected to be experts in the emerging technologies that are rapidly changing the way instruction can and should be delivered in schools. In order to make the classrooms in RSU13 places of 21st century learning, teachers need to learn how to use new technologies as they become available. Integrators act as coaches to teach staff new tools and techniques, to model integration of technology in classrooms, and to support teachers as they move toward independent use of these new tools. Without this support, many teachers will be reluctant to risk the disruption of their current practices when trying to adopt new technologies. Good teachers are not willing to have learning come to a halt when new technology does not work as expected. "Just in time" assistance is critical to the success of changing instructional practice, and technology integrators provide this support. The integrator must be readily available, which in most instances means one per school.

X. Steps to Increase Accessibility

RSU 13 takes its responsibility to provide equal educational opportunity to all students seriously. We strive to provide equal access to all physical and electronic resources. We continually provide adaptive technology to students needing that kind of assistance and support this either through the vendor or tech office staff.

To ensure that we continually meet these needs the Technology Director and the Special Education Director will consult on a continuing basis to develop plans to address accessibility. Our integrators are regularly consulted by special education teachers to identify and assist with implementation of technological solutions that will enable success for students with specific needs.

The most current example is the inclusion of speech-to-text software on the most new devices, allowing students to dictate their writing. While this is an exciting new capacity, it is a tool that must be managed carefully and which may change student writing patterns in a way that is difficult to predict. Talking and writing patterns are not the same, and the software's ability to clean up

grammar and provide perfect spelling presents teachers will a new challenge in teaching the skills of writing.

XI. Promotion of Various Curricula and Teaching Strategies that Integrate Technology

Probably the strongest force influencing both curricula and teaching strategies is the move toward proficiency-based assessment. We are moving away from the model of the Carnegie Unit, where the teacher delivers instruction aimed at the middle of the class for a specified number of hours in order to arrive at credit for students. Instead, we strive to identify the chain of learning targets that the student must achieve, assess where the student is along that chain, and deliver the instruction needed for the student to take the next step. This means that the curriculum in each classroom must cover a broader range than ever before, and the teachers must be prepared to group and regroup in order to provide closely targeted instruction.

In 2012, we held a book study on the concept of Mass Customized Learning, and in 2013 ten teachers with their building principals attended a four-day conference on the topic. In 2013 we began training teachers in the use of the Educate software, a data system meant to organize and retain records of student proficiency. Still, despite the attention, we see people who are eager and others who are resistant. This is an organizational and cultural change that takes time.

At this writing, RSU13 is still mostly in the experimental stage with this. We have one school that has been delivering a proficiency-based approach for years, but most are just beginning. Our high school departments are currently wrestling with defining the student proficiencies that will be required for graduation. Teachers here and there in many schools have started to make the shift by altering their grading system and adjusting curricula and instruction. We piloted the Educate software this year, and are poised to expand the system next year.

The move toward proficiency-based programming will both require and support the growth of teaching strategies that integrate technology.

Our ongoing conversation focuses on both technology skills and the pedagogical issues related to the effective use of educational technology.

XII. Professional Development

We use a multi-faceted approach to professional development to accommodate the various learning styles of our staff. Research is clear that adults learn best from “doing” and with acknowledgement of their prior experience, so our approach is to engage staff in technology rather than to just show them technology. Within any organization, there are three basic groups, early adopters, those willing to adopt, and non-adopters. Professional development strategies must consider each of these groups.

Early Adopters: Early adopters will learn technology on their own. The challenge often is to keep up with their ever-expanding needs for technology. Staff in this category will take advantage of a wide variety of professional development opportunities. They are good choices for “train the trainer” workshops. They will also use self-paced learning such as printed and online tutorials. Early adopters become the target group for new technology since they will have a much better chance of success than other groups. Even one-on-one training pays dividends here.

Willing adopters: Willing adopters will learn to use new technology if they are provided with effective training. This group will adopt new technology and teaching strategies but will need to be shown how this can impact their classrooms. Care needs to be taken so as to not set this group up to fail

in their efforts. This group is an ideal group for summer intensive workshops. We can best assist by encouraging their attendance at regional intensives or through the development of an intensive project-based technology workshop on the district level. Once these teachers experience some success in their classrooms we can expect that they will continue to work with technology.

Non-adopters: Non-adopters resist all or most new technology. They can learn technology skills but they have an emotional response which causes resistance. Experience shows that the best strategy for this group is one that provides training in small doses that can be easily replicated. For example, providing these teachers with a complete, technology-rich lesson plan and the training to use it may bridge their resistance. This is an excellent use of the in-class technology integrator, where the reluctant teacher is provided with a safe model of a complete plan and can compare the results with more comfortable methods. Self-paced learning and large group settings are not the best venues for these teachers.

