

The Vermont Digital Learning Plan

2018-2021

DRAFT PLAN

June 2017

Timeline

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VERMONT

AGENCY OF EDUCATION

A Vision and Planning Guide

Education Technology has continued to find its way into every aspect of our educational day and should be a consistent part of supporting learning for our students. The following document is intended to help schools and Supervisory Unions in Vermont craft and deliver a vision and plan for how technology will continue to support learning for all students. This document is a stand-alone resource for the creation of Digital Learning Plans at the local level. This work needs to be accomplished in conjunction with any efforts at meeting the requirements of the Education Quality Standards developed in 2013. The layout of this document is as follows:

1. Goals for VT Digital Learning Plan 2018-2021
2. Layout of the Vision from the VT Agency of Education
3. Overall Guiding Questions in framing a vibrant learning environment supported by technology
4. General guiding beliefs from the Agency of Education—based on the National Education Technology Plan and state and local trends
5. Current State—reflections on past plans and the Annual Technology Survey
6. Moving Beyond our former plan and Continuing Priorities
7. Vermont Local Planning template and guide
8. Planning Guidance framed around Goals referenced in Vision section
9. Credits

What do we mean by digital learning?

A definition from the Alliance for Excellence in Education:

Digital learning is any instructional practice that effectively uses technology to strengthen a student's learning experience. It emphasizes high-quality instruction and provides access to challenging content, feedback through formative assessment, opportunities for learning anytime and anywhere, and individualized instruction to ensure all students reach their full potential to succeed in college and a career.

Digital learning encompasses many different facets, tools, and applications to support and empower teachers and students, including online courses, blended or hybrid learning, or digital content and resources. Additionally, digital learning can be used for professional learning opportunities for teachers and to provide personalized learning experiences for students. Digital learning advances school reform by increasing equity and access to educational opportunities, improving effectiveness and productivity of teachers and administrators, providing student-centered learning to ensure college and career readiness for all students, and recognizing teachers as education designers.

Establishing our Goals for Vermont in the Digital Learning realm:

Following the National Education Technology Plan, and realizing that Vermont has some unique needs, we'll frame the Vermont Goals under the following areas:

- **Learning, in Vermont's case, Personalizing Learning**
- **Teaching and Pedagogy**
- **Leadership**
- **Assessment and Evaluation**
- **Infrastructure**

While this is divided up in the Guiding Questions in the last section of this document, the following questions (20,000 foot view) should be considered as you move into your planning process;

- **What would it look like if your schools in your SU, in and outside of classrooms, were engaged in authentic, meaningful digital learning each and every day?**
- **How are you using to connect to known best practices? Workshop or conference on known best practices—possible? (Hattie assessment?) Connect with brain development...proven instruction practices**
- **What would a teacher be doing in that scenario? What skills would your teachers need to do this in their classroom? What are they already doing and where could they improve?**
- **What will help teachers change or grow their practice to meet the needs of their digital learners?**
- **What would students be doing? How and what do students want to do with technology and digital learning? What skills do they need to have to be successful in this learning?**
- **How would student success in building on VT's transferable skills be directly impacted?**
- **How can virtual and blended learning be fully integrated into each students' learning for an authentic, flexible pathway to graduation?**
- **What products, ideas, stories, would be coming from your classrooms if digital learning were happening daily?**
- **How could/would digital learning environments increase students':**
 - **Exposure to new ideas, communities and culture?**
 - **Civic engagement and responsibility?**
 - **Collaborations and community/state/national/global connections**
 - **Appetite for new experiences in learning?**
- **College and Career awareness and readiness? How would you communicate, showcase, exhibit this work to your community, parents, school boards, other regional school communities?**

Some Guiding Principles and Beliefs of the Vermont Agency of Education

Technology supports, not supplants nor replaces, excellent teaching. We believe the key to quality instruction is the teacher. Other key principles and beliefs include:

- All Vermont schools should be providing full-time or near full-time access to technology for all students, especially those in Grades 3 and higher. This does not necessarily mean that technology is being used in a full-time manner, but that the availability is there as it is needed to support learning.
- All schools in Vermont, in particular Middle and High schools, should be providing personalized instruction for all students, as stipulated in the Vermont Education Quality Standards (EQS). Personalized and proficiency-based learning can and should be supported with technology.
- All schools in Vermont serving secondary students should be moving to meet the intent of Act 77, which stipulates that schools provide access to flexible pathways for learning, including virtual and blended learning offerings. One example specific to Vermont schools is the Vermont Virtual Learning Cooperative, or VTVLC. Other online options that are used in VT include BYU Online, Virtual High School and Virtual Learning Academy Chart School (VLACS) to name a few. How can those opportunities be increased?
- International Standards in Education Technology exist and should be part of standards conversations in VT schools. In 2017, Vermont's State Board of Education (SBE) endorsed and adopted the International Society of Technology in Education's (ISTE) Standards for Students, Teachers and Administrators. (ISTE-NETS -S, -T, and -A). The VT AOE will continue to look to these standards as the foundation for Vermont schools' instructional technology use.
- The landscape changes quickly with regard access to technology in the form of computing devices. When choosing those devices for access to the Internet, schools need to be cognizant of the ever increasing presence of cloud-based computing. Students and staff alike no longer necessarily need devices with static drives and a myriad of software suites. Schools in VT should take advantage of services that relieve the local burden on maintaining systems.

- Providing an equitable environment for the acquisition of high quality digital learning resources for all content areas is crucial. The Vermont AOE, having joined with other State Education Agencies in supporting the national #GoOpen movement, encourages and will develop resources to move learning resources into an open and freely licensed digital environment. The Vermont AOE supports schools making a move away from static resources for learning and encourages schools to embrace digital resources that can be updated and made more relevant in shorter cycles. A partnership with OER Commons, a platform for sharing these types of resources has been established in 2017.
- Being proactive in obtaining funding to support education technology programs is obvious and we anticipate The Every Student Succeeds Act, or ESSA, is slated to provide some funding for professional development and infrastructure under Title IVA. Depending on how those funds are administered from the State level, they may provide a small source for supporting education technology and the use of digital resources.

