SD 42 IT Plan to Support Learning for Tomorrow

2012 - 2015

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"Students today expect to learn in an environment that mirrors their lives and their futures - one that seamlessly integrates today's digital tools, accommodates a mobile lifestyle, and encourages collaboration and teamwork in physical and virtual spaces."

<div align="right">Apple Classrooms of Tomorrow -Today</div>

"...an interesting shift that I believe is happening: a shift between using technology to support the individual to using technology to support relationships between individuals. With that shift, we will discover new tools and social protocols for helping us help each other, which is the very essence of social learning. It is also the essence of lifelong learning..."

<div align="right">John Seely Brown: Growing up Digital</div>

Learning For Tomorrow – A Three Year Plan

On November 16, 2010 more than 200 parents, students, teachers, school administrators and community members participated in a forum for the purpose of helping shape the future direction of learning in Maple Ridge/Pitt Meadows School District. The wide-ranging discussions centered on key questions and were captured in more than 750 responses that were posted by group recorders. One of these questions related to the structure of schooling and directly related to teaching and learning using technology.

TEACHING, LEARNING AND THE STRUCTURE OF SCHOOLING

What would learning need to look like and how might schools are organized to deliver an education that would ensure that our students are well prepared for the future that awaits them?

Essential Skills – The development of the knowledge, skills and attributes that we expect our students to have is pervasive across all curriculum areas. Particular emphasis is placed on creative and critical-thinking skills and problem-solving strategies.

Knowledge – It is understood that the educated citizen possesses certain essential content knowledge, which is acquired in a number of ways including memorization. That said there should be a greater emphasis on knowledge application rather than knowledge acquisition.

Integration of Curriculum – Students are engaged in relevant and contextual problem-based and project-based learning experiences. Learning is focused on the connections across curriculum areas. A multi-disciplinary approach to learning design is taken wherever possible.

Choice / Ownership – Students are able to influence and actively participate in shaping their learning agenda. Learning is personalized to address individual interests and needs to the

fullest extent possible. Students set learning goals in relation to required learning outcomes. Choice is provided without compromising standards.

The Role of Teacher and Learner – Teachers are seen more as mentors and facilitators of learning and less in the more traditional role as instructor. Students take a more active role in teaching and learning from their peers. This is done in a culture where both teachers and students are seen to be learners.

Technology – The use of technology as a learning tool is an integral part of the learning process.

Engaging the Digital Natives – Learning design incorporates features that will engage today's learner. These include experiential (hands-on) learning activities, learning as a social process where students interact with their peers face-to-face and virtually, and where it is understood that, although students learn differently, there is a greater tendency for them to be visual and auditory learners as opposed to processing text.

Ted McCain has stated that the world of the 21st century presents teachers with considerable challenges as they try to engage adolescents in the curriculum they must teach. There has been a significant shift in the skills that students need for success after graduation due to the rapidly changing world driven by technological development. In addition, modern digital students have been affected by the digital bombardment from a whole host of networked digital tools that they have grown up with. As a result, they are less receptive to the traditional "teaching as talking" instructional approach that has dominated education for the last one hundred and fifty years.

A key component of this 3-year technology plan is to explore ways of shifting our instructional approach to effectively teach these skills to modern students.

The process of the development of this educational technology plan began in 2010, when a number of SD42 stakeholders began to examine the district's current practices in using technology in teaching and learning.

The participants acted as a focus group providing the school district with innovative teaching & learning technology initiatives and ideas. These initiatives and ideas were based on real life experiences and the impact of suggested technology on the teachers and students.

Their feedback has became our touchstone as to what works or doesn't work in the classroom and for future IT planning.

Moving Towards Teaching for Tomorrow in SD42

PD Development and Strategy

District Strategic Approach
- 4 staff (Learning for Tomorrow District Helping Teachers)
- Online Learning Center
- Large group PD
- Peer mentoring
- Evening learning rounds

Online Support
- IT Help Desk Support
  - Remote desktop access
  - Ticket-driven helpdesk support for schools, away from individual tech per school
  - Creation of IT knowledge base
  - Creation of Self Help IT Website for Teachers and Staff
  - Emergency Bulletins for IT Global Events
- District Online Repository
  - Teacher-driven and created content
  - Online video hosting and sharing service for SD42 teachers
  - District-created content and licensed content
- Parents Portal
  - Creation of online interactive portal for parents. This portal will be the central location for parents to communicate with schools and vice versa, online payment, and online registration. This portal will be fully launched in September 2013.
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Technology in the Classroom

We will continue to explore new technologies that will enhance teaching and learning in the classroom such as creating an iTunesU online educational system to deploy educational resources for staff and students. This project is expected to launch by September 2013.

