Cowichan Valley School District 79

Instructional Technology Service Plan
2013-2018

Access to Tools & Resources Anytime Anywhere

Social & Emotional Learning

Evidence Based Practice

Students with 21st Century Skills & Competencies

Culture of Creativity & Innovation

Authentic, Relevant, Curricula

Assessment For Learning
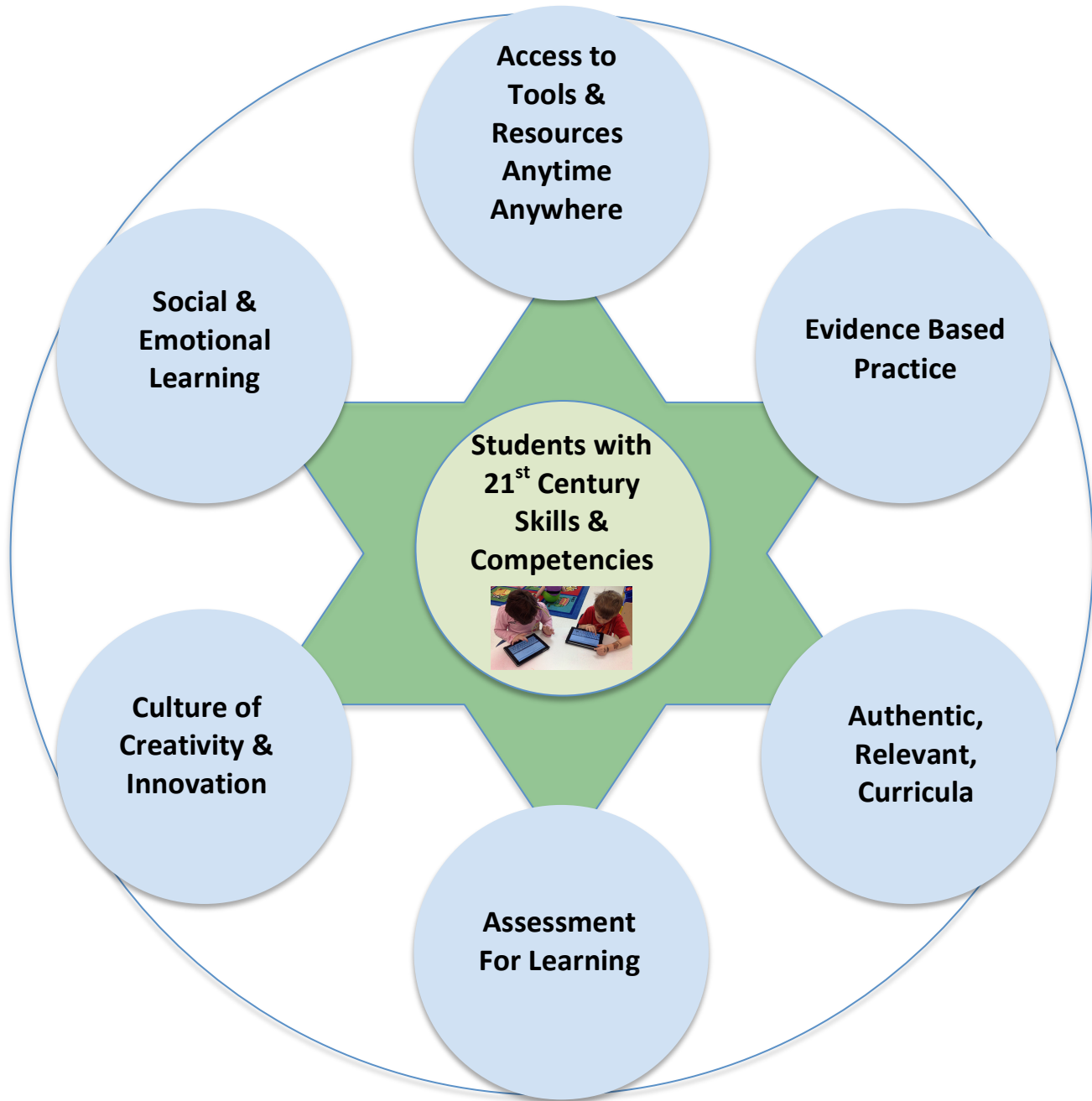
Alignment and Coherence

District Technology Advisory Committee

Craig McLeod-- Teacher Cowichan Valley Teachers Federation
Ruth Bowman-- Teacher Cowichan Valley Teachers Federation
Lisa Read -- Teacher Cowichan Valley Teachers Federation
Naomi Nilsson -- President Cowichan District Teachers Association
Christine Rolls -- President Lake Cowichan Teachers Association
Larry Mattin--- Principal
Updesh Cheema -------------------------------------- Principal
Rhonda MacDowell --------------------------------- Principal
Dave Dougan-- Principal
Joe Rhodes --- Superintendent of Schools
Sheryl Koers -- Director Elementary Education
Heather Stannard ---------------------------------- District Information Technology Coordinator
Glen Posey -- District Principal Technology Services
Jason Sandquist------------------------------------ Assistant Secretary Treasurer

Table of Contents

Executive Summary

Goal:

The primary goal of the Cowichan Valley School District Technology Services Department is to develop technologically enriched learning environments in each classroom. Technology tools will be provided in concert with training and professional development that allow educators to offer all students technology infused learning that is personalized, has the potential to be accessed anytime anywhere, and that redefines how learning processes take place (see SAMR graphic below). A digitally rich, technology-infused classroom is one in which the inclusion of digital technology is not an event or layer, but rather an integration throughout all stages of the learning process.

This requires moving away from configuring technology in traditional computer labs and moving towards portable devices that are embedded in our students' classrooms and other learning spaces.