INTERNET SERVICE PROVIDER RECOMMENDATIONS		
School Year	2017-18 Targets	2020-21 Targets
Small School District (fewer than 1,000 students)	At least 1.5 Mbps per user (Minimum 100 Mbps for district)	At least 4.3 Mbps per user (Minimum 300 Mbps for district)
Medium School District Size (3,000 students)	At least 1.0 Gbps per 1,000 users [^]	At least 3.0 Gbps per 1,000 users
Large School District (more than 10,000 students)	At least 0.7 Gbps per 1,000 users	At least 2.0 Gbps per 1,000 users
[^] Published by SETDA 2012; Adopted by the FCC in 2014 https://www.fcc.gov/general/summary-e-rate-modernization-order *User: students, teachers, administrators, staff, and guests Methodology Appendix A		

- Broadband is a moving target! Schools should be moving their Internet connectivity to meet the SETDA standards developed in 2012 and updated again in 2016. See table: Connectivity will continue to be a need as we see more transition to the cloud with software, data sets and the variety of assets that are more suitably accessed in a cloud environment. Budgets should continually reflect the ability to take advantage of higher quality service from local providers as it continues to be available at increased levels.

CURRENT TECHNOLOGY STATE of the STATE:

To begin, some general Vermont statistics concerning technology in classrooms:

Currently, Vermont has approximately 76,000 students in 300+ K-12 public schools and public/private academies. This number does not include private or independent schools.

The most recent data (June 2016) Perhaps updated with June 2017 stats collected in the Vermont Annual Technology Survey indicates:

- A little over 85,000 devices across all of our schools that are designated for student use.
- Over 200 1:1 computing programs across the state--those include 53 full school implementations, one or multiple grade level implementations or other situations where 1:1 is in place.
- We are approaching 2/3's of all schools having a broadband connection between 100 mbps and 1 gbps with only a small handful of schools having what could be deemed inadequate broadband levels. (As of Fall 2016, 9 schools fall in the below 10Mbps range).
- All schools have wi-fi capability in the building. Only 5 indicated that coverage is partial in their buildings.
- Chromebooks, offering a low-cost solution to providing full or near full-time access for students, now comprise almost 50% of devices in schools.
- Over 75% of schools are now connected to the Internet via a Fiber optic connection.
- 99% of schools in Vermont have a Google domain for sharing on a common digital platform.
- 150 schools are at 50% or above in terms of IT shifted to the cloud. 7 schools reported moving 100% of their services to the cloud.

Some overall generalizations can be made based on the findings of our Annual Technology survey. Increasingly, schools are able to acquire better quality and higher speed Internet access and with that new access can better serve their schools with a combination of local and "in the cloud" computing solutions. We will continue to see more movement to cloud-based solutions in schools. The combination of this transition along with consolidation efforts under Act 46 means that we may see fewer jobs in the IT sector in public education. This may signal to those currently in these roles that additional coursework towards an endorsement or teaching licensure may lead to more job security. There may also be opportunities for sharing these resources across multiple SU systems, or even in a regional nature. Another aspect of our survey that is telling is the increase each year in Chromebook deployment. These devices have proven themselves and we anticipate a continued increase in their use in subsequent surveys. These changes, combined with our continual move to proficiency-based learning is changing the nature of classrooms and putting more of the direction in the hands of students. In general, education technology is taking giant leaps in becoming portable, increasingly reliable and driving the notion that students can direct their own learning.

Moving beyond the 2012 plan entitled **Technology for Personalizing Learning**

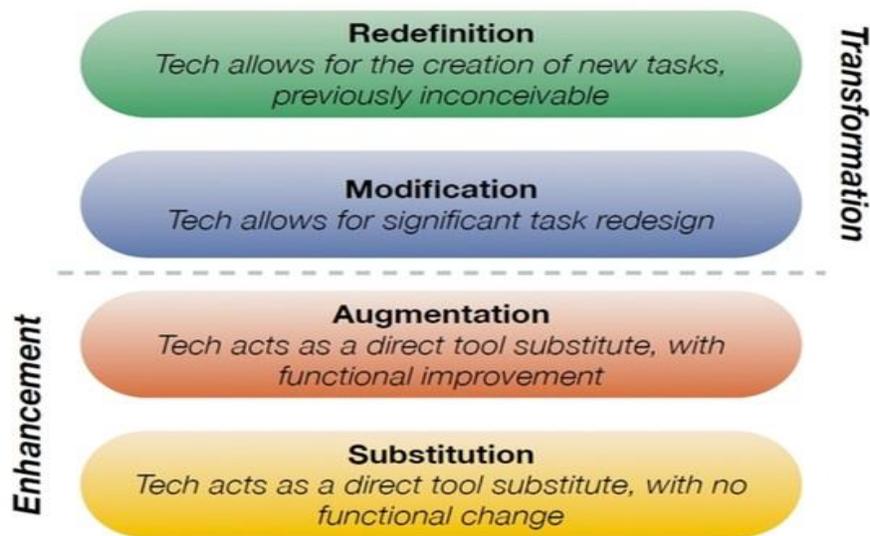
The plan released in late 2011 called for an increase in facilitated learning environments and looked towards using technology to transform the classroom environment. While some progress has been noted, we still have much work to do in that space. For numerous reasons, this shift has not been scaled. To name a few obstacles:

- Professional development not focused on the actual teaching and learning,
- educators opting to use technology or not depending on the level of importance placed by local school leaders, and
- in increasingly fewer examples, lack of robust connectivity at the local level.

Predictions in the 2012-'16 plan indicated much more collaboration using video-conferencing, online tools to bring expertise and collaborations within the classroom and while some of that has borne out, there is still effort needed at ramping up outreach to programs beyond the school walls. With continued work on Personalized Learning Plans and Proficiency Based Graduation requirements there may be more awareness building on how technology can support, enhance and sustain these efforts. A trend noted over the past 2-3 years has been the development of small companies developing a “platform” where video connections are fostered for school audiences. The Center for Interactive Learning and Collaboration has been long established, but other small companies continually emerge in this space. Companies like Flat Connections, Global Nomads, and Field Trip Zoom are a few that provide these types of services.

We see many changes in the structure of professional development, and schools tend to rely less on in-service to do a “technology” training and more on alternative methods of professional development, i.e. coaching and mentoring models, coursework, both online and in person.

