



Technology Plan

2010 - 2015



***As disciples of Christ, we educate and nurture hope
in all learners to realize their full potential to
transform God's world.***

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Board Mission

1. Board Mission

As disciples of Christ, we educate and nurture hope in all learners to realize their full potential to transform God's world.

2. Vision Statement

Our Catholic schools...heart of the community, success for each, a place for all.

Through our vision we will:

- See that all students have the resources they need to learn & be successful
- Witness to our faith by honouring the whole person mind, body and soul
- Work to break down barriers to form inclusive, enthusiastic, high achieving, faith based communities
- Ensure that all decisions taken will reflect integrity & accountability
- Nurture environment through critical thought and just action

Ontario Ministry of Education Goals

In 2008 the Ministry of Education identified three core principles¹:

1. High levels of student achievement
2. Reducing gaps in student achievement
3. Increased public confidence in publicly funded education

*Learning for All*²

Our Shared Beliefs

Through provincial consultations with educators and stakeholders in spring 2008, the guiding principles of *Education for All, K–6* were confirmed as essential to any effort to improve the achievement of all students from Kindergarten to Grade 12 and to close the achievement gap. They are restated here, as the beliefs that also underlie *Learning for All K–12*:

- **All students can succeed.**
- **Each student has his or her own unique patterns of learning.**
- **Successful instructional practices are founded on evidence-based research, tempered by experience.**
- **Universal design and differentiated instruction are effective and interconnected means of meeting the learning or productivity needs of any group of students.**
- **Classroom teachers are the key educators for a student’s literacy and numeracy development.**
- **Classroom teachers need the support of the larger community to create a learning environment that supports all students.**
- **Fairness is not sameness.**

*The Breakthrough System*³

The Breakthrough system addresses the need to “establish classroom routines and practices that represent personalized, ongoing ‘data-driven, focused instruction’”. It identifies **three core components** that must be “synergistically interconnected” if the system is to succeed:

1. **Personalization** -- Education that puts the learner at the centre, providing assessment and instruction that are tailored to students’ particular learning and motivational needs;
2. **Precision** -- A system that links “assessment for learning” to evidence-informed instruction *on a daily basis*, in the service of providing instruction that is precise to the level of readiness and the learning needs of the individual student;
3. **Professional learning** -- Focused, ongoing learning for every educator “in context”, to link new conceptions of instructional practice with assessment of student learning.

¹ *Reach Every Student (2008)*

² *Learning for All*

³ *Learning for All (Fullan, Hill, & Crévola, 2006, pp.16–26, 87)*

Growing Success⁴

The primary purpose of assessment and evaluation is to improve student learning.

The following seven fundamental principles lay the foundation for rich and challenging practice. When these principles are fully understood and observed by all teachers, they will guide the collection of meaningful information that will help inform instructional decisions, promote student engagement, and improve student learning.

The Seven Fundamental Principles of Growing Success:

To ensure that assessment, evaluation, and reporting are valid and reliable, and that they lead to the improvement of learning for all students, teachers use practices and procedures that:

- are fair, transparent, and equitable for all students;
- support all students, including those with special education needs, those who are learning the
- language of instruction (English or French), and those who are First Nation, Métis, or Inuit;
- are carefully planned to relate to the curriculum expectations and learning goals and, as much
- as possible, to the interests, learning styles and preferences, needs, and experiences of all students;
- are communicated clearly to students and parents at the beginning of the school year or course
- and at other appropriate points throughout the school year or course;
- are ongoing, varied in nature, and administered over a period of time to provide multiple
- opportunities for students to demonstrate the full range of their learning;
- provide ongoing descriptive feedback that is clear, specific, meaningful, and timely to support
- improved learning and achievement;
- develop students' self-assessment skills to enable them to assess their own learning, set specific goals, and plan next steps for their learning.

⁴ *Growing Success, Assessment, Evaluation and Reporting in Ontario Schools, First Edition, Covering Grade 1 to 12, 2010*

Catholic Graduate Expectations

This plan supports what the Institute for Catholic Education (ICE) defines as the distinctive expectations that the Catholic community has for graduates of Catholic secondary schools as follows:

The Graduate Is Expected To Be:⁵

1. ***A discerning believer*** formed in the Catholic Faith community who celebrates the sign and sacred mystery of God's presence through word, sacrament, prayer, forgiveness, reflection and moral living.
2. ***An effective communicator***, who speaks, writes and listens honestly and sensitively, responding critically in light of gospel values.
3. ***A reflective, creative and holistic thinker*** who solves problems and makes responsible decisions with an informed moral conscience for the common good.
4. ***A self-directed, responsible, lifelong learner*** who develops and demonstrates their God-given potential.
5. ***A collaborative contributor*** who finds meaning, dignity and vocation in work which respects the rights of all and contributes to the common good.
6. ***A caring family member*** who attends to family, school, parish, and the wider community.
7. ***A responsible citizen*** who gives witness to Catholic social teaching by promoting peace, justice and the sacredness of human life.

⁵ *Catholic Graduate Expectations, The Institute for Catholic Education, 1998*

Focus of the Technology Plan 2010 - 2015

Learning Services:

The above frames all aspects of the Learning Services portion of the WCDSB Technology Plan 2010-2015. In terms of teaching and learning – the heart of all we do – there are three domains:

- **Instructional Strategies & tools:**
 - Adaptive Technology
 - Based on profiles
 - E-Learning
 - Leading to differentiation
 - Projection equipment
 - Web-based teaching
 - Wireless

- **Assessment, Evaluation, & Reporting/Communication:**
 - ClassNet
 - Data accessible by parents
 - StaffNet
 - Student – Who is the Learner?
 - Identify the Personalization of the student profile
 - include items of Growing Success
 - VOIP

- **Data & Student Profile Tracking:**
 - Attendance
 - Balance Literacy Assessment Measures (BLAM)
 - CASI
 - CAT 4
 - CCAT
 - Connected to SIP and SMART goals
 - EQAO
 - Learning profiles for students
 - Reading Records
 - Student self-assessment and personal goals
 - Real-time, one-stop shopping

Seamlessly supported by technology, Learning Services will need to develop a learner profile for each student in the Board along with a comprehensive staff professional development plan for the Board's teaching staff.

