Technology Plan

Executive Summary

In 2009, we introduced the three year technology plan this way:

> *In order to prepare our students to become responsible citizens of the 21st Century, ANESU staff will provide students with the knowledge and skill they will need to access and utilize the information necessary to thrive in today's society. The ANESU vision is to promote and encourage: creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem-solving and decision making; citizenship; and advanced application of knowledge.*

In 2012 we continue to strive to meet this overarching goal.

The ISTE NETS Standards for students remain the focus of our work. Each year since then, we have collected samples of student work from all classrooms in grades 2-6, each crew in grades 7-9, and history students in grade 10. The Tech Team (a representative from each of the six ANESU schools and several administrators) meets for a full day to review the samples and gather data from : the project being shared, a student self-reflection, and a teacher intake form. The resulting report is shared with all teachers before the end of the school year, in order to help them plan for the following fall. School boards get the data in the form of a progress monitoring report.

Perhaps our greatest success was the creation of an interactive chart for the Technology GEs that allows teachers to click on their grade level and standard number. There they see the national standard, indicators, state GEs, examples, and links to Scenarios from the Transformation and Technology document. Educational technologists have been able to use this site to help teachers plan lessons or units using technology effectively to support student learning.http://mtabe.k12.vt.us/ANESU/Technology%20GEs.htm We began to populate the matrix with samples of student work, but ran into some difficulty as projects were deleted from cloud-based sites like VoiceThread accounts, in order for teachers to make room for newer student work. Also, much of the student work is still "approaching the standard" at grade level, and there was some concern that any posted work might be mistaken as exemplars. We need to address this in the future.

ANESU is a Google Apps district. All students and personnel have accounts. Decisions are made at the school level about which grade is able to access email. Internet Safety instruction accompanies increased access to Google tools. Collaboration is much more possible now than in the past; for example, a recent Battle of the Books involved teams composed of students in three elementary schools. The following plan calls for increased collaboration and an annual review of collaborative curricular opportunities.

Some schools are using Rubicon Atlas to map curriculum; Bristol Elementary is the heaviest user. Other schools have some units entered, but the use of Rubicon is generally not part of the culture in ANESU. Principal buy-in is needed to make curricular mapping a priority. The Tech Team addresses this in the following plan.

Tech Goodie Workshops were offered almost every week after school using Title 2D funds. Pre-session signups determined which of the sessions ran; a minimum of 6 professionals was required to pay the presenters. Teachers who attended 5 sessions earned a Tech Goodie of their choice (worth about $100) for their school. Title IID funded almost all of the professional development for technology and it will be very much missed. We aren't sure yet how we will offer training, but the following plan explores the idea of Professional Learning Communities, particularly as we consider classrooms having one computer per child.

Over 70 teachers have taken an online course funded by the district, granting 3 graduate credits through Castleton State College. Called "25Things," it is a survey course, allowing teachers to explore a variety of free web-based tools to increase student engagement. Course instruction and teacher-developed work remains available to all participants on a wiki, so people can return to the information as needed. Lauren Parren, the instructor, remains available to co-teach with or coach graduates.

In-Service day in August 2010 was focused on professional development using technology, and all presenters were ANESU faculty. Teachers had a choice between twelve workshops to attend each hour, ranging from "Collaboration and Creativity using Tech Tools" to "Student Showcase in Grades K-6 at Robinson and Monkton" to "Web Whirlwind: 25 sites free sites you need!" Surveys showed overwhelming support for the day.

Each school has faced infrastructure challenges. As the district increases reliance on the Internet with tools like Google Apps for Education and PowerSchool, those challenges will continue. The following plan recommends a technology hardware audit and a strong district tech team. At this point in time, there are two ANESU tech teams: one for "techies" and one for learning integration specialists. The techies have faced huge challenges with the adaptation of Google Apps and are in the midst of plans to roll out PowerSchool this summer. They have begun meeting every other week to problem-solve. The following plan calls for continued strength in that committee, creating a help desk and considering bulk purchases are among new possibilities. Perhaps tech support personnel should become district employees to allow for more flexibility in supporting each school. How do we budget for sustainability in the long term?