This of course does not mean we still don't have much work to do. A visit to your local school still reveals cases where the isolated teacher or teachers are moving the use of technology forward and a good many are still using technology in ways that embrace the technology for its sake, but maybe not in how we envision it for real authentic learning. In the past, VT has done some work on the SAMR model put forth by Ruben Puentadura, from Massachusetts. Puentadura puts forth the notion that all educators must flow through a continuum, from substitution to redefinition, illustrated below.



Referencing the SAMR model, we still see a significant amount of Substitution, where traditional teaching and learning is simply moved to an electronic platform (i.e. a paper fill-in-the-blank worksheet is now an electronic fill-in-the-blank worksheet), but there are also examples that come up on the higher end of the model too, Redefinition. In this iteration of the creation of local Digital Learning Plans, we hope to bring more teachers to the Modification and Redefinition levels. So, one of our continuing areas of work must be in technology integration, perhaps following more of the models of embedded individuals that we know tend to produce better outcomes in terms of tech to support learning.

OTHER TRENDS in the Education Technology realm:

We are seeing a significant trend and desire on the part of schools to move into the Maker space. This is a concept whereby space within the school is dedicated to a more hands-on, creative or “making” space. Students might do some hands on work with electronics, robotics, woodworking, sewing, laser-cutting, programming or some combination of these skills. The intent is to engage students in some aspect of designing and creating, often with a programming or coding aspect as well. This trend is growing and more schools in Vermont are moving in this direction, repurposing different types of space within the school environment for student access. The Agency of Education supports this concept and even encourages schools to not dispose of wood or metal shop equipment of old, but repurpose this equipment in these spaces.

COMPUTER SCIENCE Revisited

Another area of focus for our work moving forward is the re-development and a refocus of resources that can build teacher capacity around Computer Science as a field and possible career choice for our students. In the past 15 or so years, there has been a significant amount of emphasis on technology integration into a variety of curriculums, and a move away from supporting actual computer design, repair and development. There are currently no active programs available for teachers that focus on Computer Science curriculum and provide them with the credits needed for an educator licensing endorsement in this field. Therefore, we have fewer and fewer individuals with the actual credentials to teach Computer Science at the same

time we find students having an interest in this field. Vermont's work in the annual Hour of Code has also grabbed the attention of educators and fueled a desire to have more professional development opportunities in this realm. This is something we can remedy by working closely with our higher education partners in the state and it could be something we could begin supporting again in schools as a stand-alone opportunity for those students for whom this hands-on approach meets their personalized learning goals. Schools may wish to consider what resources may be available locally to drive interest in this field.

As education leaders ponder ways to continue to integrate technology there are questions we must ask ourselves as we continue to move forward:

- How can evaluation systems used by school leaders, (walk-through protocols, documentation, etc. reflect authentic and worthwhile technology integration practices at the school level?
- Do Principals and school leaders have a framework from which to judge the various levels teachers should be working at with regards integration of technology? Are principals utilizing things like the SAMR model, or the Technology Integration Matrix developed by the Florida Center for Instructional Technology? [Technology Integration Matrix](#)? What tools do leaders need? Is there understanding of what authentic technology integration looks like? Do we need to hold Principals more accountable for what they do or don't see in their classrooms?
- What examples are held up at local schools to indicate adequate technology integration? Is use of a Smartboard in a classroom a good example of technology integration? Is the use of social media in classroom settings a valid and authentic example?

Some areas we must continue to focus on as we think out three more years;

- We must support better abilities for administrators to see the best education technology practices within their schools. (Using a Smartboard as a whiteboard does not necessarily constitute good education technology integration).
- Developing Common Expectations for what teachers know and can do with education technology-- OR better developing systems to hold teachers accountable to already established norms--under licensure requirements and ISTE standards.
- Figuring out ways to use online assessments, in the form of SBAC, NWEA, and others as tools to continually assess learning. The implementation of SBAC as a statewide assessment system and the tools it contains for analyzing learning, Airways, Interim

- Assessments, reporting protocols, etc. can become essential tools for quality analysis. (and many are free to schools).
- New and Continuing Priorities
- Professional development for leadership on developing evaluation models that look to recognize solid teaching practices that support learning with technology.
- Professional development for educators focused on facilitation of learning with technology playing a significant supporting role.
- Develop or model or exemplify systems where evaluation frameworks are used successfully to support this work. Using Danielson Domains, the SAMR model, Saphier models, Skillful teacher principles, as well as adhering to the VT core teaching standards and progressions with regards technology in classrooms.
- Establishing a system for evaluating professional development competencies.
- Integrating technology into all other disciplines
- Creating a common definition of what good digital learning looks like in schools—at one time proposed in a video project that could help teachers see tangible illustrations of best practices (see an example of a local conversation on that front from Woodstock HS in the sidebar). Here might be place to consider the work of John Hattie and his Visible Learning framework, whereby educators are asked to see the classroom experience from the eyes of their students. (reference needed here)
- Continue to develop, support and further virtual and blended learning experiences and technology integration to meet the intent of Act 77. Vermont Virtual, using Vermont teachers and requiring endorsement to instruct within that system sets a solid precedent for high-quality teaching and learning.
- Building more locally based mentorships and encouraging co-teaching models to address shortcomings in education technology. Utilizing the PLN (The Center for Collaborative Education; cce.org), schools can find various solutions to collaborate.
- Equitable offerings and opportunities from school to school.

Windsor, VT

Connecting classrooms and community: a classroom in Windsor VT, studying CO₂ and Yeast might connect via Google Hangout with one of the local brewmasters down the road at Harpoon Brewery to discuss the ways they use CO₂ and Yeast in their process and how they keep the process consistent over each batch they brew. The brewmaster understands that the science he applies each and every day may become a tool for learning at the local High School and makes himself available when asked by the teachers.

- Professional development: no more In-services solely on technology—embed and model
- Educating educators on the power of online communities and how they can/can't impact learning
- Create guiding policy (within this document or other places) that help schools get a sense of what good solid practices are in implementation with regard:

- Implementing 1:1 programs
- Developing Maker spaces within schools
- Developing tools for assessing the efficacy of tools and apps for learning
- Keeping a handle on Student Data privacy policy
- Supporting personalized learning with technology
- Developing assessments for reviewing overall technology programs
- Education Quality Standards and the Education Quality Review process—and how this work is integral to that process.