Background:

As a result of several years of funding challenges, the technology infrastructure in the Cowichan Valley School District has not kept up with expanding demands and expectations of students and staff. Currently, equipment and networks have reached an age where a majority of the inventory requires updating.   Inadequate infrastructure means that bandwidth for access to rich media and online learning tools is not sufficient to meet students' educational needs. Eighty percent of computer hardware in our schools is near the end of its functional life span. The combination of inadequate infrastructure and outdated hardware requires immediate attention within the context of a clear and sustainable plan to support student learning through the use of technology.

Our students have grown up surrounded by technology in their world. As such, a technology rich environment is part of their day-to-day life and we need to provide students with current learning tools that support their education and prepare them for the future. This means providing access to online resources anytime anywhere, classroom infused with portable technology tools and teachers with the skills to facilitate learning in a digitally rich environment. With this approach, learning and teaching with technology no longer becomes an event where you go to the computer lab, but an integrated part of how learning in the classroom flows. Moreover, as we move towards greater and greater personalization of learning we can harness the power of allowing students to bring their own technology to school.

Although portable technology tools will become the primary upgrade it does not mean computer labs will completely disappear. However, the amount of computing power in lab spaces can be significantly reduced outside of specialty programs and the space configuration moved towards a multi-use *learning commons* structure.

Implications:

To support our learning goals, the following technology plan has been developed with an initial cost of approximately $2.6 million spread over five or six years to accommodate budget planning and deployment capacity of technical staff. We must refresh portions of our technology each year or risk large single year cost pressures due to significant amounts of equipment reaching end of life at the same time. By planning for continual technology change cycles we can stabilize long term costs and provide students with the best possible learning tools.

Next Steps:

To create technology infused classrooms the following elements are critical:

1. Sufficient bandwidth and network infrastructure in all schools.

2. Enterprise wireless networking across all schools.

3. Staff training and professional development in effective, evidence based, instructional practice.

4. Scheduled and fiscally supported upgrade cycles for hardware and infrastructure.

5. Impetus placed on digitally rich learning experiences where technology tools transform the learning process for students (see SAMR Model below).

The SAMR Model

R Redefinition
Tech allows for the creation of new tasks, previously inconceivable

M Modification
Tech allows for significant task redesign

Transformation

A Augmentation
Tech acts as a direct tool substitute, with functional improvement

S Substitution
Tech acts as a direct tool substitute, with no functional change

Enhancement

http://hippasus.com/rrpweblog
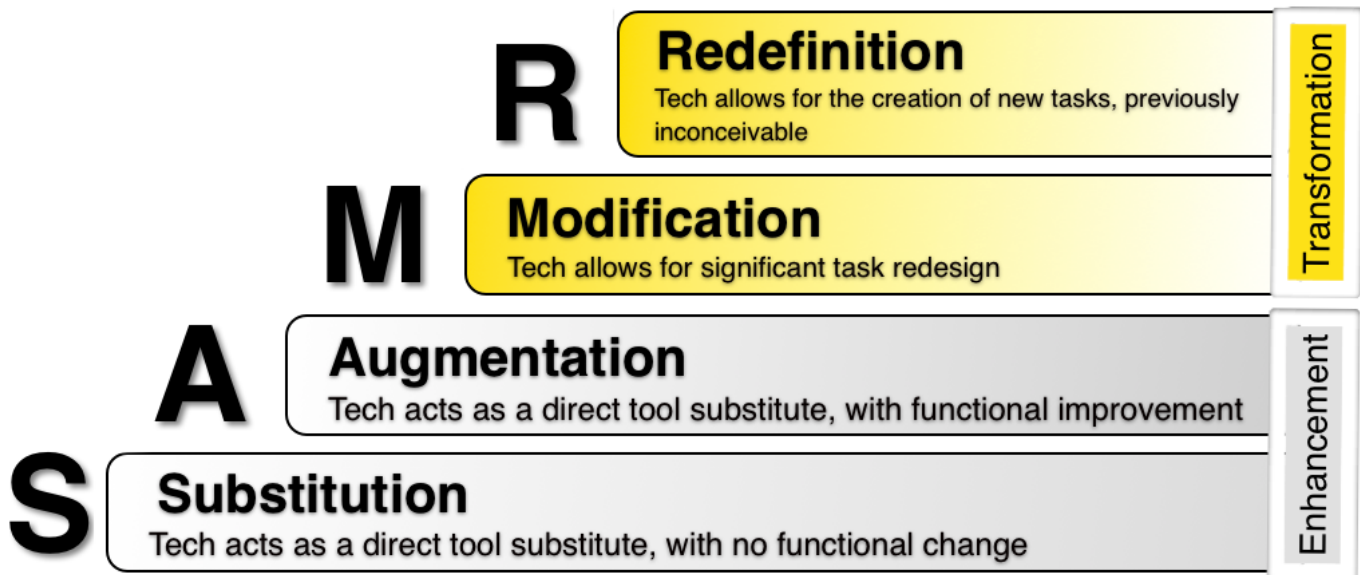
Supporting Student Success

The following graphic illustrates the Cowichan Valley School District's belief that for technology to help foster student success there must be a synergistic combination of infrastructure and hardware, policies, targeted staff development and effective classroom structures. Although infrastructure and hardware are the essential first step upon which to build technology rich learning environments, these two components in isolation will not drive student learning and achievement.

