Comprehensive Plan for Technology

Approved by the Scarborough School Board on May 16, 2013

Scarborough School District

2013-2016

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SCARBOROUGH SCHOOLS
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Blue Point Primary School
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Pleasant Hill Primacy School

Wentworth Intermediate School
Scarborough Middle School
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SCARBOROUGH SCHOOLS
INTEGRATED TECHNOLOGY MODEL

Technology at the point of learning for learning will result in rigorous and relevant learning through:

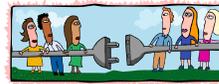|			
Spaces for collaborative student work	Interactive models and simulations	Community interaction and involvement	Remote learning experiences
Spaces for creative and innovative student work	Access to global learning opportunities	Internal and external communication	Interaction with parents
Easy access to data with search capability	Secure access to student information	Online, shared curriculum resources	Collaborative online meetings

Changing the way we learn via instant access to necessary and useful information, capabilities, best practices, resources, and teaching/learning tools.

Comprehensive *on-line teaching and learning resources* that provide the framework for teachers and administration to access the widest possible range of information and management tools to allow Scarborough students to experience a rigorous *learning environment*: providing relevant, challenging, and engaging opportunities to achieve 21st Century Skills.

Integrated technology and information resources allow the Scarborough School System to make the best possible use of all available resources, minimize the acquisition of costly materials, and allow our staff to provide more effective pathways for student learning to take place any time, any place, and at any pace.

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Comprehensive Plan for Technology
Scarborough School Department
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1. Community and Parental Involvement

The district has a Central Office Technology Committee comprised of the Director of Curriculum and Assessment, the Director of IT, the Technology Specialist, the System-wide Information Specialist (a position combining Technology Integrator, Data Manager, and District Library/Information Specialist) and the Assistant Superintendent.

Since our first Comprehensive Plan for Technology in 1996, we have involved community and staff regarding technology. Parents have been involved with our district and building level technology committees.

The district maintains a district web site as well as school sites to promote involvement and increase communication. The school district site is periodically reviewed and reformatted to be more useful to the parents and community.

The district has invested in PowerSchool, not only a powerful student information software application, but a web-based communication application where parents can access student progress reports, grade, attendance, etc. In addition, the district utilizes Moodle and other applications where teachers have developed sites for parent information and involvement.

2. Vision

Vision for Technology throughout Scarborough Schools and Beyond
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'Technology at and for the Point of Learning'

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Incorporation of *technology at and for the point of learning* will allow students to acquire academic skills and knowledge, to develop the ability to relate those skills and knowledge to applications in life, and to develop the innovation, creativity, communication, research, and analysis (21st Century) skills necessary to be successful in a changing, global society.

Appropriate technology shall be utilized throughout the school system and beyond to enhance the teaching/learning process.

The Scarborough Schools recognize the need to:
- Be increasingly responsive to individual developmental needs,
- Respond to society's demand for excellence in education, and
- Make use of the global educational opportunities presented by technology.

To create this environment, Scarborough schools will provide the following:
- Access to and effective use of appropriate technology at and for the point of learning
- Wide range of opportunities for developing student and staff proficiency in 21st Century Skills

- Access to and effective use of a range of external and internal communication, collaboration, and information management capabilities
- Continuous and appropriate professional training with a sufficient support staff structure
- Ongoing funding structure for keeping current, updating, and expanding capabilities

Scarborough is committed to an ongoing system-wide process designed to make cost-effective use of a broad array of technologies in line with this vision.

3. Goals

Goal #1: Effective and efficient use of appropriate technology to enable students to demonstrate 21st Century Skills.

Objectives:

1A. Provide applications through technology that will augment or enhance the pedagogy thus enhancing the learning process (in alignment with the district's focus on 'best practices' and 'methods that matter')

1B. Embed the National Educational Technology Standards of the International Society for Technology in Education and the AASL Information Literacy Standards into all curricula so students will demonstrate 21st Century Skills

1C. Incorporate the National Educational Technology Standards of the International Society for Technology in Education and the AASL Information Literacy Standards for Administrators and Teachers in professional development planning and evaluation processes

1D. Provide personnel with the support necessary to access, develop and implement 21st Century learning experiences for students such as those that promote collaboration, creativity, innovation, and digital citizenship

Implications/Resources/Organizational Support:

Allocate funding for:

- Equipment
- Software
- Personnel
- Time for training, planning
- Facilities

Goal #2: Access to and effective use of comprehensive, interconnected instructional resources.