Vermont Local Planning Guide

Note: This suggested format, is simply that, a suggested format that you may or may not adhere to when developing your local Digital Learning Plan. Good planning, with a variety of stakeholders often leads to better implementation of any initiative or program. Should you decide to take this in a different direction, include the elements that are listed below.

Vermont’s plan for Digital Learning is framed around a typical planning structure that seeks a variety of change over a period of time. The 2018 Digital Learning Plan for Vermont constitutes a 3 year cycle for the State of Vermont and its school systems. This plan is intended as a guiding document to spur discussion, establish local education technology policy, and to spur local measurement and evaluation of existing programs. This plan carries with it a basic framework for planning along with a series of guiding questions to help school leaders frame their thinking around a workable, attainable set of goals and actions over the next three years.

The technology landscape changes quickly, we have seen significant change since our last plan in 2012. We will no doubt see more change between now and 2021. That part is a given and at this time should not be driving the planning process. New devices, techniques, tools, etc. will continue to impact our schools and classrooms. Crucial today is our approach to professional development, and the ways we continue to impact teacher practice. All of our efforts in schools to make them places where equitable use and support of learning with technology can take place hinges on our efforts to keep moving the bar in terms of changing teacher practice. It is time to craft plans that take in an understanding of the fundamental levels of change that are inherent in technology. The more intentional we are, the more equitable opportunities a system we create for access, equity and opportunity.

Influences on this plan:

Maker Spaces Innovation and Creation

St. Albans City School began a Maker movement that focused on STEM in classes that ran from 30 minutes to an hour for students in grades K-8.

By developing their vision of making beyond the classroom experience to one where all students and teachers can access maker tools and resources, they created a central space for the collection of such tools, shared by a variety of staff, and welcomed both individual student project development and whole class experiences.

As the use of the space grew, so did the need for skills development with the tools and their application to the curriculum, and along with that, the staff desire to connect the tools to their curriculum. Staff reached out to the greater VT community of maker educators for mentoring, additional training and professional development. Eventually the use of certain resources created a demand for those resources to be expanded beyond the maker space into programs throughout the school. For example, additional soldering equipment and 3D printers in the art room or a second laser cutter in the tech-ed room allowed for increased possibilities for developing skills and creating meaningful products as part of the learning experiences of all their students. We continue to see schools developing both the spaces and the skills with their staff.

THE NATIONAL EDUCATION TECHNOLOGY PLAN

The [National Education Technology Plan](#), released in December of 2015, notes the new Digital Divide, illustrated in the following quote from the plan:

“Digital Use Divide—not just about not having devices, it is about the activities that students embark on when they have them. In other words.. some students are doing somewhat rote learning while others do things much more creative when using tech to support learning.”

[Digital Use Divide](#).

Other notable areas of change we must address include collaboration, both within and outside of schools, and the continued effort at building communication skills with students using technology. For too long, we have not made robust efforts to connect with other places, classrooms, experts, community members, etc. The reasons are often sound, but in 2016, and especially in Vermont, the devices and broadband access can no longer be called barriers. The Annual Technology Survey for 2016 indicates Vermont schools have more devices than students. Each and every student with a device in front of them has the ability to use communication and collaboration tools to talk to anyone in the world, immediately and easily. Classrooms should foster this kind of communication and collaboration. Collaboration in this sense also includes educator to educator, whether it be the use of Twitter for building a professional development network or a video-conference connection for continuing education credit. These collaborations should be continually happening *between* the educators, experts in the field, other classrooms, etc. Technology allows for this to happen.

One area that demonstrated growth from our 2012-'15 plan was the creation of spaces conducive to hands-on learning. We are definitely seeing a shift in thinking about school spaces and activities that can be directly related to STEM, (Science, Math, Technology and Engineering) in our schools. The Maker Movement represents an increase of integration of project based learning in many of our Vermont schools, and has acted to engage and re-energize both teachers and students with its hands-on approach and possibilities for real-world applications and problem solving. The emphasis now in our next iteration is crafting authentic problems and scenarios that best take advantage of the engagement that students exhibit in these spaces and how that engagement can be capitalized on to address Education Quality standards and real skills that can be taken into the work world. Maker spaces that are developing long range project-based learning activities, ones that get away from making tchotchkes or key chains and apply real skills will have the greatest lasting effect in the end. Hour of Code, a national effort Vermont has taken part in sheds more light on this idea that many careers in the future will involve skills in coding and computer science, another area that we should focus attention on over the next few years. Community connections and work-based learning experiences can also help our efforts.

The Windsor Central Supervisory Union locally devised this definition of what true technology integration looks like. These are the components they indicated are required:

- 1. either enhances or redefines an educational activity. If an educational activity can be highly effective without technology, we should not add technology for the sake of adding technology.*
- 2. fosters higher order thinking where students are applying, analyzing, evaluating, or creating content using technology.*
- 3. engages students in educational activities in school and allows students to remain engaged outside of school.*
- 4. provides real world relevance and an opportunity for students to apply their learning to authentic situations.*
- 5. allows students to connect and collaborate with experts and community members outside of the classroom.*
- 6. uses appropriate technologies to achieve pedagogical goals (e.g.: different teaching approaches, methods of assessment, different learning theories).*
- 7. promotes the "active" use of technology, rather than "passive" use.*

LOCAL PLANS:

The VERMONT Digital Learning Plan:

The Vermont Agency of Education asks that each Supervisory Union or Supervisory District develop a plan for how digital learning will be supported within their SU or District. Ideally, this work will be part of a larger planning process, and you are encouraged to make this planning process fit your local needs. The VT Agency of Education requires that you submit a plan indicating how you will meet the needs at your Supervisory Union, or District around learning with education technology. Continuous Improvement planning work may be a focus for this work and with consultation and be driven by the overall planning work that this entails. In some cases, your SU or District may decide to place a heavier emphasis on this work and create a separate planning process. The requirement is that each SU develop a planning process

and in conjunction with the Continuous Improvement planning, devise a plan for how digital learning will impact..