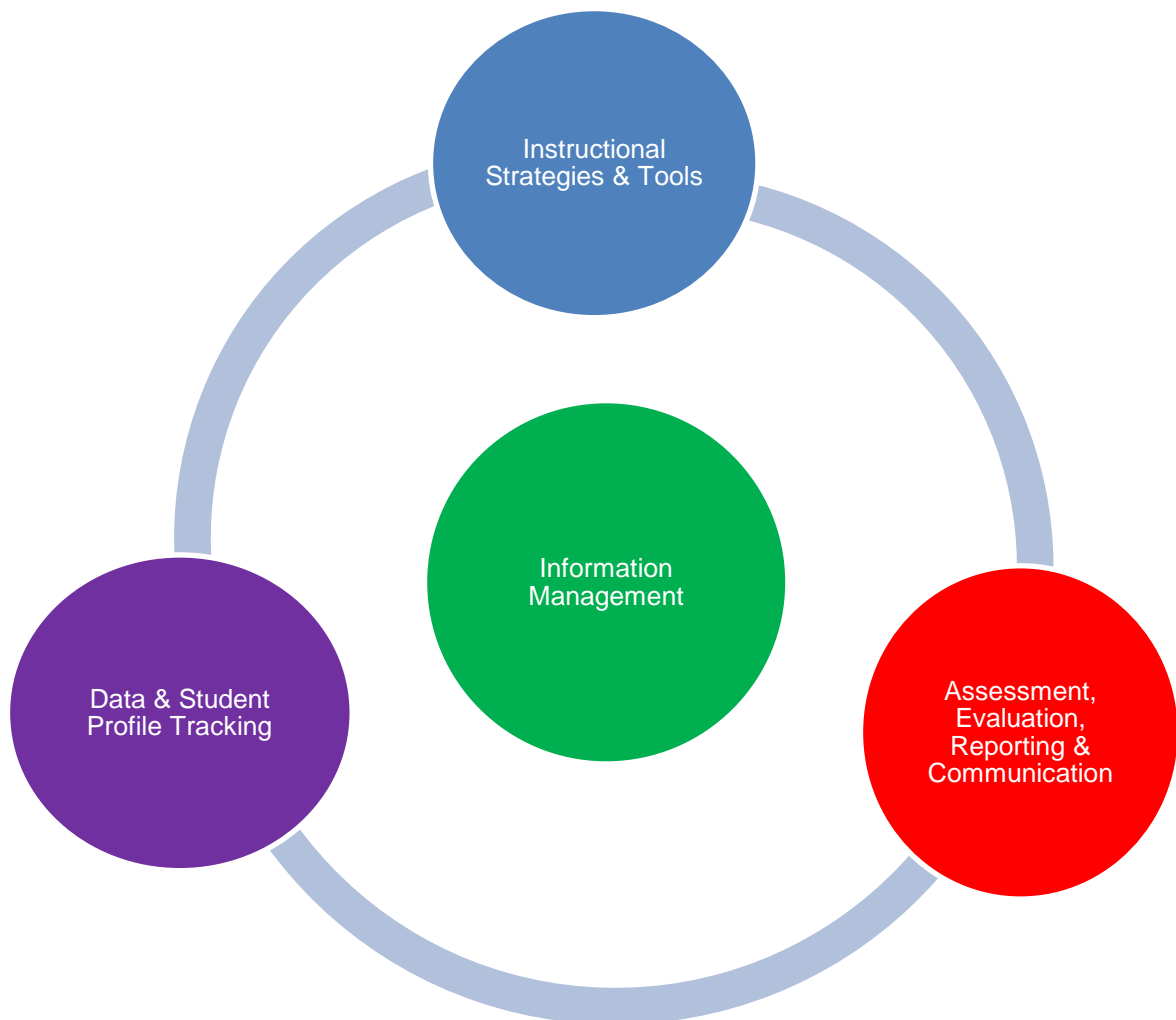
Board Administration and Operations:

The WCDSB Technology Plan 2010-2015 also encompasses the infrastructure and technical requirements to support the Board administration and operations for:

- Corporate Services (Capital Planning, Facilities and Finance)
- Office of the Director of Education (Human Resources and Public Affairs)

As illustrated below, Information Management is centric to all areas of the Board's core business. All schools and departments use information and participate in an interdependent cycle of:

- Assessing and evaluation of programs and projects
- Communicating and reporting throughout the board, the community and with external organizations such as the Ministry of Education, and,
- Developing strategies and using tools to plan for the future of the organization



Information Technology Plan Vision

The Board must prepare our students to learn, live and work in a globalized world as the 21st century evolves. A report prepared by CISCO System Incorporated has identified a set of goals and a vision that K-12 education should embrace to facilitate a paradigm shift as follows:

The paradigm shift to a world of 21st century learning is rooted in a set of goals for all learners:

- *Acquire a range of skills need to succeed in a modern, globalized world*
- *Receive tailored instruction that enables them to reach their full potential*
- *Connect to their communities in person and digitally, and interact with people from different cultures*
- *Continue learning throughout their lives*

To achieve this vision, a transformation will need to occur in 4 interconnected core areas. The first is the 21st century skills that complement the core curriculum. The second is 21st century pedagogy to teach these skills effectively alongside basic literacy and numeracy skills. The third, which is a crucial enabler of both the new pedagogy and skills, is technology, harnessed in a much more fundamental and effective way than traditional applications in education. The fourth is 21st century system reform that integrates and adapts the pillars of high performing systems outlined earlier – great teachers, curricular excellence, accountability for outcomes and outstanding system leadership.