Synergistic Structures Supporting Student Success

Classroom Structures — Flexible, Personalized, UDL prinicples

Infrastructure — Bandwidth, Networks & Cloud Services

Optimized Learning Environments for Students

Staff Development — Mentorship, Collaboration, Effective Practice

Standards — Hardware & Software, Policies & Guidelines
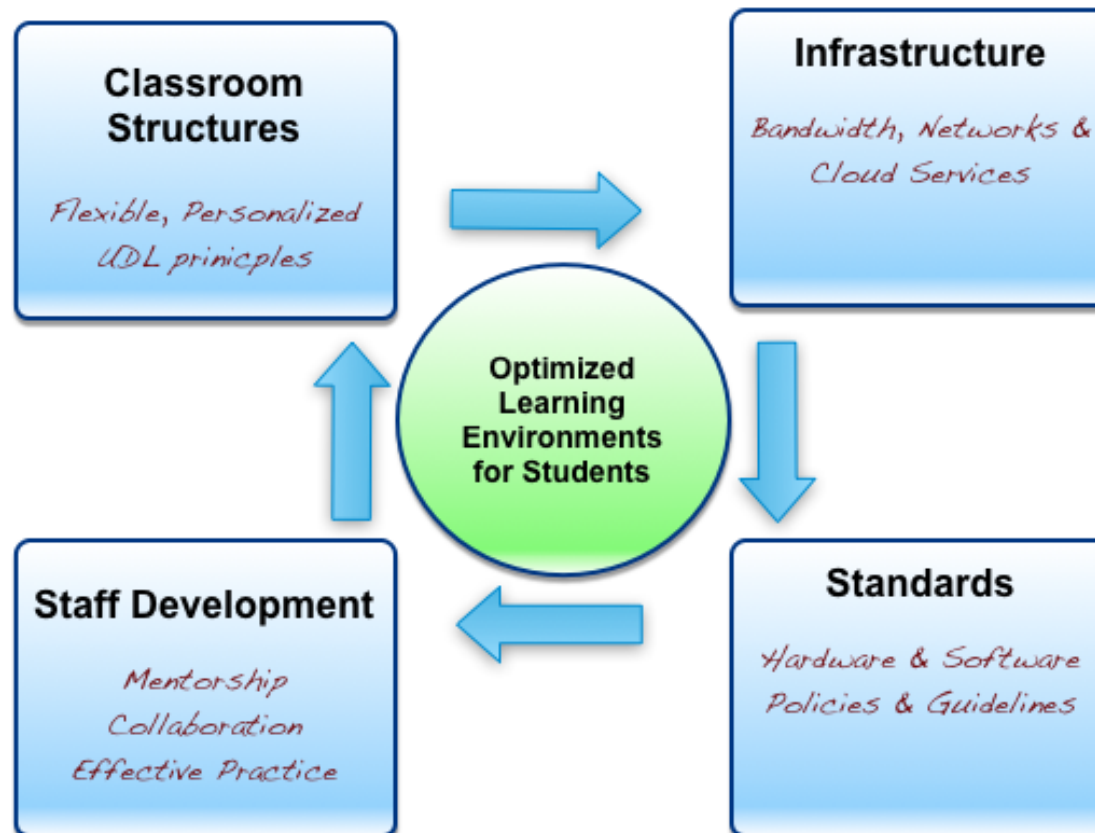
Cowichan Valley Educators' Recommended Technology Skills and Attitudes for Success

The **ISTE National Educational Technology Standards (NETS•T)** and **Performance Indicators** for **Teachers**

Effective teachers model and apply the National Educational Technology Standards for Students (NETS•S) as they design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community. All teachers should meet the following standards and performance indicators. Teachers:

Facilitate and Inspire Student Learning and Creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments. Teachers:

a) promote, support, and model creative and innovative thinking and inventiveness
b) engage students in exploring real-world issues and solving authentic problems using digital tools and resources
c) promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes
d) model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

Design and Develop Digital-Age Learning Experiences and Assessments

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S. Teachers:

a) design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
b) develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress
c) customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources
d) provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching

Model Digital-Age Work and Learning

Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society. Teachers:

a) demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations
b) collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation
c) communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats
d) model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

Promote and Model Digital Citizenship and Responsibility

Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices. Teachers:

a) advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources
b) address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources
c) promote and model digital etiquette and responsible social interactions related to the use of technology and information
d) develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools

Engage in Professional Growth and Leadership

Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources. Teachers:

a) participate in local and global learning communities to explore creative applications of technology to improve student learning
b) exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others
c) evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning
d) contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community

Summary of Technology Goals by Category

Technology Goals:

Infrastructure

Bandwidth
1. To provide all school sites with adequate bandwidth to meet the needs of educational programs and district business processes.

Local Area Networks
1. To install 10/100/1000 mb managed switches in all buildings.
2. To configure virtual local area networks (VLANS) for greater network security and bandwidth management.

Firewalls and Threat Management Devices
1. To upgrade firewall routers and threat management utilities on all networks.
2. To provide technical staff with efficient utilities for tracking and managing all network devices.

Wireless Networks
1. To provide district buildings with complete wireless coverage that is robust, stable and secure.
2. To provide technical staff with tools for management of portable devices (this includes district devices and BYOT).

Building Network Wiring
1. To provide all school buildings with stable network wiring that meets category 5e or 6 standards.

Servers - School Board Office
1. To provide a directory service, located at the SBO, that extends to all school sites.
2. To provide expanded file storage and backup capacity for the Board Office Complex. This includes a secure offsite backup for critical data (financial systems, email, home directories etc).
3. To implement an off site backup model to further mitigate disaster avoidance.

Servers - Elementary Schools
1. To provide each school with fast reliable file storage capabilities for a broad spectrum of devices.

Servers - Secondary Schools
1. To provide each school with fast reliable file storage capabilities for a broad spectrum of devices.

Web Server
1. To provide web tools that support district education and business processes.

Mail Server
1. To provide a unified mail system that includes webmail, POP and IMAP, calendar, group collaboration tools and global address book services to end users.