There was a Federal requirement up until the demise of Title IID that was also required by E-rate as well. While no longer required by either of those entities, the VTAOE still feels strongly that this is important work for schools to address and plan for over time. The rate of change within education technology is rapid and schools must continually rethink to be best served by this important aspect of a child's learning.

A three year cycle is perhaps the best framework from which to develop this planning work. Beyond that, it is difficult to predict where things may go in technology. Schools are sometimes slow to adopt new directions in this realm and three years helps to keep things at the forefront of plan considerations. Data can be drawn from the three year cycle to help structure priorities for the next planning cycle and into the future. With the reauthorization of No Child Left Behind, in its new form, the [Every Student Succeeds Act](#) (ESSA), it is extremely helpful to have a planning framework from each of the Districts or SU's to gauge where resources are used and needed. The [National Education Technology Plan](#), released in Dec. of 2015, also contains many areas that are directly related to Vermont's discussions on the direction of education technology to support digital learning.

As with any planning document and going back to our document from 2012, each plan should contain the following areas:

- Introduction
- Goals
- An Action Plan
- Budgeting doc
- Evaluation—how do you know you are being successful?

Introduction:

The introduction should include the following elements:

Title Page with the following information on it:

Title of the entity being represented—in this case, your Supervisory Union, District or Unified District, Date of plan, Committee members involved and some brief demographics; Schools represented with student populations, Towns represented, School boards. A vision or mission statement indicating the overall focus of this plan period, and other pertinent information that may be helpful should someone reference your plan as an example.

Creating a Digital Learning Planning committee or team:

Notes on the makeup of your committee: This is a stakeholder committee, there should be a leader or team that leads the effort. All members should have some relationship with other staff to ensure that the planning process is shared out with all. This should be described to members as one of their duties. They should clearly represent the bulk of the staff voice.

Committee size should be manageable: no more than 12 members is recommended. Representation of each school is essential, and a range of interests should be invested; special education, school leadership, (ideally at least one building Principal). Be sure to not only populate the committee with tech savvy educators. It is important to have perspectives of those educators that are at the lower end of the SAMR framework. The SAMR Model is illustrated simply below:

Goals:

The plan should include Goals. To make it most attainable, create no more than 3-5 goals. If you are choosing, go with 3. Your goals should relate to aspects of changing teacher practice and ways to foster student achievement and success with technology. Your goals could be similar to the goals created in this larger State-based plan or you may elect to tackle some more directed goals that are conducive to your local planning. Otherwise, some suggested areas of focus might be:

- Personalizing learning
- Building in more opportunities for virtual and blended learning and
- Continuing to improve infrastructure to make it more efficient
- Being more comprehensive in a Proficiency based learning model
- Focusing on professional development to build more facilitated learning structures

An evaluation of your 2012 plan might be a good place to start in considering how to move forward with new Goals for 2016.

Action Plans

Action plans should be the steps towards meeting your goals. This section should describe those actions. The following areas are standard areas we might reference under this section. You should also consider the Vermont Education Quality Standards as areas that warrant attention under each of these headings. The following are suggestions for how to organize your Actions:

- A. Access to Technology Resources
- B. Technology / ICT Literacy
- C. Professional Development
- D. Community Collaboration

The Education Quality Standards are comprehensive and not every area will lend itself to your actions around technology supporting learning, but it is highly suggested/required that EQS be consistently apparent in your thinking in your digital learning planning process.

Along with your framing of actions in this format, please include a timeline or some indication of how this fits in your three year scope.

One of your action plans must be an evaluation process to determine progress on your overall plan over the three years. This is noted below in the Evaluation section as well.

Budgeting

While a budgeting section was negated in the Federal requirements under E-rate some time ago, the State of Vermont is placing this section back in the planning process. The purpose for doing this is less about the Agency tracking spending and more about being proactive in encouraging you to seek specific funding streams in planning your digital learning strategies. Title I, Title IIA, and your School Improvement monies, can all be used to support your digital learning plans. Care must be taken with each funding stream to be sure that individual grant requirements are met, but these are viable means to achieve student success with technology. *{Note: an important reference for CFP team members, is the USDOE Dear Colleague letter written in Nov. of 2014 about using Title I dollars specific to technology purchases.}*

Lastly, your budget page should be set up to match your timeline so it is clear what year the funds or funding is being targeted. Where possible, indicate when there are funds being matched or otherwise extended locally.

Evaluation

Your plan should include an evaluation process. In past plans there has been no concerted effort from the AOE to follow up on evaluations of local plans. With the advent of EQS, and the Education Quality Review process having begun officially in Fall of 2016, digital learning plans should have an implementable evaluation process that is spelled out in the plan. It is also essential and a requirement that you indicate your data gathering and analysis that will help you determine if the goal is being acted upon over the three year period.

This evaluation process could be a topic of discussion at your Education Quality Review and should be thoughtfully implemented with clear ways to use the data collected in the creation of a better program.

Remember, the Evaluation process can be a useful local tool in determining areas of need as your plan moves through the three year window. You may find areas of your plan that have more pressing need as you go through the three years. The Evaluation process is a good way to find those deficits and steer resources toward them to continue to see success in your plan process. Naturally, this evaluation process will also inform your next planning cycle.

Some Planning Guidance:

Digital Learning Planning Guidance is available. There are a number of resources/tools recommended for the process:

- [The Guide to Implementing Digital Learning](#) by the State Educational Technology Directors' Association (SETDA),
- [Transforming Schools](#) by the Northeastern Regional Information Center (NERIC),
- [Future Ready Schools: Preparing Schools for Success](#) by The Alliance for Excellent Education, and [Building Your Roadmap to 21st Century Learning Environments](#) through a partnership off Cable Impacts Foundation, P21, and SETDA.

Planning Guidance:

Each of the following Goal Areas is structured in the following ways:

A goal area is identified. Education Quality Standards (EQS) that may be relevant to that goal area are listed in the first section. These may provide guidance to SU's and Districts that are building professional development around specific areas within EQS. A goal is established and framed for the integration of technology within the concept or idea.

SU will: Indicates a list of suggested strategies for SU's to undertake with regard their scope of work over the three year period.