Objectives:

2A. Provide full range of quality instructional resources linked to curriculum objectives and Common Core Standards such as experts, online conferencing, project collaboration, creative/collaborative spaces, and primary source information.

2B. Develop and maintain professional resources such as access to data bases, online professional development opportunities, examples of 'best practices', and samples of student work, etc.

2C. Provide personnel with technical expertise to develop and manage the instructional resources and the student information system

2D. Develop and maintain symbiotic relationships with local and online institutes of higher learning in the areas of technology and STEM.

Implications/Resources/Organizational Support:
Allocate funding for:
- Equipment
- Software
- Personnel
- Time for training, planning

Goal #3: Provide, manage, and leverage comprehensive internal and external data and analytics for decision making.

Objectives:

3A. Provide easy-to-use, on-line student information such as personal and academic information including: grades, schedules, attendance, etc. consistent with policy and regulations regarding security and privacy

3B. Provide time and training for staff to access and analyze online reporting of student performance data consistent with policy and regulations regarding security and privacy.

3C. Provide on-line reporting (academics, activities, events) consistent with policy and regulations regarding security and privacy

3D. Use data to make curriculum, management, and budgetary decisions and to address mandated requirements for tracking student performance

3E. Develop and maintain protocol for information/data entry, retrieval, validation, consolidation, retention, and security

3F. Purchase and update applications that are interconnected, share common data (talk to each other: ODBC)

3G. Provide training to leverage available data to improve student achievement.

Implications/Resources/Organizational Support:
Allocate funding for:
- Equipment
- Software
- Personnel
- Time for training

Goal #4: Provide infrastructure and organizational support to ensure effective use of technology.

Objectives:

4A. Maintain sufficient and appropriate infrastructure for the use of technology to meet needs of all students and personnel

4B. Provide town, district, school and classroom support systems (including planning, policy, leadership, training, and resources)

4C. Build the time and the expertise (staffing) for all personnel to engage in necessary training by providing a 'just in time, just enough' delivery of opportunities

4D. Build leadership that embraces and models the National Educational Technology Standards (of the International Society for Technology in Education) for Administrators and Teachers

4E. Plan, design, renovate, and/or construct spaces (facilities and or online communities) to support integration of technology

4F.   Research, evaluate, and recommend BYOD (bring your own device) strategies.

4G. Review and enhance current communication vehicles K-12.

Implications/Resources/Organizational Support:
Allocate funding for:
- Appropriate facilities
- Equipment
- Software
- Personnel
- Time for training

4. Identify Necessary Technology

Needs for technology are assessed on an ongoing basis. Through our committees, as well as our curriculum meetings, held regularly at each of the phase levels, we gather feedback on how to use technology to improve learning. Monthly Central Office meetings serve as the clearinghouse for requests. Current use of technology is reviewed on an ongoing basis and areas of need are discussed. Reflecting on our goals and our 3-year budget plan, we decide to move forward with requests for funding. For example, all teachers K-12 have laptops, some through the MLTI program, others purchased from local funds. The High School just completed a process of school based study of needs for refreshing and renewing technology. Requests were prioritized, finding allocated, and the IT department deployed the equipment.

5. Collaboration with Adult Literacy Service Providers

Adult Education in Scarborough provides adult literacy services. All adult education programs use the facilities, including the technology available at the school sites.

6. Strategies for Improving Academic Achievement and Teacher Effectiveness

All funds expended for the purpose of Staff Development are done so with the expectation that student learning will improve. The goal for our district's entire staff development model is to improve student learning in the content areas by improving teaching practices.

For example, we have a Professional Learning Team model for staff development where teachers form inquiry groups where they participate in action research on an question involving their content area and improving instructional practices as outlined in the 'best practices' research.

They propose a plan for that time and then, when approved implement their plan for the year. In addition, there are site based workshops offered, off-site workshops teachers can attend (MLTI) and the annual summer Sebago Alliance Technology Camp.

As we interview applicants for supportive, teaching or administrative positions, one or more, of the interview questions prompts the applicant to describe their level of technology expertise or give examples of how it is effectively used for learning.