Help Desk System
1. To more effectively utilize tools within the Help Desk Ticket System by allowing end users to submit tickets directly in the system rather than having to send an email or make a phone call.
2. Integrate the system with a district wide directory service for user accounts.
3. Develop staff training opportunities through analysis of support request type and frequency.

Education Services and Tools
Library Management Software
1. To purchase a library management system that operates as a federated centralized system.

Portable Technology for Classrooms - Elementary Schools
1. To provide each elementary school the opportunity to have a minimum of 31 tablet or hand held devices organized as follows:
   a. 16 tablets that remain together as a portable tool set and provide a 1:2 ratio or better for the classroom.
   b. 15 tablets that may be organized as another portable set or dispersed across multiple classrooms.
2. To migrate away from putting technology into desktop hardware in computer labs and to portable devices in classrooms.

Portable Technology for Classrooms - Secondary Schools
1. To provide each secondary school the opportunity to have consistent access to half class or whole class sets of tablet or hand held devices when shared in a school building.
2. To provide each secondary school the opportunity to have consistent access to half class or whole class sets of laptop computers when shared in a school building.
3. To begin to reduce the number of desktop computers in lab settings and to migrate them to portable devices in classrooms.

Desktop Computers for Learning Commons Spaces - Elementary Schools
1. To provide a selection of desktop computers in a mini lab environment to meet specific computing needs such as video editing or intensive keyboarding. These computers will be a mix of newer and lease return machines that meet the computing needs of the specific school.

Desktop Computers for Learning Commons Spaces - Secondary Schools
1. To provide an adequate number of computers to meet larger secondary school demands for provincial exams and general use where a traditional keyboard is beneficial to support workflow and learning.
2. To reduce the number of computer labs by moving to portable technology in classrooms.
3. To support bring your own technology (BYOT) models.

Desktop and/or Portable Computer Labs for Specialty Programs - Secondary Schools
1. To provide specialty programs with desktop or portable computers that meet program delivery needs.

Portable Technology – Teachers
1. To provide teachers with portable technology tools which allow them to enhance student learning and improve their business process efficiencies.

Projectors / Flat Panel Televisions
1. To equip every classroom with either a projector or flat panel television.

Wireless Video Sharing
1. To provide schools the ability to collaborate and deliver courses between sites in real time.
2. To allow neighbourhood schools to provide students with flexibility and choice through the use of video sharing technologies.

Staff Development
Training and Professional Development
1. To provide staff with training and professional development opportunities which allow them to develop needed skills to effectively infuse technology into their daily instructional practice.
2. To design a staff training and staff development schedule that is aligned with School District 79 Achievement Contract goals.
3. To anchor the purchase and deployment of new technologies to required training hours for staff.
4. To develop teacher instructional capacity through the implementation of an Instructional Technology Mentorship Program.

Administration and Excluded Staff Technology
Principals and Vice-Principal Portable Technology
1. To provide all Principals and Vice-Principals and Excluded Staff with portable technology tools which allow them to enhance student learning and improve their business process efficiencies.

Support Staff Technology
Secretary Desktop Computers
1. To provide clerical staff with standardized technology that meets their daily business process needs and is fully compatible with the tools Principals and Teachers are using to lead learning.

Operations Staff Technology (Electricians, Carpenters, Mechanics etc)
1. To provide Operations Staff with standardized technology that meets their daily business process needs.

Technology Department Technicians
1. To provide Technology Department Technicians with standardized technology that meets their daily business process needs and allows them to best support staff and student needs.

Appendix A

Training and Staff Development Elementary
1. To provide training and staff development that is integrated with the roll out of portable technology to elementary schools.
2. To provide all elementary schools with approximately 30 iPad Minis per ten divisons in the 2013-14 school year.
3. To develop Instructional Technology Mentors and assign them an iPad Mini to help them lead effective instructional practice with embedded technology amongst teachers in their school.

Training and Staff Development Secondary
1. To provide training and staff development that is integrated with the roll out of portable technology to secondary schools.
2. To provide all secondary schools with approximately 30 iPad Minis per 400 students in the 2014-15 school year.
3. To develop Instructional Technology Mentors and assign them an iPad Mini to help them lead effective instructional practice with embedded technology amongst teachers in their school.

Infrastructure

Bandwidth

Goal:

1. To provide all school sites with adequate bandwidth to meet the needs of educational programs and district business processes.

Current Status as of September 2013

Secondary Schools presently have the largest bandwidth demands due to larger student populations, greater numbers of portable devices and increasing use of media rich web based resources. As a result, our high schools have struggled over the last four years with inadequate bandwidth. We are working with PLN regularly to lobby for bandwidth increases. To support personalized learning and Bring Your Own Device directions forecasted bandwidth needs for educational services will be 50mb/s service for sites up to 600 students and 100mb/s for 601 and above.

School Site	Existing Bandwidth (PLN)	School Site	Existing Bandwidth (PLN)
Cowichan Secondary	100 mb	Ecole Cobble Hill Elementary	2 mb
Cowichan Secondary Quamichan	100 mb	Crofton Elementary School	2 mb
Frances Kelsey Secondary	60 mb	Discovery Elementary School	10 mb
Chemainus Secondary	10 mb	Drinkwater Elementary School	10 mb
Lake Cowichan School	10 mb	Duncan Elementary School	10 mb
George Bonner Elementary	10 mb	Khowhemun Elementary School	10 mb
Ecole Mt. Prevost	10 mb	Maple Bay Elementary School	10 mb
CVOLC	2 mb	Palsson Elementary School	10 mb
Adult Education	2 mb	Tansor Elementary School	2 mb
Alex Aitken Elementary School	10 mb	Board Office Complex	10 mb
Alexander Elementary School	2 mb	Thetis Island Elementary	1.5 mb
Bench Elementary School	10 mb		
Chemainus Elementary School	10 mb		

Bandwidth

Actions:

1. Upgrade bandwidth to school sites through consultation with the Provincial Learning Network (PLN) and/or purchase of bandwidth from commercial vendors.
2. Site Technicians monitor bandwidth use at schools and develop a priority upgrade schedule based on bandwidth utilization.
3. Deploy content filtering and monitoring tools for bandwidth that is purchased outside of the PLN.