As we gathered in spring 2012, the Flipped Classroom and Kahn Academy were the hottest trends in ed tech. Sites like http://www.goorulearning.org/ continue to entice us. Our Ed Tech Integration Specialists will need to continue to follow developments; the group meets once a month and is responsible for integrating the Tech GEs into every classroom. It is likely the group will need to meet more often, and perhaps during school hours, to meet the growing needs of teachers and students. We also need to keep ourselves informed of trends like these: http://retreat.wiki.nmc.org/MetaTrends. ANESU may investigate a "badge" system where students earn trophies of some sort for their on-line accomplishments. At the high school, electronic portfolios are now available for 10th graders on Google Sites, using a template created to show their successes at meeting 21st C skills. This model may grow district wide as students take more control of their own learning.

Action Plan Template for Goal #1

Local Goal: ANESU will utilize technology to develop more comprehensive personalized learning structures for all learners.

Action Step	Description	Staffing	Infrastructure	Budget	PD	Y1/Y2/Y3	Data Collection/Eval.
1	Develop virtual "Digital Backpacks" for students that contain a customized set of applications and tools to support learning.	Ed Tech Team, monthly meetings	Dependable, reliable access to the Internet for teachers and students	$$	Train teachers to use the apps	Y1-Y3	Agenda, Mintues of Tech Team meetings.

List of professional development opportunities.

Continue the shift from text and machine based applications and resources to web based resources. |
2	Pursue 1: 1 access starting with one grade/class in each school	Admin Team, Ed Tech Team, Tech Support Staff	Enough devices to provide access to the Digital Backpack,	$$$$$ Possibly establish a reserve/sinking fund or lease program	Professional learning teams. Emphasis on student-centered learning.	ongoing	Will vary from school to school, but the goal is reliable Internet access on appropriate tools for all students.
3	Create professional learning teams at schools that focus their work on student centered learning and supports a cultural shift to this model.	Principals need to support	Principals need to support time structure	$	Create a model of professional learning teams.	ongoing	Teachers who are doing innovative things have a vehicle to share their work with colleagues. Teachers who haven't begun the transition get support from the teams.
4	Identify students in need of Internet access/computer access at home to increase equity in access to tools and skills .	Office staff. PowerSchool Data Tech team		$	Prof Dev around student-centered learning and 24/7 access implications		Will vary from school to school, but surveys, Free and Reduced Lunch Data, etc. Research ways to increase access: track use.

Indicators of Success for this Goal:

1 .Using CAST and other resources, we will annually identify a list of age appropriate tools to meet a variety of learning needs, for example, tools to improve *reading* might include Good Reader and/or Speak Text; for *note taking*: Evernote or Notability; for*brainstorming*: Brainstorm Idea Sketch, OR for *collaboration*:wikis or ePals; for *communication*: Google Docs or VoiceThread, etc. The list will be called the "Digital Backpack" and teachers will increasingly rely on the backpack to personalize learning. Students will have choices among the tools to best support their learning needs. The Digital Backpack concept will

become common language and a focus for PD. As we've learned over and over, it isn't really about the tools, it is about the learning. Providing a Digital Backpack without changing pedagogy is fruitless. See Tech Team ANESU Agenda: Sept. 11, 2012, Sept. 10, 2013 and Sept. 9, 2014

2. Annually the tech team will compile a list of online learning opportunities for students to personalize their learning. Current examples include the Khan Acdemy, MIT, Virtual High School, and resources for the flipped classroom. As part of the Digital Backpack and as part of Professional Development, understanding access to online content is critical. See Tech Team ANESU Agenda: Sept. 11, 2012, Sept. 10, 2013 and Sept. 9, 2014

3. Working with the Associate Superintendent, two Mt. Abe educators will be researching alternatives to the traditional forms of professional development throughout the first year of this technology plan. Just as we personalize learning for students we have to allow personalized learning for teachers . The Rowland Foundation will provide the funds for indepth study. The PD model will revolve around personalizing learning using technology.   Professional Learning Teams are created for ongoing support. See Tech Team ANESU Agenda: August In-Service 2012, 2013, 2014

4. Students in one selected grade across the district with have a 1:1 classroom, allowing for increased collaboration and communication. Students will have increased opportunities to meet the tech GEs using their Digital Backpack, even students who don't have access at home..   See Tech Team ANESU Agendas beginning October 9,2012

Action Plan Template for Goal #2

Local Goal: ANESU leaders use NETS-A standards to foster student centered learning through technology.