This transformation and the many interventions that will be necessary to achieve it must be pursued holistically. Progress will only occur when all four areas are leveraged and deployed to work together in an integrated way. Leading technologies, for instance, cannot replace teachers, but can support them in accomplishing much higher levels of student engagement and achievement. Similarly, great teachers cannot effectively reach young learners without adopting new pedagogies that align with Web 2.0 principles, and few education systems can prepare their learners for prosperity without supporting the development of 21st century skills.⁶

Fairness is not sameness. Treating all children exactly the same means that children who need accommodations or modifications to the program in order to succeed will be disadvantaged. Some students require more or different support than others in order to work at a level appropriate to their abilities and needs.⁷

Assistive technology plays an important role in the provision of instruction based on universal design. In a universally designed classroom, teachers can provide students with the tools necessary to adapt methods and materials to their individual needs, flexible goals for learning, and continuous assessment (Hitchcock, 2001). Teachers can support all students with equitable access to all aspects of the learning experience – equal access to the curriculum where this would otherwise be not possible or very difficult, and equal access to the tools needed to access the curriculum.⁸

⁶ Equipping Every Learner for the 21st Century” - A report produced by CISCO Systems Inc.

⁷ Education for All” page 5, Ministry of Education, 2005

⁸ Education for All”., page 137, Ministry of Education, 2005

Using technology as a tool to achieve this vision includes the following beliefs:

- Student achievement and their ability to learn can be improved through the effective use of technology
- All students should have the equal opportunity to learn and develop skills through the use of technology
- Students with assistive technology needs require support to ensure that they are able access to the curriculum as based on his/her Individual Education Plan (IEP)
- Finding the Path to 21st Century Learning is critical for all learners
- Provide staff professional development to build the technology capacity of teachers while improving instructional practices through the integration of information technology
- Equitable and quality access to technology requires long term planning and budgeting
- Appropriate use of technology can improve the effectiveness and efficiency of the Board

The attached appendices provide background information pertaining to the technology in the following areas:

Appendix A – Current Technology Environment

The current technology environment of the Board is found in Appendix A.

Appendix B – A Gap Analysis Computer-Related Technology Needs Survey

In December 2009, the Board's ICT Consultant & District e-Learning Contact Consultant, Michael Redfearn, sent a survey to all Board teachers. Overwhelming teachers responded that the limited technology resources prohibit them from enriching and enhancing the learning experience for students. The survey results can be found in this appendix.

Appendix C – E-Learning

This appendix describes the Ministry of Education's e-Learning strategy and how the Board has begun to offer e-learning opportunities for credit recovery by secondary students.

Technology Integration Strategy for 2010 - 2015

Over the next eighteen month period, all instructional areas will have a wireless infrastructure interactive whiteboard projector technology installed. This technology will provide access to an integrated interactive white board technology that will bring together dvd, vcr, overhead projector, TV and white board technology into one projector unit making separate units redundant.

The following outlines activities and tasks to be funded on an annual basis.

2010 – 2011 School Year

- Complete the installation of wireless network in all secondary schools
- Develop an action plan to implement an electronic form of the student profile defined by Learning Services
- Expand wireless network to 23 elementary schools
- Hire an additional ICT Consultant to provide technology professional development for teaching staff
- Installation of Interactive Whiteboard projectors technology project begins
- Increase number of SEA computers based on need
- Learning Services to develop a technology professional development plan for teaching staff by October 1, 2010
- Review & revise technology plan as required
- Upgrade PC's in 23 elementary schools

2011 – 2012 School Year

- Learning Services to develop a technology professional development plan for teaching staff by October 1, 2010
- Develop an action plan to implement an electronic form of the student profile defined by Learning Services; incorporated focus and in-service on Skopus use and interactive projector technology
- Carry out implementation plan of the electronic student profile
- Complete the wireless network implementation in the remaining 23 elementary schools
- Increase number of SEA computers based on need
- Installation of interactive projectors technology project concludes
- Review & revise technology plan as required
- Upgrade 1,000 secondary computers
- Teacher assessment for Board standard assessment (e.g. BLAM CASI & OCA) tracked using Student Assessment (STA) Trillium module

2012 – 2013 School Year

- Carry out implementation plan of the electronic student profile
- Elementary school office technology upgrade
- Increase number of SEA computers based on need
- Review & revise the professional development plan for teaching staff as required
- Review & revise technology plan as required

2013 – 2014 School Year

- Carry out implementation plan of the electronic student profile
- Education centre technology upgrade
- Increase number of SEA computers based on need
- Review & revise the professional development plan for teaching staff as required
- Review & revise technology plan as required
- Secondary school office technology upgrade

2014 – 2015 School Year

- Increase number of SEA computers based on need
- Review & revise the professional development plan for teaching staff as required
- Review & revise technology plan as required
- Upgrade PC's in 23 elementary schools
- Target completion date for implementation of the electronic student profile

Appendix A Current Technology Environment

Current Status

Information Technology Services is committed to providing a dynamic technology environment to continually educate our learners to realize their full potential. We will fulfill that vision by:

- Ensuring equitable and quality access to technology for all students and staff
- Providing staff professional development to improve instructional practices through the effective use of information technology
- Support E-Learning opportunities for students by building the capacity of E-Learning teachers
- Provide customer oriented service and support to all technology users on an effective and timely basis to ensure an uninterrupted learning environment for all students and staff

Over the last decade several factors have contributed to a consistent and stable technology environment for the Board's students and staff. The factors include:

- Implementation of hardware and software standards for both classroom and administrative technology.
- The successful implementation of a high speed fibre optic municipal wide area network, the Waterloo Region Education and Public Network (WREPNet), provides superior Internet and network access that is envied within Ontario's K-12 education sector.
- Leasing to finance the acquisition of technology upgrades on a regular basis provides users with reliable technology.