Lead:

District Principal Technology Services
Site Technicians

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Local Area Networks

Goal:

1. To install 10/100/1000 mb managed switches in all buildings.
2. To configure virtual local area networks (VLANS) for greater network security and bandwidth management.

Current Status as of September 2013

Existing switches in many buildings do not have the capacity to move data at the volume or speeds required for the increasing bandwidth demands in district buildings. It is forecast that network wiring in buildings will require upgrades in segments across the district to support device demands. This means running new network cables as needed over the next five years. Moreover, district networks presently run in a flat unmanaged model, but increasing needs for security and bandwidth require a movement to a more complex VLAN structure.

Actions:

1. Installation of 1000 mb managed switches in all buildings.
2. Identification of deficient wiring segments in buildings.
3. Configuration of VLANs in priority according to building requirements.

Lead:

System Support Specialist Technicians as assigned to buildings
District Principal Technology Services

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Plan	Start	Start	Maintain	Maintain

Firewalls and Threat Management Devices

Goal:
1. To upgrade firewall routers and threat management utilities on all networks.
2. To provide technical staff with efficient utilities for tracking and managing all network devices.

Current Status as of September 2013

Presently schools operate with two layers of firewall devices. One provided through PLN on their private provincial network and a second device owned and configured by the school district. The majority of school district firewalls have functionality to support segregating a second non PLN connection to a building should outside bandwidth be purchased from a vendor.

Threat management is presently inefficient and incomplete when technical staff is required to track a device or review access logs for network activities of users. This delays the speed at which threats can be resolved. Firewalls with expanded functionality are required to provide tools for improved threat management.

Actions:
1. Install new firewalls and threat management utilities in all buildings on a priority based on assessed building needs.
2. Provide technical staff training on best practices and application of new tools for managing network threats.

Lead:

System Support Specialist Technicians as assigned to buildings
District Principal Technology Services

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Wireless Networks

Goal:
1. To provide district buildings with complete wireless coverage that is robust, stable and secure.
2. To provide technical staff with tools for management of portable devices (this includes district devices and BYOD).

Current Status as of September 2013:

Elementary and secondary schools have wireless networks with the ability to support and manage 1000 to 2000 devices respectively. However, device management and threat tracking tools available to technicians are not strong. At elementary school sites, wireless is present, but may not provide complete coverage.

Actions:
1. Set deployment timelines for wireless installs in elementary schools based on a building needs.
2. Provide technical staff training on new wireless system management tools.
3. Provide school staff training on utilization of the wireless features.

Lead:

District Principal Technology Services
District Purchasing Department
Operation Department
Technology Department Team
Selected Vendor

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Building Network Wiring

Goal:

1. To provide all school buildings with stable network wiring that meets category 5e or 6 standards.

Current Status as of September 2013:

Presently all school buildings have category 5e networks. However some networks have been identified as having potential cabling problems.

Actions:

1. Complete cabling evaluations in schools with network inconsistencies and development of site specific remediation plans.
2. Install upgraded network cabling in identified buildings.

Lead:

Site Technicians
Maintenance Department Electricians

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Plan	Start	Start	Maintain	Maintain

Servers - School Board Office

Goal:

1. To provide a directory service, located at the SBO, that extends to all school sites.
2. To provide expanded file storage and backup capacity for the Board Office Complex. This includes a secure offsite backup for critical data (financial systems, email, home directories etc).
3. To implement an off site backup model to further mitigate disaster avoidance.

Current Status as of September 2013:

Presently we have an aging Windows 2003 server providing directory services and file storage. Backups are performed to a disk array that is housed locally in the server farm.

Actions:

1. Deploy a Windows 2012 server in the Board Office server farm to provide district wide directory services and site data storage.
2. Deploy a disk array at Cowichan Secondary School to provide offsite backup to the Board Office's critical data.
3. Technician training.

Lead:

Network Systems Analyst
District Principal Technology Services

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Servers - Elementary Schools

Goal:

1. To provide each school with fast reliable file storage capabilities for a broad spectrum of devices.

Current Status as of September 2013:

Presently we have Apple Mac Pro Servers in all elementary schools providing directory services, configuration policies and file storage to client computers.

Actions:

1. Upgrade server software to Mountain Lion Server for directory services and file storage.
2. Integrate centralized Active Directory Service with the Mountain Lion Server.
3. Upgrade hardware as required to newer Mac Pro or Mac Mini servers based on site needs.
4. Install OwnCloud servers across the district to integrate file storage into a web accessible solution available to desktops, laptops, tablet and hand held devices

Lead:

System Support Specialists
Network Systems Analyst

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Servers - Secondary Schools

Goal:

1. To provide each school with fast reliable file storage capabilities for a broad spectrum of devices.

Current Status as of September 2013:

Presently we have Apple Mac Pro Servers in all secondary schools providing directory services and file storage to client computers.

Actions:

1. Migrate Secondary Schools to Windows 2012 Servers for directory services and file storage with an Apple Server to provide Apple specific profile support.
2. Install OwnCloud servers across the district to integrate file storage into a web accessible solution available to desktops, laptops, tablet and hand held devices

Lead:

System Support Specialists
Network Systems Analyst

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Web Server

Goal:
1. To provide web tools that support district education and business processes.

Current Status as of September 2013:
Presently the district runs a one-year old Apple MacPro Mountain Lion Server with a WordPress Multisite configuration for content management.