Possible AOE Supports: this section indicates strategies that the Agency of Education can take to support this goal area. Suggested actions are meant to spur actions at the local level to meet the goal area and guiding questions are meant to build conversation among stakeholders and hopefully lead to meaningful and attainable actions and steps to reach the goal.

Goal One: Student-Centered and Personalizing Learning

EQS Related areas: Instructional Practices— Flexible Pathways—Personalized Learning—Curriculum Content—Curriculum Coordination—Learning Environment

Suggested action areas for local plans under this Goal

- Provide a robust, cross-curricular, student-centered, personalized learning environment that uses modern technology tools to engage individual learning styles, extend learning opportunities, support individual learning plans, and provide access to resources not typically found in the school environment (In an Action Step on local plans, summarize the steps to get here.)
- Set local goals around proficiency-based learning combined with *Common Core* standards and include these updated standards in planning activities.
- Work toward student-centered learning practices that take advantage of effective technology use and the ways in which technology can enrich and expand the learning environment. (Example: in Franklin Northwest SU, students are taking ownership of their own reading materials after being made aware of the lexile levels of reading. This information is cataloged in the SU-wide Student Information System as well.)
- Provide professional development opportunities, with the expectation that teachers will learn and use these tools.
- Help teachers build Personal Learning Networks (PLN's) that include social media tools and collaborations that stretch far beyond the classroom walls.
- Create assessments for all learning content areas that integrate technology skills as a part of the assessed student learning. Make sure goals are measurable.
- Explore ALL career paths for all students. This may include connecting deeper with local Career and Technical Education centers so that all students might develop the breadth of skills necessary in tomorrow's work force.
- Create a rubric for personalized learning teaching practices

Create policy that provides accountability for acquisition of desired skills-- (Example: at Proctor High School, students are now required to take at least one virtual learning course for graduation requirements—partnering with Vermont Virtual to accomplish this.)

Possible AOE supports:

- Continue to define student-centered learning and build additional supports for schools around the creation of personalized learning plans and the systems that might support both the development and cataloging of them.
- Support state-level policy changes that support the creation of learning environments that align with this plan--help guide what this looks like to school boards, parents, school leadership.
- Look towards opportunities within the Every Student Succeeds Act to see where opportunities for support, funding and guidance can be applied.
- Provide, as funding or other opportunities become available, opportunities for schools to develop and provide personalized flexible learning environments for all students. This will likely include professional development opportunities to deepen educator understanding in best practices.
- Provide and promote best practices both observed and reported around 1:1 computing in and around Vermont schools.
- Provide, as available funding allows, quality professional development in blended learning and traditional models for teachers in the area of student-centered and personalized learning concepts. Use flexible models that can build time for professional learning into a system.
- Continue to develop STEM related strategies that can be fostered within the education technology framework, including involvement/partnerships with CTE centers where applicable.
- Provide guidance and connect success stories that capitalize on the trend of creating spaces where hands-on, student-centered work is held as key. For example: programming and coding as career choices
- Build richer coordination with industry experts across VT in all communities to foster collaboration at the local school level with field-based experts. Specific areas of target interest: young women in technology careers and programming and coding along with computer sciences for all students.

Provide a collaborative state-wide sharing collaborative space for all educators to share and disseminate examples of locally created best practices. Possibly Google-based to ease Google domain collaboration

Guiding Questions:

STAFFING

- Are recent or upcoming hires made based on innovative ideas they have followed through in their past? What questions in your interviews get at innovative thinking and ideas?

ACCESS

Students:

- How do you encourage students to collaborate with peers and create original deliverables as an outcome of their learning?
- How do students critically evaluate their work and peer work for continuous improvement?
- Are students offering novel uses of technology in the classroom or learning spaces? If so,

what are they?

Do students have the opportunity to choose how they represent their learning through technology?

“When nearly all information is digital or online, multimodal and multi-media, accessed by mobile devices that fit in our pockets, the question should not be whether schools prepare students for a digital learning landscape, but rather how.”

McLeod, S. (2015, January). The Challenges of Digital Leadership. Retrieved from <http://www.nais.org/Magazines-Newsletters/ISMagazine/Pages/The-Challenges-of-Digital-Leadership.asp>

Goal Two: Expand digital teaching and learning for all students (Teaching and Pedagogy)

EQS Related areas: Instructional Practices— Learning Environment— Personalized Learning Plans— Curriculum Content— Access to Instructional Materials

Goal: Vermont has made great strides in ensuring equitable access to technology for all schools. Our new challenge is to ensure equitable access to technology from classroom to classroom. The National Education Technology Plan refers to this as the “Digital Use Divide”. Our work is to reduce that divide

Suggestions for local plan strategies:

DRAFT

- Develop resources that provide learning opportunities that students can access via technology beyond their school day. This may include online courses, cloud-based resources, and connectivity beyond the school environment for a variety of personal devices.
- Become aware of the variety of rich opportunities available through distance learning, and encourage its use by teachers and students.
- Extend learning opportunities by using technology to collaborate with others locally, regionally, statewide, nationally, and internationally to solve problems, create new knowledge, and develop necessary community skills. (Note, Internet2 is now available to many of our schools--especially ENA schools.)
- Continue to pursue statewide opportunities for connectivity via videoconferencing systems; Zoom as used now by Vermont Virtual or broadening use of Internet2.
- While striving to create opportunities for learning throughout a learners day, school leadership should also explore opportunities for creating and maintaining physical environments conducive to technology-rich collaboration. Examples might include: Wireless access points throughout school buildings, common student areas that allow for collaborative learning, and bright, well-lit common spaces for presentations and larger group gatherings. This may also include opening school spaces and wireless access up to community at large
- Integrate the use of assistive technologies and accessible instructional materials into the special education planning for the school.
- Continue to pursue and develop the expansion of learning opportunities for *inside and outside of a student's school day* beyond the traditional school day. This expansion includes, but is not limited to, online course opportunities, continued pursuit of online and virtual high school programs, and the use of *collaborative tools* for student communication and collaboration.