The current technology hardware inventory supported by IT Services staff includes:

- 1,930 PC's in Elementary (8:1 Computer to Student Ratio)
- 1,890 PC's in Secondary (4:1 Computer to Student Ratio)
- 219 PC's and laptops provided to Special Education Students
 - 120 SEA Learning Disabilities Profile Laptops (Kurzweil/Dragon)
 - 99 SEA Cognitive Disabilities Profile Desktops (Classroom Suite, Boardmaker)
- 55 (on average) number of SEA claims processed in a year
- 724 school computers with Kurzweil/Dragon on them (A-Tech image)
- 4152 average Kurzweil logins per month on A-Tech imaged school computers
- 27 School Computers have Classroom Suite, KidKeys, extra printers installed
- 1 School Computer at each school has Boardmaker Software installed
- 214 PC's and laptops provided to elementary school administrative offices
- 197 PC's and laptops provided to secondary school administrative offices

- 400 PC's and laptops provided throughout the education centre sites
- 130 Blackberry's
- 350 PC's and laptop provided to all St. Louis Adult Learning & Continuing Education Centres
- Wireless is currently being piloted at Resurrection Catholic Secondary
- Wireless access will be implemented at Pope John Paul Elementary School effective September 2010
- 30 Smart boards installed throughout the Board with IT Services and the Resource Centre provided support and maintenance

The current audio visual technology supported by the Resource Centre includes:

- 33 mm camera
- Amplifiers
- Audio mixers
- AV Mixer
- Book binding machine
- Boom box
- Camcorder Handycam
- Camcorder VHS
- Cassette player
- CD player
- Digital camera
- DVD player
- Overhead projectors
- Television
- VCR

Software Applications:

The list of software applications used in the Board's schools can be found in StaffNet at: <https://staffnet.wcdsb.ca/ps/techlit/Pages/default.aspx>

Administrative applications include:

- Ebase Facilities Booking System
- iSYS*Works Human Resources System
- Megamations Facility Work Order System
- MSOffice Suite including Outlook Email
- mVal Teacher Evaluation
- Navision Financial System
- SchoolCash.Net
- Skopus – Data Warehouse - Data Driven Decision tool
- Skovision – School Improvement Planning tool
- Smartfind Absence Management System
- TLC Library System
- Trillium Student Information Management System

Appendix B A Gap Analysis Computer-Related Technology Needs Survey



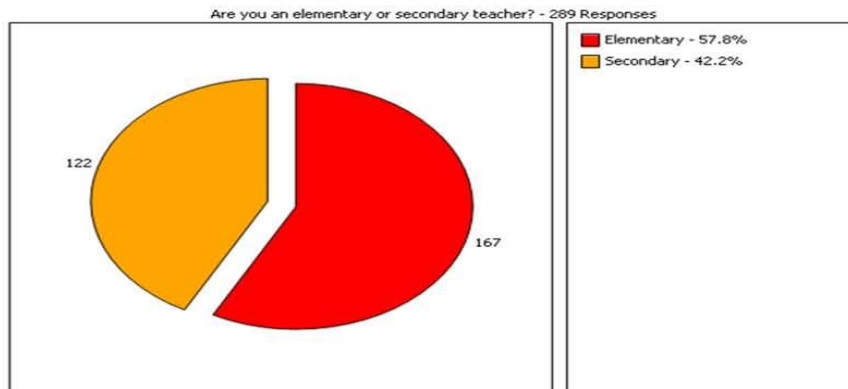
2009 - 2010

Gap Analysis Computer-related Technology Needs Survey Results

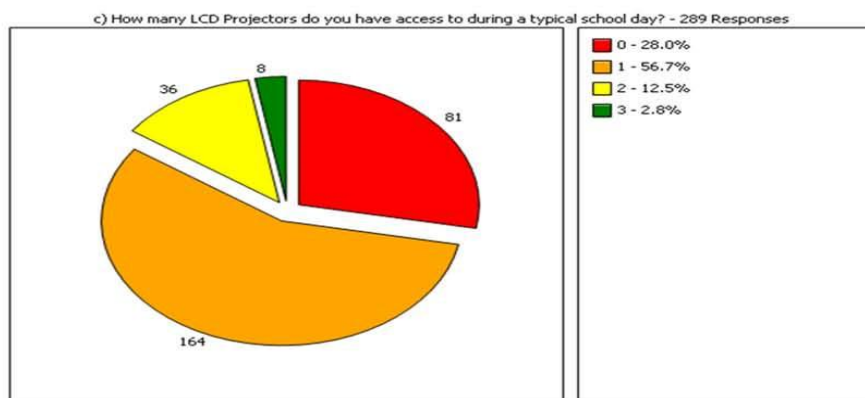


161 Elementary Teachers Responded

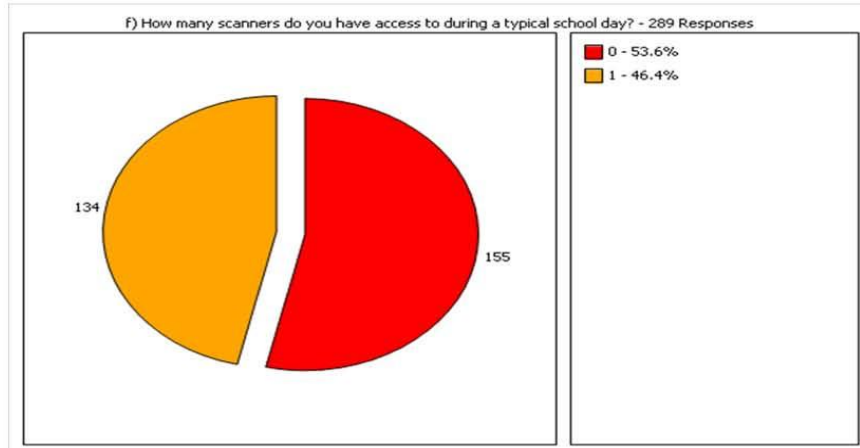
121 Secondary Teachers Responded



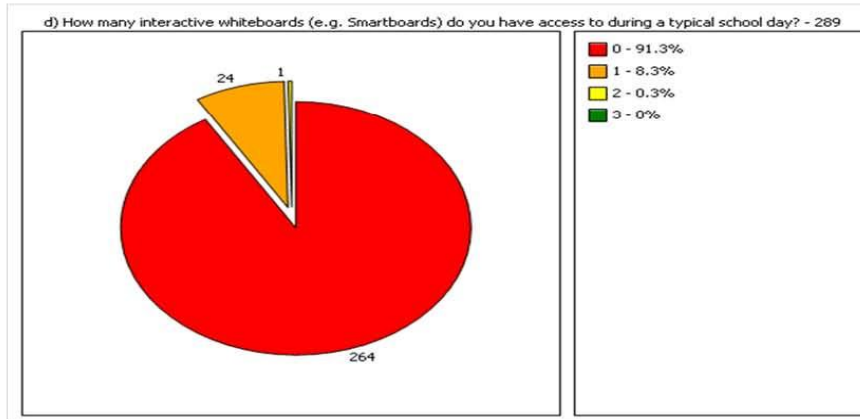
LCD Projector Access During a Typical Day