Actions:
1. Continue development, installation and purchase of useful web based programs that have the ability to transform student learning and that provide efficiency and value to district business processes.
2. Continue working to make district, school and classroom websites more user friendly and useful with the support of developer expertise as required.
3. Provide expanded training and staff development for staff in the use of Wordpress and other district web based resources. May be face-to-face, remote or self paced digital formats to support learning.

Lead:
District Principal Technology Services
District Information Technology Coordinator
Site Technicians

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Maintain	Maintain	Maintain	Maintain	Maintain

22

Mail Server

Goal:

1. To provide a unified mail system that includes webmail, POP and IMAP, calendar, group collaboration tools and global address book services to end users.

Current Status as of September 2013:

Presently the district operates an enterprise IceWarp Mail Server that provides unified webmail, POP, IMAP, calendar and global address book on an a three year old Windows 2008 Server.

Actions:

1. Continue full implementation of the IceWarp Mail system.
2. Upgrade mail server hardware in the next 24 months.
3. Continue with periodic upgrades to the IceWarp server software as the vendor releases point upgrades.
4. Move all staff to webmail

Lead:

Network Systems Analyst
District Principal Technology Services

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Maintain	Maintain	Maintain	Maintain	Maintain

Help Desk System

Goal:

1. To more effectively utilize tools within the Help Desk Ticket System by allowing end users to submit tickets directly in the system rather than having to send an email or make a phone call.
2. Integrate the system with a district wide directory service for user accounts.
3. Develop staff training opportunities through analysis of support request type and frequency.

Current Status as of September 2013:

The Help Desk Ticket System has been in production for over four years and is used for day-to-day tracking of trouble tickets in the district and to assign individual technician work.

Actions:

1. Continue use of the existing Help Desk Ticket System.
2. Upgrade the Help Desk Ticket System as the vendor releases point upgrades.
3. Focus the technical staff on fully utilizing system features for greater efficiency.
4. Analyze ticket and project data to support development of training opportunities.
5. Develop a model for scheduled check-ins with schools.

Lead:

District Principal Technology Services
Instructional Technology Assistant

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Education Services and Tools

Library Management Software

Goal:
1. To purchase a library management system that operates as a federated centralized system.

Current Status as of September 2013:
Presently the district operates individual L4U library circulation servers in each school. Although the system has worked quite well, the software is in need of upgrade and the supported model of having a dedicated server in each school is inefficient.

Actions:
1. Go to Request for Proposal to procure an updated library circulation system.
2. Retire existing versions of the L4U library circulation software and deploy new system.
3. Develop a deployment schedule for 2014-15.
4. Set a training schedule for librarians and technicians

Lead:
District Principal Technology Services
District Resource Services Assistant

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Portable Technology for Classrooms - Elementary Schools

Goal:
1. To provide each elementary school the opportunity to have a minimum of 31 tablet or hand held devices organized as follows:
    a. 16 tablets that remain together as a portable tool set and provide a 1:2 ratio or better for the classroom.
    b. 15 tablets that may be organized as another portable set or dispersed across multiple classrooms.
2. To migration away from putting technology into desktop hardware in computer labs and to portable devices in classrooms.

Current Status as of September 2013:

Presently all elementary labs, with the exception of two, are at the end of functional life. In an attempt to begin moving in a new direction, many elementary schools have been exploring the use of iPads in their classrooms as learning tools.

Actions:
1. Continue discussions with entire staffs on future directions and purchasing standards for technology.
2. Develop a defined management plan for portable devices and implement standards across the school district.
3. Begin retiring computer labs and purchase iPad Mini and iPod Touch technologies for deployment in classrooms.
4. Develop a training plan that ties the ability to purchase or receive new technology tools in schools to staff development and training hours.

Lead:

District Principal Technology Services
District Information Technology Coordinator

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

26

Portable Technology for Classrooms - Secondary Schools

Goal:
1. To provide each secondary school the opportunity to have consistent access to half class or whole class sets of tablet or hand held devices when shared in a school building.
2. To provide each secondary school the opportunity to have consistent access to half class or whole class sets of laptop computers when shared in a school building.
3. To begin to reduce the number of desktop computers in lab settings and to migrate them to portable devices in classrooms.

Current Status as of September 2013:
Presently secondary schools have a very limited amount of portable technology in classrooms. In most buildings there are a small number of recently added iPads and iPod touches and a few Apple laptops available for students use. There is very little consistency in this device category as until recently the focus has been on desktop technologies in lab configurations. Some buildings have been able to make portable devices available for short term check out through equipment additions to their libraries.

Actions:
1. Continue discussions with entire staffs on future directions and purchasing standards for technology.
2. Develop a defined management plan for portable devices and implement standards across the school district.
3. Begin retiring computer labs and purchase iPad Mini and iPod Touch technologies for deployment in classrooms.
4. Develop a training plan that ties the ability to purchase or receive new technology tools in schools to staff development and training hours.

Lead:
District Principal Technology Services
District Information Technology Coordinator

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

27

Desktop Computers for Learning Commons Spaces - Elementary Schools

Goal:

1. To provide a selection of desktop computers in a mini lab environment to meet specific computing needs such as video editing or intensive keyboarding. These computers will be a mix of newer and lease return machines that meet the computing needs of the specific school.

Current Status as of September 2013:

Presently 9 of 14 elementary labs are at the end of functional life.

Actions:

1. Continue discussions with entire staffs on future directions and purchasing standards for technology.
2. Begin retiring existing computer lab desktops and replace with a limited number of new and lease return machines.

Lead:

District Principal Technology Services
District Instructional Technology Coordinator

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Desktop Computers for Learning Commons Spaces - Secondary Schools

Goal:

1. To provide an adequate number of computers to meet larger secondary school demands for provincial exams and general use where a traditional keyboard is beneficial to support workflow and learning.
2. To reduce the number of computer labs by moving to portable technology in classrooms.
3. To support bring your own technology (BYOT) models.