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

Specific examples of effective integration of technology currently include the use of webquests, virtual field trips, interactive web sites, online writing programs, and the use of Moodle to develop online educational programs. The district has invested in off-site hosting of the Moodle site, Plato, and VHS etc. The Moodle site address is: http://scamoodle.scarborough.k12.me.us/. It is widely used by staff and students.

Teachers are using the iboat as a means of integrating technology, participating in Iearn (International Education Resource Network), and

We have identified technology embedded core activities that all students experience. Because the technology is embedded, so the assessment is too. Several technologies are core resources for the delivery of this core content. In addition, we use a variety of online student assessments to assess core content.

Technology integration will be ensured through content curriculum instruction and staff development programs. Staffing includes a k-12 Instructional Coach, a part-time K-2 Technology Integrator and a K-12 Technology Specialist who assists in this process.   The Resource Librarians and library support staff also provide support to teachers.

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

Scarborough is committed to creating an environment that supports ongoing, adaptive and collaborative learning through the use of existing and emerging technologies. Through recent years, we established a base level of desktops, printers, multi-functional printer/scanners/faxes and laptops, then gradually introduced document cameras, interactive whiteboards, classroom audio systems, iPads and interfaced scientific equipment.

As a district, we continue to strive towards providing students with a technical experience to prepare them with 21st Century Skills. Plans are under development to implement a range of tablet devices, interactive projectors, a 3-D printer, eReaders and a variety of specialized software for STEM courses and other disciplines.

Traditionally, funding has been locally sourced through both the District's operational budgets and capital improvement appropriations. However within the last two years, the Scarborough Educational Foundation was established to provide seed funding for innovative educational ideas

and projects. Many of the grant requests are for technology-related items, and provide a way for the teaching staff to pilot emerging technologies and applications before committing to larger scale deployments.

Technology development in Scarborough is on an ongoing basis, with staff and students receiving equipment, applications, training and support as-needed. To-date, we have developed a five year rotation for technology renewal, cycling through each phase level one year at a time. For example, in fiscal year 2011-12, we focused on replacement/renewal in the K2s, FY 2012-2013 we focused on the high school, FY 2013-2014, we will be concentrating on the middle school, and FY 2014-2015 we will work on the intermediate school. FY 2015-2016 will see us return to the K2s, and so on.

Replacement/renewal requests are developed by a team of cross-functional staff, representative of all areas within the respective phase level. This team will meet routinely to view vendor demonstrations of technical equipment, travel to other schools to see hardware and software integrated into the curriculum and in-use in the classroom, and research and analyze technology trends. They work closely with the IT department to create a comprehensive requirements list and budget that will include the base cost for hardware, peripherals, applications, infrastructure equipment, support and trainings.

Additionally, the Town's telecomm system has hit end-of-life. To ensure stability and provide for improved and more efficient service, we are undergoing a town-wide replacement and migration to voice-over-IP, which is scheduled to be completed with the launch of the new Wentworth School in the summer of 2015.

Currently, the following plans are under development:

GOAL	YEAR	ACTIVITY	HARDWARE/SOFTWARE	COSTS	FUNDING SOURCE
Goal 1 Goal 2 Goal 3 Goal 4	2013-2014	Middle School Technical Refresh	Laptops, desktop workstations, document cameras, interactive whiteboards, eReaders, tablet devices, audio transmitter systems, LCD projectors, specialty music and video applications, hi-res scanners, VCR/DVDs, televisions, spare equipment and peripherals	$462,024	Local
Goal 1 Goal 4	2013-2014	Middle School STEM Pilot	3D Printers	$2,500	Scarborough EF
Goal 4	2013-2014	Middle School technical refresh & telecomm system replacement	Infrastructure hardware - servers, switches, routers, cabling	$50,000	Local