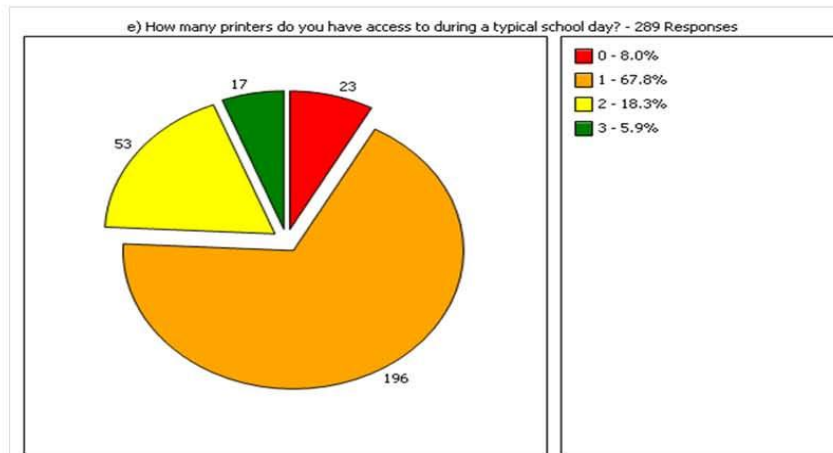
Scanner Access



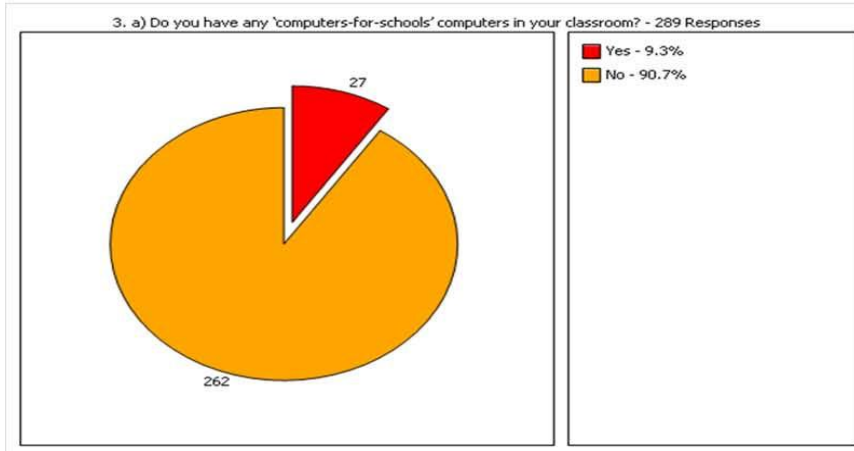
IWB Access



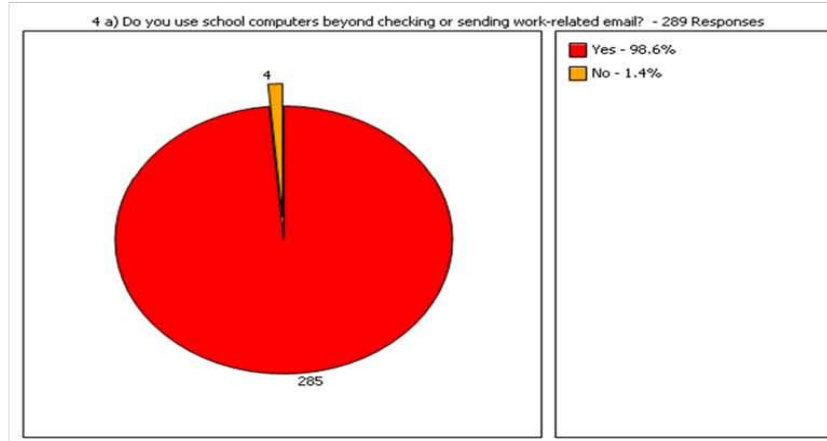
Printer Access



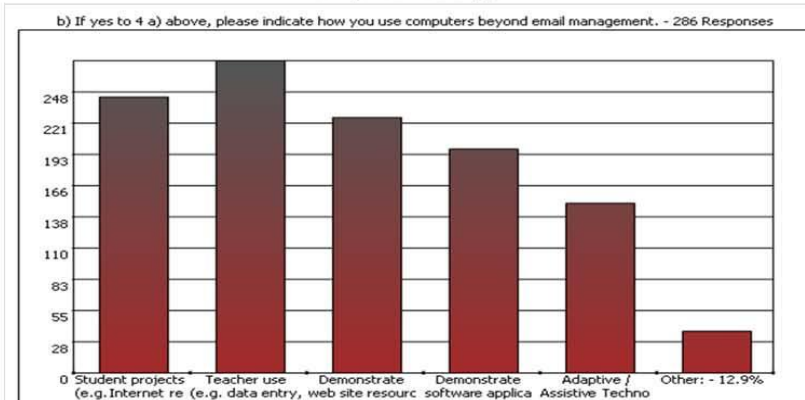
Computers for Schools



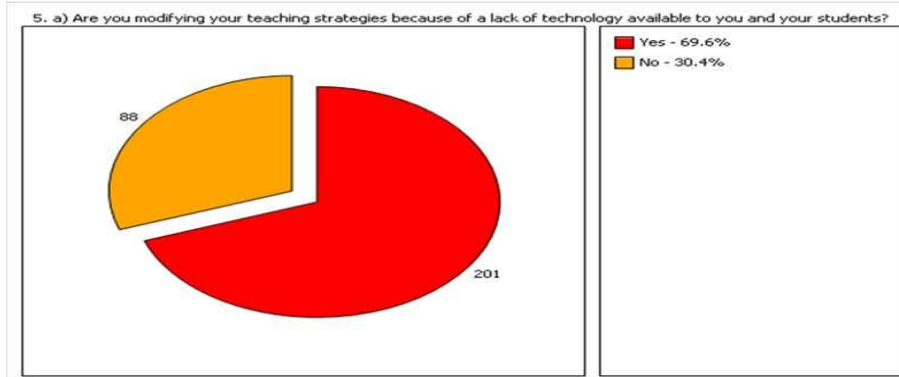
Overall Percent of Computer Use (Excluding email)



Computer Usage



Are you modifying teaching strategies due to lack of technology?