Current Status as of September 2013:

Presently secondary schools have between two and seven computer labs depending on size. Some labs are used for specific exploratory or specialty courses, while most are for support of core courses.

Actions:

1. Work with school administration and teachers to determine needed numbers of desktop computers in lab configurations.
2. Set hardware standards based on determined needs.
3. Determine an upgrade schedule for all secondary schools.

Lead:

District Principal Technology Services
Site Technician

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

29

Desktop and/or Portable Computer Labs for Specialty Programs - Secondary Schools

Goal:

1. To provide specialty programs with desktop or portable computers that meet program delivery needs.

Current Status as of September 2013:

Presently specialty programs in secondary schools have adequate computing power to deliver programs to students. Most hardware is four years of age or older and will require upgrading in the next one to two years.

Actions:

1. Determine program needs in schools under new district reconfiguration.
2. Set a retirement and upgrade schedule for hardware and software in secondary schools.

Lead:

District Principal Technology Services
District Instructional Technology Coordinator

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Portable Technology - Teachers

Goal:

1. To provide teachers with portable technology tools which allow them to enhance student learning and improve their business process efficiencies.

Current Status as of September 2013:

Presently the school district does not have budget to provide teachers with portable technology such as laptops or tablets. Those teachers that have laptops or tablets have had them provided through school-based budgets, parent advisory group fund raising or are in positions of special responsibility at a district level.

Actions:

1. Purchase portable technology tools for classrooms.
2. Develop a training plan that ties placement of technology tools in classrooms to required inservice and training hours.

Lead:

District Principal Technology Services
District Information Technology Coordinator

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Projectors / Flat Panel Televisions

Goal:

1. To equip every classroom with either a projector or flat panel television.

Current Status as of September 2013:

Presently about 40% of secondary classrooms have projectors as opposed to about 20% in elementary. However, some schools have every classroom with a projector and this discrepancy is a result of budget priorities set by individual school staffs and the ability for some parent advisory groups to fund raise significant dollars.

Actions:

1. Complete a detailed needs assessment across the district to bring equity to buildings.
2. Pilot using 50" LCD televisions as opposed to LCD projectors and assess (this may provide significant cost savings over the life of the device).

Lead:

District Principal Technology Services
District Instructional Technology Coordinator

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Plan	Start	Start	Maintain	Maintain

Wireless Video Sharing

Goal:

1. To provide schools the ability to collaborate and deliver courses between sites in real time.
2. To allow neighbourhood schools to provide students with flexibility and choice through the use of video sharing technologies.

Current Status as of September 2013:

Presently schools do not have adequate bandwidth to reliably utilize video sharing technologies. Some experimentation across buildings has been completed, but reliability due to bandwidth constraints and lack of standardized tools between buildings is limiting.

Actions:

1. Establish adequate bandwidth to meet learning needs and usage demands in all schools.
2. Select a video sharing tool that meets the needs of teachers and students.
   a. Deploy the video sharing tool.
   b. Provide training on effective use of video sharing as an instructional tool.

Lead:

District Principal Technology Services
District Instructional Technology Coordinator

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Plan	Start	Start	Maintain	Maintain

Staff Development

Training and Professional Development

Goal:
1. To provide staff with training and professional development opportunities which allow them to develop needed skills to effectively infuse technology into their daily instructional practice.
2. To design a staff training and staff development schedule that is aligned with School District 79 Achievement Contract goals.
3. To anchor the purchase and deployment of new technologies to required training hours for staff.
4. To develop teacher instructional capacity through the implementation of an Instructional Technology Mentorship Program.

Current Status as of September 2013:

For the 2013-14 school year, the District Information Technology Coordinator (DITC) has been assigned at .5 and is focused on supporting iPad Action Research Projects. These projects have been offered in ten week cycles as a way to support multiple schools in gaining experience and receiving training on best instructional practices with tablet technologies in the classroom.

Actions:
1. Develop a staff training and professional development schedule aligned with the School District 79 Achievement Contract goals **(See Appendix A)**
2. Align staff training to support the movement away from lab based technology to portable devices in classrooms.
3. Set a staff training and professional development schedule anchored to technology purchases and technology deployment process.
4. Set a staff training and professional development schedule that is aligned with the capacity of the Technology Department to deploy new equipment.

Lead:

District Principal Technology Services
District Instructional Technology Coordinator

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Administration and Excluded Staff Technology

Principals and Vice-Principal Portable Technology

Goal:
1. To provide all Principals and Vice-Principals and Excluded Staff with portable technology tools which allow them to enhance student learning and improve their business process efficiencies.

Current Status as of September 2013:
Presently all Principal and Vice-Principals have laptops ranging from one to five years of age. Portable devices are assigned for a four to five year cycle and then are updated as part of a scheduled refresh.

Actions:
1. Continue to upgrade Principal, Vice-Principal and Excluded Staff portable technology* on a four to five year life cycle.
2. Evaluate changing needs for Principal, Vice-Principal and Excluded Staff technologies as it relates to leading student learning and alignment with changing business processes of the school district.

Lead:
District Principal Technology Services

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Maintain	Maintain	Maintain	Maintain	Maintain

*Portable technology may include laptop, tablet, cell phone, iPod etc.

Support Staff Technology

Secretary Desktop Computers

Goal:
1. To provide clerical staff with standardized technology that meets their daily business process needs and is fully compatible with the tools Principals and Teachers are using to lead learning.

Current Status as of September 2013:

Presently we have standardized all elementary schools and some secondary schools on Apple Mac Minis running Mountain Lion. All other buildings are operating using Dell systems with a combination of Windows XP and Windows 7.