Action Step	Description	Staffing	Infrastructure	Budget	PD	Y1/Y2/Y3	Data Collection/Eval.
1	Advocate for a structure of ongoing professional development that includes professional learning networks, budgets for attendance at state wide and national conferences, and ongoing in -house training.	Admin team		$$	Will make the Digital Back Pack a priority	ongoing	Attendance data from training sessions/professional learning groups/conferences.
2	Charge the district tech team to create a plan to support networks, hardware, software, web-based applications, and cross-school purchasing. Establish a help desk.	Admin team		$$		Y 1	District team is charged and expected to produce evidence of a long term plan.
3	Develop a stronger web presence for schools and the district. Administrators are role models in using the web for communication and collaboration/problem solving/creativity and innovation/and digital citizenship.	Admin team					Monthly reports on site visits and bandwidth used via Mailchimp or similar tool.

Indicators of Success for this Goal:

1. Professional staff attend in-house training sessions, including training on how to use different types of social media to establish a personal learning network. Staff attend conferences regularly and share their learnings with the rest of the staff. At the end of the year teachers write a short reflective piece describing their technology related professional development from the past year. This could include training they've received and the different types of professional learning networks they've been involved with.   See Tech Team ANESU Agendas October 9, 2012 and May 14, 2013

2. The district technology team is a source of strength for local schools. Regular meetings, attended by a representative from each school, serve as a sounding board and support system for the technical staff.   Bulk purchases are made across the district. A district help desk is established. See Tech Team ANESU Agendas beginning August 2012.

3. Teachers and administrators interact via appropriate social media tools including Twitter and blogs. See Tech Team ANESU Agendas, beginning October 9, 2012

4. The web site size increases with additional rich content, including videos, audio and pictures. Student content reaches the web in a timely manner and the greater use of the website is indicated by the amount of bandwidth used monthly. The web site is used to communicate with the community (including as a way to showcase student work) as well as a tool used by students. See Tech Team ANESU Agendas annually in November.

Action Plan Template for Goal #3

Local Goal: ANESU will create flexible learning environments to support personalized learning.

Action Step	Description	Staffing	Infrastructure	Budget	PD	Y1/Y2/Y3	Data Collection/Eval.
1	Recommendation to administration to increase broadband and the infrastructure to support it.	Committee (including IT staff) will make recommendation to administration for needed levels of broadband; IT staff in each school will provide support for managing the broadband & related infrastructure	Mt. Abe: We believe our current wireless routers will provide the infrastructure; however more bandwidth is needed in order to keep the open wifi available on a consistent basis as well as improve & maintain the reserved access. Elementary:	Mt. Abe: $9600 per year in addition to previous costs Elementary:	IT time for set up and maintenance	Y1: Mt. Abe: The increase in cost for the next level of broadband is already planned for in the 2012-2013 budget; Y2& Y3: Increase broadband as needed to support new technologies & any 1:1 programs under development	Data from IT staff from monitored usage of Broadband will be reviewed monthly; Survey data from staff & students about their use & experiences with both wired & wifi access collected annually
2	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.	Educational Technologist and Teaching Staff	Electronic Devices available for students to collaborate 24/7.	$$$$ Likely a minimum of $500/student in the pilot	Workshops & conferences for staff to implement collaboration tools and strategies with students	Y1: Investigate options for 1:1 programs & plan pilot for at least one grade or class in each school, budget piece completed in time for budget recommendations for 2013-2014 Y2: Pilot 1:1 for the grade(s) or class(es) selected Y3: Extend 1:1 program to the next level as warranted by	Y1: Collect information from schools using similar programs. Y2 & Y3: Collect data on amount of collaboration integrated into curriculum in the pilot programs compared to non-pilot programs