GOAL	YEAR	ACTIVITY	HARDWARE/SOFTWARE	COSTS	FUNDING SOURCE
Goal 4	2013-2014	Telecomm system replacement for K2, high school, middle school	Infrastructure hardware (switches and server), cabling, handsets and peripherals, install, maintenance and licensing.	$83,425	Local
Goal 2 Goal 3 Goal 4	2013-2014	Upgrade library system	Upgrade to the library inventory/tracking/reporting system which has hit end-of-life	$20,000	Local
Goal 1 Goal 2 Goal 4	2013-2014	0.5 Technical Integrator at Middle School		$32,500	Local
Goal 1 Goal 2 Goal 4	2013-2014	0.6 Technical Integrator at K2s		$39,000	Local
Goal 1 Goal 4	2013-2014	Create a pilot traveling tech learning center for arts, physical ed and health - K2s	3 tablet devices and peripherals	$1,587	Scarborough EF
Goal 1 Goal 4	2013-2014	Literacy instruction developed under the CAFÉ model - Intermediate school	8 tablet devices and peripherals	$4,736	Scarborough EF
Goal 1 Goal 4	2013-2014	Pilot use of iPad with interactive whiteboard functionality	1 iPad, peripherals and apps	$680	Scarborough EF
Goal 1 Goal 2 Goal 3 Goal 4	2013-2014	Pilot Acuity product, designed to support interim and formative assessment programs by providing classroom assessments, instructional resources, and reporting.	Acuity-provided and configured device for integration into our network	$5,500	Local
Goal 1 Goal 2 Goal 3 Goal 4	2014-2015	Intermediate school technical refresh, in conjunction with completion of construction of the new Wentworth building	Laptops, desktop workstations, document cameras, interactive whiteboards, eReaders, tablet devices, audio transmitter systems, LCD projectors, specialty music and video applications, hi-res scanners, spare equipment and peripherals	$1,050,000	Local

GOAL	YEAR	ACTIVITY	HARDWARE/SOFTWARE	COSTS	FUNDING SOURCE
Goal 4	2014-2015	New intermediate infrastructure & telecomm system replacement	Infrastructure hardware - servers, switches, routers, cabling, handsets, peripherals	$75,000	Local
Goal 1 Goal 2 Goal 4	2014-2015	0.8 Technical Integrator at Middle School		$52,000	Local
Goal 1 Goal 2 Goal 3 Goal 4	2015-2016	K2 school technical refresh	Laptops, desktop workstations, document cameras, interactive whiteboards, eReaders, tablet devices, audio transmitter systems, LCD projectors, specialty music and video applications, hi-res scanners, spare equipment and peripherals	$500,000	Local
Goal 4	2013-2014	K2 School technical refresh & telecomm system replacement	Infrastructure hardware - servers, switches, routers, cabling	$50,000	Local

9. Supporting Resources

The Town of Scarborough operates on a combined service platform, with the municipality and school district sharing Information Technology personnel, hardware, software, and services. This model provides an expansive knowledge base, cost efficiencies and coordination to better service our staff, students and citizens.

In 2012, the IT department was restructured to be all-inclusive of the building-based technical specialists within each phase level. By building a new reporting structure, we have been able to better track and communicate projects and issues and create steam-lined workflows with a collaborative and efficient use of resource time.

All schools utilize the Town's fiber optic network, connecting eight sites in the Oak Hill "campus". With the implementation of our new telecomm system (currently underway, scheduled for completion in June 2015), the entire Town will be voice-over-IP.
In the schools, we have a large array of service, software, and other electronically delivered learning materials. The curriculum standards and best practices drive our decision in identifying the materials that we will acquire or will drop. A key factor in this determination is how successful and effective the use of technology is in the learning materials. If it does not help students learn more or better, or align to our curriculum, it is either terminated or not considered for acquisition. There has been a significant shift from print based resources (text-books) to online (software) resources.

Examples of our supporting resources:

INITIATIVE	DESCRIPTION
PowerSchool ASP	We have migrated our student information system to an ASP model, allowing teachers to access the application from anywhere through a web interface. This provided us with cost efficiencies by eliminating the hardware required for onsite storage and communication, and providing vendor-based redundancy and backup.
ProTraxx	We continue to develop ProTraxx, an online service providing professional development management and professional growth support for our K12 staff.
Acuity	We are piloting the Acuity product, designed to support interim and formative assessment programs by providing classroom assessments, instructional resources, and reporting.
eReaders	We have launched a number of eReaders successfully in the high school, giving students the ability to check-out their reading materials on a Nook or Kindle. These devices will now be rolled out at the Middle School level as well. A wide assortment of materials is available to students and staff via electronic delivery through our school libraries.
Helpdesk Ticketing System	We are in the process of launching a Town-wide help desk system that facilitates school staff requests on-line, while providing a way for the IT department to track and report on outages, problems, and inquires.
Google Apps	We are developing a plan to migrate our schools to Google Apps, Sites and Drive. This will relieve data storage constraints on our existing network while providing anywhere – anytime access for our user population. Additionally, Google will give students and teacher a wealth of tools for online collaboration and communication. We hope to reduce printing and paper costs with this initiative.
Subscription based online applications	We are subscribing to a wide variety of online resources to facilitate everything from online surveys (SurveyMonkey) in support of education research to an online communications vehicle (PowerAnnouncer) to more efficiently and expediently send notifications to parents, students and staff.
Multi-functional Printers (MFPs)	We have deployed multi-functional print/scan/fax/store devices throughout the district. These MFPs will replace most individual classroom desktop printers, reducing the cost and waste associated with those devices, and providing high-speed, secure, color or black and white printing for staff and students.
Freeware and Shareware	We have downloaded and imaged a number of freeware and shareware applications for students and staff, including GIMP, SketchUp, Google Earth, Skype and Picasa. These programs are used throughout the district to facilitate learning in various disciplines and communicate/collaborate with other classrooms and communities.

10. Steps to Increase Accessibility

As described above, every staff member and every student has access to technology. The core curriculum requirements include, require, the use of technology. Every year as we plan for the use of district and federal funding, we strive to maximize the number of laptops, desktops and other instructional equipment, such as mobile computing devices, scientific probes, etc. Planning continues as to how to expand access to students. The IT department is studying a BYOD model through virtualization to identify if that is our most cost effective solution.

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

The district believes technology enhances learning and improves student achievement by offering real-world contexts for learning and problem solving; by making connections with global information and experts; by providing tools for visual learning and data analysis; and by providing opportunities for collaboration, feedback, and reflection.   "Classroom Instruction that Works" and The Art and Science of Teaching" provide the basis for instructional best practices.

Specific examples currently include the use of virtual field trips, simulations, online learning, Skype, and the use of Moodle to develop online educational programs. Other applications include Gizmos, Voicethreads, Plato Learning Lab, Literary Companion, Writers' Choice, and a wide range of online databases K-12. Several of these applications are core resources for the delivery of content curriculum. For example, the use of the Library Information Centers' online collection of resources and databases are incorporated in the curriculum for all Freshmen and Sophomore core research projects. In addition, teachers use a range of available online applications for student collaborative learning such as wikis, blogs, Google apps., and social networking sites.

The promotion of technology integration will be through content curriculum instruction and staff development programs.

12. Professional Development

The district has in place a variety of programs designed to provide educational technology and technology integration skills to teachers, staff, and administrators. Based on the National Educational Technology Standards (NETS), Common Core, and 21st Century Skills Recommendations, ongoing programs have been developed to effectively use technology for productivity as well as embedding technology into content curriculum. Programs include Sebago Alliance Technology Camp which focuses on best practices and technology. During the school year, Professional Learning Teams with multiple late start days are available for this purpose. The district's K-12 Technology Specialist, K-2 Technology Integrator and building based teachers with expertise in the area of technology work with staff providing for their specific needs.

13. Innovative Delivery Strategies

Delivery strategies are now in place or are in the developmental stage to encourage anytime-anywhere- any pace learning, collaboration, and global communication. Moving applications to the cloud allow us to do this as well as moving to an asp environment. We are also looking to move more of our internal operations to google. Exploring the cost benefits of a virtual desktop interface will allow more access, flexibility and more equitable consistency in applications.

Interactive web-based classrooms, interactive video distance education, and online classes are available for students who are unable to participate on the campus or to access educational resources not available locally. For example, the high school participates in the Virtual High School where students can access online courses. And, Skype is on all images K-12 enabling classrooms to communicate world-wide next year. Subscriptions to Voicethreads, Iearn allow for global learning.

Collaborative online learning communities and international cohort programs will continue to be developed to encourage international collaborative learning.

14. Accountability Measures

We will continue to use the measures which have been used in the past such as our technology surveys, and our review of professional development evaluations. We will review this plan monthly with administration and quarterly with the district-wide Technology Committee.

As our student and staff data management systems evolve we will look at a variety of data, including student performance data to measure not just the teachers' ability to teach, but also the students' performance in meeting content area curriculum standards. These standards will include standards in technology and information literacy as well as the content areas outlined in the Learning Results and 21st Century Skills Report.