Actions:
1. Complete standardization of clerical desktop computers.
2. Provide clerical staff with the opportunity to attend training sessions that align with deployment of new technology.

Lead:

District Principal Technology Services

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Maintain	Maintain	Maintain	Maintain

Operations Staff Technology (Electricians, Carpenters, Mechanics etc)

Goal:

1. To provide Operations Staff with standardized technology that meets their daily business process needs.

Current Status as of September 2013:

Presently Maintenance staff have portable or desktop technology tools that are purchased and refreshed based on their specific job function and changing needs within their specific roles.

Actions:

1. Work with the Operations Department to complete a technology review and determine specific needs.
2. Develop a refresh schedule based on anticipated needs.

Lead:

District Principal Technology Services
Operations Department Managers

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Start	Start	Maintain	Maintain	Maintain

Technology Department Technicians

Goal:

1. To provide Technology Department Technicians with standardized technology that meets their daily business process needs and allows them to best support staff and student needs.

Current Status as of September 2013:

Presently Technology Department Technicians have two year old laptop computers and have access to department iPads and iPods for learning and testing.

Actions:

1. Continue to assess Technician equipment needs as they relate to supporting district business processes and staff and student needs.
2. Continue refresh cycle of four years or as needed by district requirements.

Lead:

District Principal Technology Services

Timeline:

2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Maintain	Maintain	Maintain	Maintain	Maintain

Data
Evidence of Success

Desired Data	Instrument	Frequency
Standard hardware installed in all schools.	Tech Department Audits	Once per year
Standard software installed in all schools	Tech Department Audits	Once per year
Teacher training opportunities are consistently offered with attending teacher grade levels and school zones tracked to provide a picture of change.	1. Training calendar 2. Participation tally from training sessions	Continual review Per session basis
Improvement in student achievement in literacy, numeracy and social responsibility.	1. District Wide Write 2. District Wide Read 3. Social Responsibility assessment data	As per District Schedule
Student attitudes toward use of technology.	Student survey on integration of technology in their learning (to be developed)	Once per year
Teacher attitudes toward use of technology and support received for technology.	Teacher survey (to be developed)	Once per year

*Where possible, data will be collected using one collection instrument (eg online survey tool).

Appendix A

Training and Staff Development Elementary

Goal:
1. To provide training and staff development that is integrated with the roll out of portable technology to elementary schools.
2. To provide all elementary schools with approximately 30 iPad Minis per ten divisons in the 2013-14 school year.
3. To develop Instructional Technology Mentors and assign them an iPad Mini to help them lead effective instructional practice with embedded technology amongst teachers in their school.

The Action Plan September to December 2013:

1) Create an Instructional Technology Mentor Program (ITMP) with assigned funding for release time.
    a. Offer the ITMP with a combination of in school release time meetings for Instructional Technology Mentors (ITMs) and after school meetings.
2) Roll out new technology to elementary schools in waves of approximately seven schools with an initial focus on grades 2-7 in the Fall and Kindergarten grade 1 in the New Year.
    a. Wave 1 training for ITMs and equipment rollout September to November 2013
    b. Wave 2 training for ITMs and equipment rollout November to January 2014
        i. Schools TBA
    c. K/1 wave training January to March 2014
3) Focus on early literacy support using strategies such as, but not limited to, *The Daily Five* or Adrienne Gear *Reading Power* in grades K-4, on non-fiction reading for information strategies in grades 4-7 and Assessment For Learning Strategies across all levels.
4) Schools in each wave are requested to have one Primary and one Intermediate Teacher who are willing be trained as Technology Mentor Teachers for their building.
    a. ITMs will be asked to commit for a two year term that is renewable.
        i. ITMs will receive an iPad mini for their daily use and peer mentoring.
    b. Schools in each wave will receive 30 iPads for their building - 15 iPad Minis will be prioritized for the ITMs' classrooms and model lessons, 15 iPad Minis will be organized for general use across the building in either a 1:2 ratio or other flexible configurations.
5) ITMs in each wave are provided 3-6 half days of released training time in a train the trainer model.
    a. ITMs commit to meeting after school 5-6 times to continue to build skills and collaborate.
6) ITMs will be provided up to 6 half days that may be utilized for training staff in their buildings.
    a. Training will be provided through the Learning Round Model .

7) The District Information Technology Coordinator and the District Principal Technology Services will make themselves available for supplemental support.
8) Reflection cycle completed to define 2014-15 ITMP.
9) School staffs will participate in iPad orientation sessions (Bootcamps) before equipment will be released to schools.

The Action Plan January – March 2014:

1. Grades K/1 focus on early literacy strategies with iPads
2. District Instructional Technology Coordinator in concert with selected resource people provide training and staff development to interested K/1 Teachers.
    a. Staff development will be available to one K/1 teacher per school
3. Participating K/1 Teachers will be provided 2 half days of released training time in a train the trainer format.
    a. Participating K/1 Teachers commit to 4 after school meetings to continue to build skills and collaborate.
4. Participating K/1 Teachers will be provided with an iPad Mini to support their professional growth.
5. Participating K/1 schools will receive 4 iPads to be utilized in literacy and other activities.
6. Reflection cycle completed to define 2014-15 staff development offerings.

Training and Staff Development Secondary

Goal:
1. To provide training and staff development that is integrated with the roll out of portable technology to secondary schools.
2. To provide all secondary schools with approximately 30 iPad Minis per 400 students in the 2014-15 school year.
3. To develop Instructional Technology Mentors and assign them an iPad Mini to help them lead effective instructional practice with embedded technology amongst teachers in their school.

The Action Plan April 2014 – March 2015:

Utilize what has been learned from the Elementary iPad Mini implementation and Instructional Technology Mentorship Program to design an implementation plan for secondary schools.