We will continue to explore the use of digital texts/digital assets in the classroom to replace traditional texts.

Elementary

Current Initiatives & Directions

- o 1-1 laptop inquiry program
  - Continue to explore how tablet / laptop technology could enhance inquiry learning
- o Grade 3-4 iPod reading project
  - Continue to expand
- o District SmartBoard program/AppleTV
  - Continue to expand program with teachers that are involving 21st century skills in their classrooms
- o Classroom and Labs
  - Continue to explore utilizing mobile and virtual terminal technology to enhance teaching and learning in our classrooms
- o Student-responder handheld devices for formative assessment
  - Continue to expand this program along with SmartBoard installations
- o Expansion of Web 2.0 in the classroom

Future Initiatives & Directions

- o Projectors & Audio in every classroom
- o Mobile Carts "retire labs"
- o Expand handheld device usage in all grades
- o Continued support for the teacher laptop technology initiative
- o Access to media in every classroom
  - online district resources
  - district streaming video
  - district licensed video resources "including ERAC"
  - HD video conferencing between classrooms, between schools, and between district and outside world
  - district-hosted document cloud sharing for our students and staff

Secondary

Current Initiatives & Directions

- o 1-1 grade 8 – 10 student supplied laptop inquiry learning program to be extended to all secondary grades with school and district hardship policy
- o 1-1 iPads in secondary numeracy grades
- o Continue to support special purpose labs (IE Video Editing and multimedia labs)
- o Expansion of Web 2.0 in the classroom

- o Tablets for math teachers, with potential expansion of this initiative to science teachers
- o Adobe Creative Suite Campus Agreement to support 21St Learning on all district assets
- o Microsoft Academy Curriculum is currently piloted in one secondary school. This could possibly result in an offering to all secondary schools.

Future Initiatives & Directions

- o Projectors & audio in every classroom
- o Expand handheld device usage in all grades
- o Continued support for the teacher laptop technology initiative
- o Continue to explore social networking media integration in the classroom alongside with the introduction of a social media policy for staff
- o Access to media in every classroom
    - online video resources
    - online district-created teaching materials
    - district streaming video
    - district-licensed video resources "including ERAC"
    - HD Video conferencing between classrooms, between schools, and between district and outside world

Teaching Staff

Current Initiatives & Directions

- o Continued support and expansion for the teacher laptop/tablet technology initiative
- o Expansion of Web 2.0 in the classroom
- o Continued emphasis on training staff to best practices in teaching and learning utilizing technology

Future Initiatives & Directions

- o District repository of teacher-created and recommended teaching materials.
- o Support and training for staff on harnessing the power of hand held technology in the teaching and learning environment
- o Licensing online content that is interactive and engaging that will supplement or replace traditional text books
- o Support and training for staff to better utilize web2.0 tools and contents
    - Online training
    - Professional development opportunities
    - After-school sessions
    - Continued support from District Helping Teachers
    - Within school learning groups

- o   Continue to expand our district-owned library of e-texts and e-books
- o   Initiate electronic resource review committee that will embody representatives from all district stakeholders

Infrastructure

In an effort to enable the infusion of technology within our classrooms, it has been recognized by management and the IT Department that it is paramount to lay the proper network foundations. Our focus is to globally deploy a stable-wired and wireless network throughout our schools and to increase the bandwidth capacity of our LAN/WAN to allow for proper data flow between schools and DEO/Internet.

Other initiatives such as the centralization of Web 2.0 resources and web hosting were taken to allow for a standardized approach to resources that are student and public-facing. This will enable the IT Department to efficiently serve our schools with the latest collaboration tools. Centralizing these resources will create equality between school that have a strong tech teaching staff and the less fortunate ones.