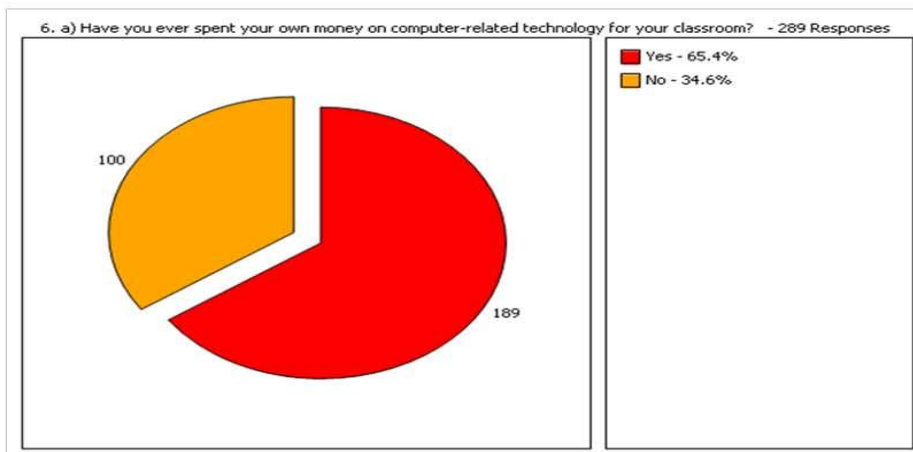
If you are modifying teaching strategies due to lack of technology? Please explain.

"I would use a laptop and project (virtually) daily if I had easy access to it to enhance learning. I have often brought a laptop from home just to use at school/inclass due to the difficulty of access. I'm also considering purchase of a handheld email device because of difficulty of access."

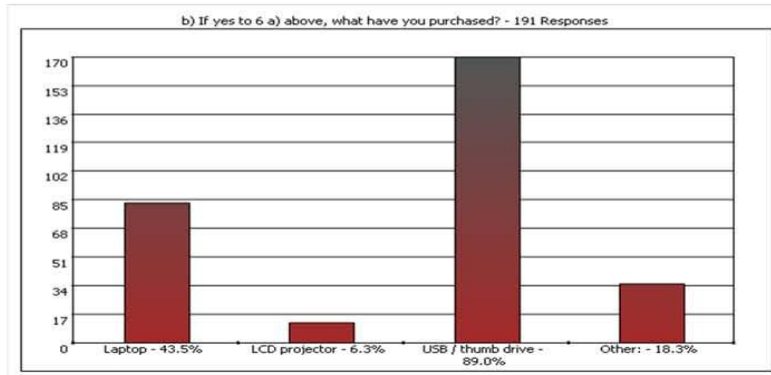
"I would prefer to use computers with projectors to accommodate differentiated instruction. This is not possible currently."

- 1) "Simplifying expectations for presentations so as not to rely on technology.
- 2) Reducing the number of research-based assignments.
- 3) Supplying "background" information so that students don't have to use a computer to look it up (which means extra photocopying at a time when the number of copies we are allotted has been reduced)
- 4) Often pass over the use of "clips" that would be beneficial to a lesson because there is not convenient access to technology to allow me to convert files and transfer onto DVD. We don't have enough memory space to download on our accounts at work.
- 5) Pass over the use of interesting interactive websites as a learning tool for students in several lessons."

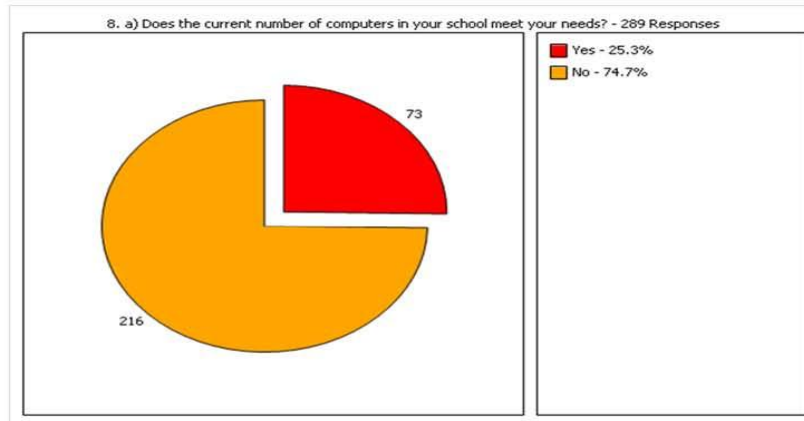
Have you ever spent your own money on computer-related technology for your classroom?



Kinds of personal purchases on computer-related technology for the classroom



Does the current number of computers in your school meet your needs?



Does the current number of computers in your school meet your needs?

Sample Comments:

“All departments lose out because of the limited number of computers and students are not given the opportunity to complete work at school, ultimately limiting their ability to be successful.”

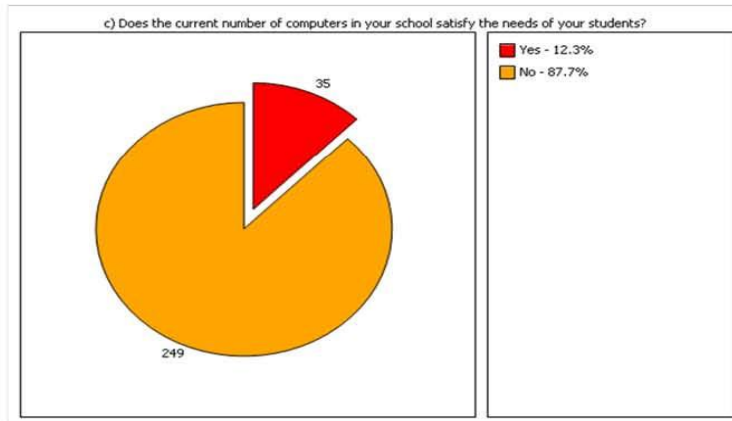
“All areas are suffering. Eight labs (filled with technology classes), 20 computers in the library for a school population of 2200. You do the math.”