							results of the pilot
3	Create and maintain physical environments conducive to technology-rich collaboration (electric, wireless)	Hire auditor to look systemically at ANESU infrastructure	.Add electrical outlets, charging stations, routers, etc. as needed based on the audit	Cost for auditor, estimated at $1000/school; Costs for infrastructure changes will vary by school	Workshops on using & charging specific devices in the 1:1 pilot;Workshops & conferences on setting up the classroom environment for the integrated technology to operate smoothly	Y1: locate auditor, budget for Y2 audit Y2: Have audit done & review reports to make recommendations in time for 2013-2014 budgeting process Y2 & Y3: Electrical and other infrastructure work	Y1: Auditor's report Y2&Y3: Feedback from staff and students using updated classrooms & how the classroom environment has influenced integration of technology

Indicators of Success for this Goal:

The use of broadband is high on a regular basis, but not maxed out. See Tech Team ANESU Agendas annually in November.

The members of the school community respond positively in the surveys about the availability and efficiency of technology in supporting collaboration skills and personalized learning goals. See Tech Team ANESU Agendas annually in November.

At least one class or grade level in each school is involved in the 1:1 pilot program. Learning becomes possible 24 hours a day. See Tech Team ANESU Agendas beginning Oct. 9, 2012

Action Plan Template for Goal #4Local Goal: ANESU will use technology tools to develop partnerships within the local, regional, state and global communities.

Action Step	Description	Staffing	Infrastructure	Budget	PD	Y1/Y2/Y3	Data Collection/Eval.
1	Providing online resources for fostering parent involvement in school communities.	IT Staff for setup	PowerSchool Parent Portal setup	$	PD so teachers can effectively use PowerTeacher. Teach parents to use the parent portal.	Y1 at high school Y2 and Y3	PowerSchool Parent Portal logon access count
2	Students will be involved in creating and developing content using collaborative tools ie; Google Apps, VoiceThread	Professional learning communities and Ed Tech personnel	Sufficient bandwidth to support web applications	$$	teacher training in selected tools	Y1/Y2/Y3	Data will be collected each spring to see how many students used collaborative tools during the previous year. Student examples of work - VoiceThreads, Presentations, Sites, Documents etc. will be shared at tech task date.
3	Support collaboration between classrooms (cross-curricular) within the SU..	Ed Tech staff; professional learning communities	Use Rubicon Google Apps	$$		Y1/Y2/Y3	AssociateSuperintendent will provide Principals with data of Rubicon curriculum usage. Examples of student work showing collaboration will be collected at tech task day.
4	Collaborate with Vermont Adult Learning to enable student and community access to college classes .	Rowland Fellows; community members	Computer lab space available at night/weekends	$$		Y1 setup Y2 and Y3 expand	Set up pilot project with eVermont by July 2012. Ongoing work with Rowland Fellows

Indicators of Success for this goal:

1. Parent Portal access for PowerSchool Student Information Management System will be active for all schools by year 2 and reports will be run detailing parent/student access for data collection during year 3. See Tech Team ANESU Agenda Sept. 9, 2014

2. Students across the district will have created content using collaborative tools like Google Apps, VoiceThread, etc each year and data will be gathered in the spring as part of the Tech Task Day to show how many students across the district are using them. Students might collaborate on presentations, documents, web sites and share their work with others. This work will be shared at the yearly district tech task meeting in the spring. See Tech Team ANESU Agendas beginning May 14, 2013

3. Staff from all schools in the district will be regularly using Rubicon to enter their curriculum and will collaborate within the SU to share resources. Assistant Superintendent will provide Principals with data of Rubicon curriculum usage. Principals will work with teachers to set goals for lesson plan documentation in Rubicon. See Tech Team ANESU Agendas beginning October 9, 2012.

4. Schools will collaborate with town officials to consider options to expland broadband to increased home access.