Centralization of Web Resources

Resources such as Moodle, Wiki, etc. will be served from our central data center. This will enable the IT Department to keep our servers up-to-date, secure, and efficient. Modules needed will be installed and configured once only. Security patches will be kept up-to-date and uptime will improve drastically.

Cloud Computing For Students

Live@EDU project: Started September 2011, every SD42 student is offered a free e-mail account (20 GB capacity), 25 GB of cloud computing storage, and free access to a full Office Suite. Students and teachers have the ability to collaborate, edit and share documents within pre-set groups.

Office 365 will be piloted, then deployed starting Sep 2013. SD42 is committed to the Microsoft version of cloud computing due to the tight integration between Office 365/Windows 8 and our backend infrastructure and the directions of the Ministry of Education.

Wireless 2.0

Under the directions of SD42 executives, the IT Department has embarked on upgrading the first generation of wireless deployment to a more sophisticated and centrally controlled N capable, wireless technology.

Our intent is to have all our schools with complete second/third generation coverage by the end of 2013. This investment in wireless infrastructure will allow students and staff access to online resources and tools.

Access (WAN/LAN)

We have recently upgraded all our secondary schools and 4 elementary schools to 100 MB. Shaw was purchased to complement PLNET lack of funding to enhanced 4 elementary schools. Efforts will be made to move all our elementary schools to 10/100 Mb in the next couple of years.

Our IT Department will continue to invest in upgrading our network infrastructure to be able to support bandwidth intensive products and services.

Universal Access

Our vision is to enable universal access to district data and applications from within and outside district boundaries

Purchase Standardization

All IT related equipment purchases need to be standardized in collaboration with SD42 stakeholders. This standardization ensures compatibility with network infrastructure and standards. Selection of purchased products will be based on total cost of ownership for the life span of this product.

All IT procurements shall be obtained through the Purchasing Department and sanctioned by the IT Department.

Purchasing Policy will be finalized by IT and put forward to the board for approval.
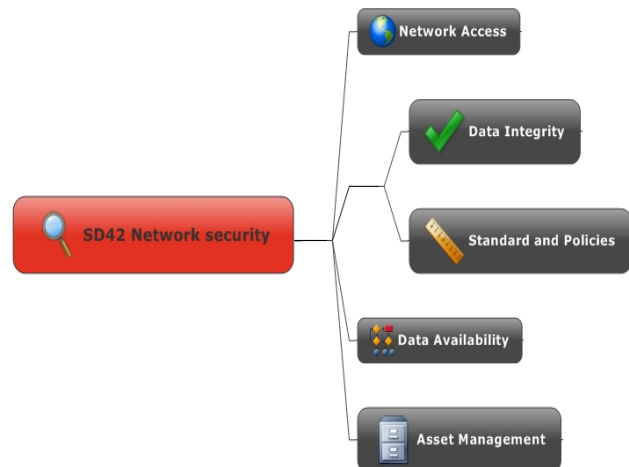
Disaster Recovery

The IT Department has embarked on a 3 year IT disaster plan in effort to make our DEO data center redundant in case of a natural or man-made disaster.

THSS was marked as a secondary location, but a permanent location will be identified based on seismic stability and technology accessibility.

As a phase one of the project, email services are now redundant. By the end of August 2013, School District 42 e-mail, website, and file services will be duplicated and redundant.

Network and Data Security

Every year, more technology is being used to educate students in our district. With the benefits of technology tools comes the responsibility of protecting students and staff from predators and offensive online content, and the securing of personal and financial data from identity thieves.

In order to secure our resources and protect our students, the IT department has embarked on a 5 pronged approach to achieve our goal:

1. Secure and validate Network Access
2. Data Integrity: The information remains accurate and only modified by authorized persons.
3. Data Availability: Our resources are available and accessible at all times.
4. Asset Management: all are assets are tagged and accounted for.
5. Introduction of the following IT policies/guidelines (pending Board approval):
   - IT procurement policy
   - Staff acceptable use policy
   - Student acceptable use policy
   - SD42 social media guidelines

IT Policies & Processes

Efforts are underway to write and publish policies, standards and procedures when needed. Our District and IT website will host all the new policies as they come in to effect.