Possible AOE supports:

- Continue to support SD's and SU's as they seek to develop and expand learning opportunities outside the school day.
- Continue to measure and assess home access of Internet connectivity. 10mbps – per household. Homework Gap issue, working with other States where possible.
- Explore policy initiatives that make it easier and more efficient for Vermont's schools to meet this goal.
- Provide mechanisms with which to encourage teachers to become involved in collaborative learning projects with other schools throughout the state, nation, and world. OER Commons, our Open Education Resources platform is a prime example.
- Provide examples and support in the continued reshaping of physical spaces more conducive to today's learners. This may include showcasing innovative design practices and providing outreach for schools seeking design innovations.

*(Defined as students with school connectivity, not having the same access at home).

Guiding Questions:

- Does my school or SU have a Digital Use Divide? What steps can I take to lessen the divide?
- Are teachers aware of the SAMR model? What mechanisms are in place to help teachers self-identify where they are in these continuums? *What professional development opportunities does this provide?*
- Are there equitable opportunities provided by teachers in all areas of school buildings for students to use technology to support learning? In other words, are ALL teachers utilizing technology in ways that allow students a variety of learning methods?
- What would it look like if every classroom was regularly involved in digital learning each and every day? What new opportunities might be realized?
- What opportunities do students have to create, make, learn, as in are there maker spaces available to them? If Maker space(s) exist, what products do you see coming from classrooms? Web pages? Printed work? Pictures? Blog posts? Other artifacts to be used in student PLP's?
- Is the school schedule conducive to teachers delivering/developing solid digital learning activities? Are there ways the schedule could be modified to allow for longer times at different parts of the day?
- Are teachers involved in facilitating learning as well as leading it? Are teachers using technology in thoughtful ways?
- What frameworks can be used to have administrators evaluate good technology in schools? Danielson? Marzano? Saphier? Is there a framework applied to this aspect of teacher effectiveness?
- Are teachers regularly evaluated on their use of technology in the classroom?
- Are barriers identified that impede teachers in effectively infusing technology into instruction?
- What are the pressures AND supports used to drive teachers toward using technology on a regular basis in their classroom?
- How are Common Core Standards learning addressed with technology?
- Is my school embracing and using the ISTE standards adopted by the Vermont Agency of Education in 2009? (The updated set of standards will be adopted in 2017).
- Do students collaborate with peers and create original deliverables as an outcome?
- Do students critically evaluate their work and peer work for continuous improvement?

“Schools have to choose which mindset they are going to adopt. I confess that I always feel sad for the students and teachers in the schools who choose to simply ban and block rather than do the harder but necessary work of enabling and learning from other schools that have followed a less restrictive, more creative path. I can think of no better way to highlight organizational irrelevance than to block out the tools that are transforming the rest of society.”

McLeod, S. (2015, January). The Challenges of Digital Leadership. Retrieved from <http://www.nais.org/Magazines-Newsletters/ISMagazine/Pages/The-Challenges-of-Digital-Leadership.aspx>

Goal Three: Leadership for Digital Learning

“In the end, technology change in schools is not about the devices. It’s about robust, visionary instructional leadership. Magic doesn’t happen in classrooms just because schools bought a bunch of computers or invested in bandwidth. School leaders need to be active, engaged

participants and modelers who recognize that digital learning is core work, not an ancillary add-on. We can't simply delegate things to our technology coordinators and integrationist and be done with it all. We must take a visible, hands-on leadership approach to the technology-suffused learning and teaching that our students deserve today."

McLeod, S. (2015, January). The Challenges of Digital Leadership. Retrieved from <http://www.nais.org/Magazines-Newsletters/ISMagazine/Pages/The-Challenges-of-Digital-Leadership.aspx>

GOAL 3: Leadership for Digital Learning

EQS Related areas: School Leadership—Graduation Requirements—Staff Evaluation—Learning Environment—Developing State-wide equity

Goal: Vermont school administrators effectively support and model the use of technology to support digital learning.

The SU will:

- Develop leaders that can bring strong technology leadership to all facets of education technology programs.
- Allow that technology leadership is not only relegated to those that are technically proficient with technology. Leadership in schools must take a "big picture" look with regard education technology. Instructional leadership chooses directions for education technology's role.
- Develop and lead expectations for district professional development activities that *require* true integration of technology and a focus on student-centered learning in classrooms.
- Model the use of technology in everyday practice. This may include the effective use of online communication tools for communicating with teachers, parents and the community.
- Strive to devise innovative, meaningful ways to provide technology for teachers as a necessary tool for their daily work. This may include developing teacher contracts and compensation packages that provide laptop or mobile computing devices specifically for teachers, thereby raising an expectation for the use of said device.
- Strive to provide adequate access 24/7/365 for students to technology tools for learning in student-centered environments.
- When staffing, make education technology a priority in interview questions, seeking innovative uses of technology in past positions.

Possible AOE supports:

- With help from other relevant state entities, VSBA, VPA, VSA, etc., provide guidance to leadership in the acquisition and implementation of new technologies, innovative practices--for digital learning.

- Continue to explore ways through federal, state and other sources of funding to impact leadership professional development in technology program development, as well as the use of online tools for communication and collaboration.
- Provide opportunities for school leadership that move the discussion towards proficiency-based learning that is driven by the personalization of learning and how technology can support it.
- Using potential ESSA Title IV funds for professional development, develop opportunities for leadership training in education technology leadership.
- Working with Vita Learn as a partner and strengthen technical support leadership through CoSN certifications

Guiding Questions:

- Are school leaders modeling the use of technology for staff, students and parents? What communication tools do school leaders use and for which audience? Professional development with Twitter? Interactive web resources with parents? SIS Portal information with parents?
- Are you making evaluation of staff contingent on the use of education technology as well as core teaching duties? How is this evaluated? Is it evaluated?
- Are there staff evaluation components in place that move staff towards the use of digital learning tools to support student learning?
- What can be done to apply pressure and support to reluctant staff in moving them towards digital learning?
- Are staff working with one another to share resources and how is this orchestrated?
- Is leadership aware of and using the Administrator Standards from the International Society of Technology in Education (ISTE)?

GOAL 4: Assessment and Evaluation

How do we know our schools are meeting the needs of today's digital learners?

Goal: To build better understanding of what educators, parents, and administrators should be “seeing” when education technology is used to support learning in the classroom.