“Everything especially considering differentiated instruction.”

“Science. Science is supposed to include technology and Gizmos is a great site, however, lack of computers prevents this opportunity.”

“Only one of my classes has consistent access to computers. All of them would benefit.”

Does the current number of computers in your school satisfy the needs of your students?



Does the current number of computers in your school satisfy the needs of your students?

Sample Comments:

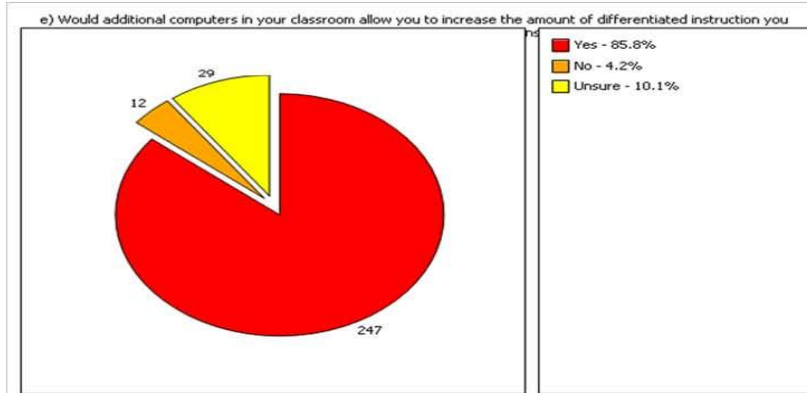
“The younger students do not have daily access to a computer (only weekly). Also the classroom teacher would be able to teach small groups of children computer skills in the classroom if there was one. Younger children need to learn so much (e.g., how to double click) which is too much for the classroom teacher to handle in the computer lab alone especially if they students are not getting any practise in the classroom.”

“All would be designing on computer software if computers were readily available.”

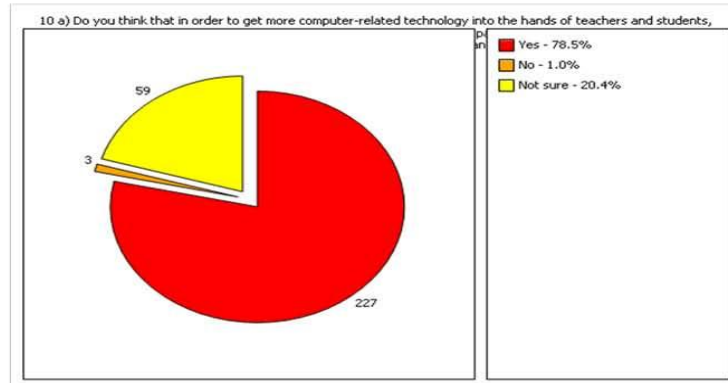
“Because we have a computer lab in the library we are lacking multiple computers in classrooms.”

“Even if the students double up (two students per computer) there are not enough for the whole class.”

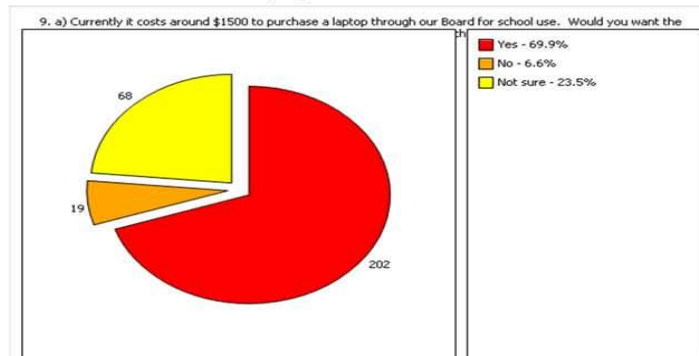
Would additional computers in your classroom allow you to increase the amount of differentiated instruction you provide to your students?



Do you think that in order to get more computer-related technology into the hands of teachers and students, that the Waterloo Catholic District School Board should explore potential partnerships with local information and communication technology-based companies?



Currently it costs around \$1,500 to purchase a laptop through our Board for school use. Would you want the Board to offer a less expensive version - say around the \$600-\$800 range that could be used for projector units and basic use?



Should the WCDSB explore potential partnerships with local information and communication technology-based companies?

Sample Comment:

“Absolutely - we are a community minded school board and we should have community partners.”

“It would be a good way to partner with the community. The company could also benefit if they were allowed to promote their products in some small way.”

“Yes, especially where the technology would be paired with training for staff as well as students.”

“No disrespect intended - i am trying to emphasize my point here ... but let's get with the program! It's 2010. We have RIM right here in town, we are suppose to be in the Golden Triangle of technology and high-tech in the KW area and yet our High School classrooms are operating with archaic equipment from a bygone era of the past. We need to modernize and be on the technological cutting edge.”

Appendix C E-Learning

E-Learning

Our Ministry of Education provides an online Learning Management System (LMS) for the delivery of courses and resources to secondary and elementary students. Some of the components of the Ministry's E-Learning strategy are:

Learning Management System (LMS) – This is the system which holds all of the learning objects and courses for E-Learning. Ontario Education Resource Bank (OERB) – Repository for all the learning objects associated with E-Learning and can be accessed separately from the LMS. Regional E-Learning Coordinator (RELC) – There are six RELC's in the province, one for each region of the Ministry. District E-Learning Coordinator (DELCO) – Every school board is required to have a DELCO to serve as a single point of contact in the board for E-Learning related communication from the Ministry and the RELC.