This year several schools offered “Tech Tuesday”-style sessions, after- or before-school voluntary meetings to review various “how to” topics. These sessions appeal to both the willing and early adopters, and bringing these two groups together encourages them both to continue the process beyond the immediate session.

RSU 13 will continue to provide a multi-faceted approach to professional development. We will develop and expand our training resources. We will continue subscriptions to on-line tutorial sources. We will take advantage of in-service times and develop strategies for intensive, project-based workshops for staff.

RSU 13 will continue to employ a variety of professional development models to improve staff technology skills which in turn will improve students' ability to use technology. We will not rely solely on workshops as a means of increasing staff technology proficiency. We will use manuals, one-on-one learning, on-line professional development services and peer support to improve our ability to use technology in an educationally sound fashion, in coordination with other district professional development offerings.

We will continue to provide access for all staff to the Atomic Learning online system for technology development. During the 2012-13 year, this system was used extensively by our educational technicians seeking to upgrade their certification levels to EdTech 3, as required by an administrative directive.

The iWalkthrough and the SFS described in section VII provide a look at the future of professional development. In these systems, technology gives almost instantaneous feedback to a teacher from a point of view other than the teacher's own. This is a huge change for many teachers who are used to being observed by their principal just a couple of times a year. Historically, teaching has been a largely independent and autonomous craft. New systems such as the SFS and iWalkthrough shift the paradigm away from autonomy toward professional community. These will be powerful forces for professional development.

XIII. Innovative Delivery Strategies

RSU 13 will continue to look for opportunities to develop innovative methods to provide content and improve the process of learning through technology. These strategies will be used for both staff development and student learning. We will continue to look for new, effective ways to provide content for students including interactive video for distance learning, podcasting, “flipped” classrooms and other innovative technologies. We will also look to take advantage of on-line sources for professional development and course content for students. As new technologies emerge they will be weighed for their educational potential. As part of the MLTI program, anticipating the arrival of touch-screen, app-driven devices, we will be creating an “Apps

Committee” which will have the role of discovering, assessing, and recommending apps that may be added to teacher tools sets.

The shift to a proficiency based diploma for the class of 2018 and the related move to define the standards for all classes and grades causes a broad reexamination of our delivery strategies. One of the most prevalent new ideas is that of the “flipped” classroom, wherein the basic presentation of information is provided through online systems and the time in class is then used for more interactive activities. Some argue that lecturing is the lowest level of teacher activities in the classroom, and that students can do that independently outside of the classroom. Some teachers are already experimenting with recording their lectures. In order for this to grow, teachers need training, time, and equipment to create such videos. The district needs to consider whether it wants to provide storage and streaming capacity for this purpose or whether it will depend on outside agencies such as YouTube for this.

Some teachers are beginning to work with massively open online courses (MOOC) through Udacity, Coursera, and an ever-increasing number of universities. Most of these are a challenge for pre-college students because they depend on a high level of self initiative, but the field is evolving and we can anticipate an impact on our own programs.

XIV. Accountability Measures

The status of technology in the district is regularly assessed at three levels – instructional, support, and management. The integrators meet almost daily with building principals and weekly with building leadership teams to report on the use of technology at the instructional level. The full tech support staff meets weekly to review current status and needs. The RSU13 Board’s Technology Committee meets monthly with district administration, tech support staff, and integrators to review progress on technology and to provide funding and management as needed. This three-level approach provides an almost constant conversation on technology across the entire district. This has been especially true in 2012-2013 with the ending of the MLTI lease, and will continue in the following year with a new lease and the change in hardware for both teachers and students. The combination of this change and the current budget constraints will cause technology to have a tremendous amount of attention for the near future, including tough decisions about priorities and value. The annual creation of the budget provides a definite assessment point for the details of this plan. Budget creation brings each of the three levels to a clear articulation of current status and annual goals.

This Technology Plan is not intended to be static. As situations change this plan will be reviewed and amended as needed. The Strategic Plan states the intention for it to be a “living document” which includes processes for mid-course corrections and adjustments. To this end,

“Beginning in the fall of 2013, the Superintendent will publish a concise, focused work plan highlighting the strategic plan elements and strategies that that will guide major work initiatives leading up to the mid-course review in 2014-15. This focused work plan will also serve as the basis for the annual review, and reporting of progress within this collaborative, district wide effort.

Since the Strategic Plan and the Technology Plan have both been renewed this year, it is recommended that the Tech Plan be specifically reported and reconsidered along with the Strategic Plan. Each of these plans complements the other, and both should move forward together.