The SU will:

- Continue to find ways to develop professional development models that best exemplify high expectations for the use of technology in all classrooms.
- Continue to differentiate between “canned” curriculum tools using technology and using technology to create authentic learning examples for students.
- Develop a comprehensive means to assess and evaluate education technology and how it contributes to student success.

Possible AOE supports:

- Continue to support, share and highlight good examples of Principal evaluations of education technology programs and exemplary models of environments where education technology supports learning.
- Continue to promote the ISTE (International Society for Technology in Education) National Education Technology standards for Students, Teachers and Administrators. In 2017, the Student standards will be adopted by the State Board of Education as the basis for standards in Education technology for VT.
- Continue to seek measurement tools to promote ways that leaders can measure technology use and effectiveness in the classroom.

Guiding Questions:

- Are multiple means used by students to demonstrate learning?
- If digital portfolios are used, what is in place to support them, what gives them weight? How has the school or SU communicated their importance to parents and communities?
- Are there opportunities for teachers to self-assess where on a continuum they may currently be so they can see their own continued growth?

GOAL 5: Infrastructure-- Creating and Supporting Robust Systems and Environments for the seamless implementation of digital learning in classrooms

Goal: Create opportunities for schools to continue updating/upgrading infrastructure needs to support more robust use of education technology across the board. This goal entails increasing funding when available for various programs and initiatives that serve this need, and seeking resources including E-rate and other State and Federally-based programs that might enable schools to expand opportunities in this realm.

The SU will:

- Provide robust broadband access for school campuses that keeps in step with ever-increasing standards for broadband connectivity. 100 mbps as a baseline for each school in 2015, moving to 1gbps per 1000 students in 2017 *SETDA standard
- Provide access to computing devices, with a goal over time to provide a 1:1 environment, (or an environment where access is ubiquitous each day) to every student.
- Provide a robust wireless access network within *all* portions of the school environment.
- Provide an efficient routing structure that allows for seamless internal web traffic across all locations in the SU or District.
- Provide a safe, adequately filter-protected environment for all student access of the Internet. (The VT AOE does not advocate a system whereby filtering is tightly controlled to inhibit learning and access to resources).
- Provide a supportive and helpful technical staff, which understands their role as being supportive and crucial to educators continuing to move towards a digital learning environment.
- Provide opportunities for all students around blended, virtual and online learning. This entails engaging Vermont Virtual or other online providers to allow each student opportunities for a flexible learning experience throughout their academic year.

- Provide time for educators to develop and plan around Open Education Resources. The State of Vermont sets 2020 as a goal point for having schools engage purposefully in OER practices.

Possible AOE supports:

- Continue to explore and promote a direction for broadband access that envisions a statewide network that can be utilized to leverage maximum gain for E-rate reimbursement; and provide services that will continue to grow Vermont’s broadband capacity. (These services might include robust video conference connectivity, services for SIS, spam/email filtering services, etc.)
- Leverage resources including E-rate and other State and Federal funds (including potential Title IV, ESSA funding, of which 15% can be spent on Infrastructure needs) to continue to build robust connections to the Internet.
- Continue to build partnerships with current broadband partners and foster other connections as seen beneficial for things like cell phone contracts, comprehensive video conferencing systems, and other cloud based supports that could be supported in a state-wide environment.
- Continue to provide support for sharing best practices around technology infrastructure, migrating services to the cloud, managing systems in an efficient manner, and discussing ways technology can support the continued move to consolidation of supervisory unions.
- Continue to advocate for robust wireless solutions supported through E-rate modernization.
- Continue to measure and assess overall state connectivity, use of education technology and trends in staffing, support and access through the use of the Annual Technology Survey.
- Support and build awareness throughout VT on the use of Open Education Resources (OER) for all schools. This is in line with Federal move to require all federally funded projects to only produce materials under an OER licensing scheme.

Guiding Questions:

- Is there an existing robust technological infrastructure in place?
- Is there equitable access to technology and connectivity available to all students?
- Is there efficient routing of information between internal users and external resources? Is the network properly configured to reduce “bottlenecks”?
- On the SU level, is there an effort to consolidate purchasing of services and devices between schools?
- Are there tools employed to monitor Internet traffic for the purposes of maintaining robust speeds at a continuous level?
- Are there adequate security measures in place or software for
- Is there a system to discourage redundant purchasing of services or devices between schools in the common SU or District?
- Is there an anywhere, anytime learning environment established from your schools? Can students access school materials from home, other remote locations?
- Is the district or SU taking advantage of E-rate and other Federal programs that can help to reduce local costs?

Definition of Key Terms

Virtual learning is a formal education concept whereby courses of study are delivered through a Web-based platform, with student access to a variety of digital tools and supports that facilitate both individual and collective learning. (VT Agency of Education definition)

Blended Learning:

A formal education program in which content and instruction are delivered both in a traditional classroom setting and through virtual learning with some element of student control over time, place, path, and/or pace. (VT Agency of Education definition)

The definition of blended learning is a formal education program in which a student learns:

(1) at least in part through online learning, with some element of student control over time, place, path, and/or pace;

(2) at least in part in a supervised brick-and-mortar location away from home;

(3) and the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience.

"Blended Learning." Christensen Institute. Clayton Christensen Institute, n.d. Web. 13 June 2017.

Projected Timeline of this Plan:

Spring 2017:: Release of Vermont Digital Learning Plan----with Comment Period through Summer into early Fall (Oct. 1)

Late Fall 2017: Finalize Digital Learning Plan from State level w/ comment review and inclusion.

Winter 2017-18: Creation of local Digital Learning Plans, and implementation of said plans

Spring 2018: Gather review committee for local plans review

June 30, 2018: Plans to be collected at Agency of Education.

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Technology planning documents referenced in this work;

Smith, B. C., & Utah Digital Teaching and Learning Task Force. (2015, October). Essential Elements for Technology-Powered Learning. Retrieved from [Essential Elements](#)
NJ Office of Educational Technology. (2015, December). Technology Planning for Digital Learning. Retrieved from [Technology Planning for Digital Learning](#)

The SAMR model; (Substitution, Augmentation, Modification, and Redefinition) is a viable model for building technology integration practice over time. Schools and teachers should be aware of what each stage looks like and envision moving their own practice up the scale. See more about SAMR models at [The SAMR Model](#)