The Ministry's LMS allows students to:

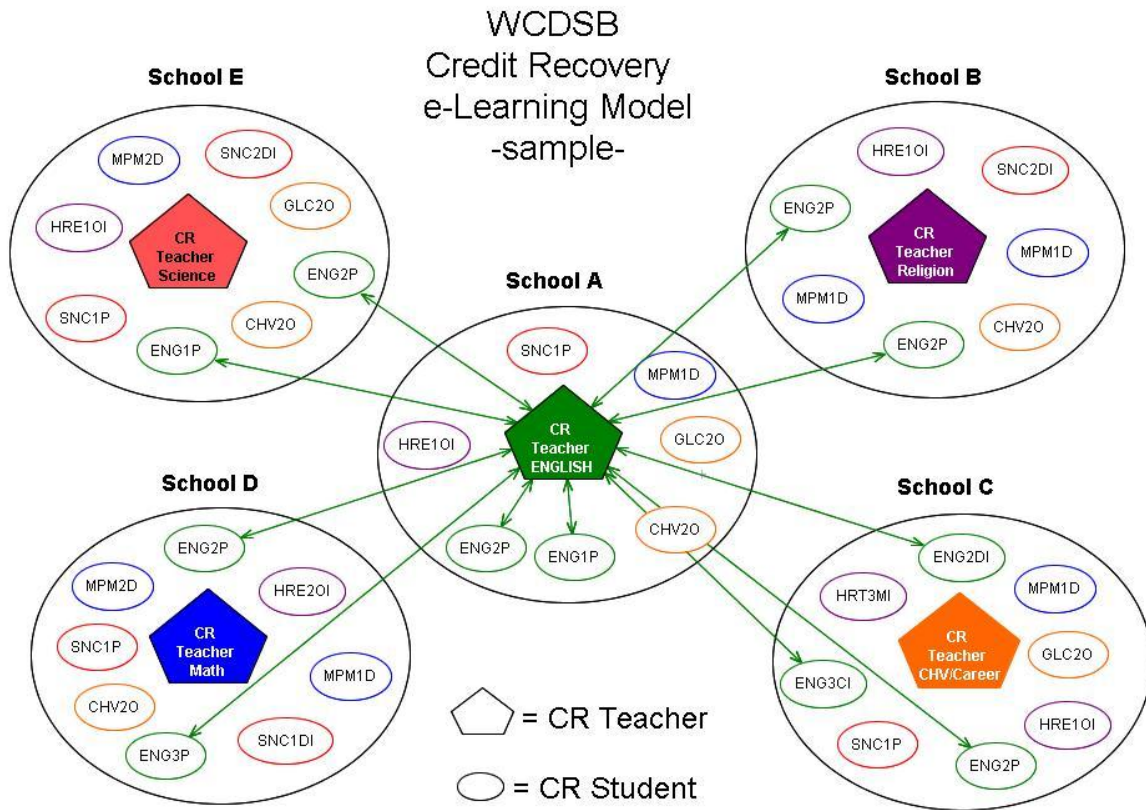
- Select from a wide variety of online courses through the provincial Learning Management System (LMS).
- Access thousands of resources including videos, activities, maps, and interactive multimedia objects in a variety of formats through the Ontario Educational Resource Bank (OERB).
- Recover course credits they need for graduation.
- Access course material when they are away or sick.
- Reduce timetable conflicts.
- Practise new skills on line and prepare for tests and exams.
- Enhance their knowledge of and comfort with online tools and technology.
- Younger students can improve their oral, reading, writing, and Math skills through the OERB. (Ontario Ministry of Education (2008)

The Catholic e-Learning Consortium Working Group has been established to ensure that all Catholic secondary students in Ontario have access to secondary school credits that are developed and taught by Catholic teachers. The Consortium will initially provide a vehicle for this to happen through the Provincial Learning Management System (LMS) at <http://www.elearningontario.ca/>

The Consortium is focusing on the following activities:

- Conducting a needs assessment of Catholic Boards related to their current needs and future plans for digital learning.
- Establish a set of protocols and procedures that will govern the Catholic e-Learning Consortium.
- Identify the process to acquire a Seat Reservation System.
- Establish a business plan for the creation of a Catholic e-Learning Consortium that could be operable for September 2010 and include models for growth.
- Report the progress of the Workgroup in April 2010.

Currently the Board is offering credit recovery courses via an e-Learning pilot. The Board has joined the Catholic e-Learning Consortium, continues to build capacity by offering e-learning training opportunities to teaching staff and will offer its first full e-course in 2010-2011 EWC4U -Writer's Craft.



1. Determine E-Learning needs of all schools

The secondary pilot will begin to assess the E-Learning needs of all schools. However, the board should engage in a formal needs assessment during the 2010 - 2011 school in order to develop an E-Learning Strategy focusing on E-Learning opportunities from JK to 12.

2. Build capacity of E-Learning teachers

The concepts and methodology described in under the **Instruction** section of this plan carry through to the capacity building for E-Learning teachers.

Appendix D - Information Technology Policy Council

Ted Dyjach	Manager of Technical Support Services
Rod Eckert	Elementary Principal
Daisy Fedyna	Secondary Vice Principal
Mary Hogg	Elementary School Administrative Assistant
Jennifer Hoogendam	HR Information Systems Supervisor
Laura Isaac	Senior Manager of Finance
Lezly Johnson	Accounting Supervisor
Laurie Maschio-Hansen	Elementary School Principal
Steve Pinter	System Administrator
Sandra Quehl	Chief Information Officer
Mike Redfearn	ICT Consultant & District e-Learning Contact
Chris Runstedler	Special Ed Adaptive Technology Resource Teacher
Sue Sherry	Administrative Assistant
Sandra Vieira	Privacy & Records Information Management Officer
Arnie Wohlgemut	Senior Manager of Facility Services
Deb Zettel-Schmitt	Elementary Principal
Elaine Zink	Resource Librarian

Appendix E - Technology Plan Writing Team

Rod Eckert	Elementary Principal
Daisy Fedyna	Secondary Vice Principal
John Klein	Elementary Principal
Laurie Maschio-Hansen	Elementary Principal
Sandra Quehl	Chief Information Officer
Mike Redfearn	ICT Consultant & District e-Learning Contact
Dan Witt	Secondary Principal
Deb Zettel-Schmitt	Elementary Principal