



Instructional Technology Plan

2015-2018

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BACKGROUND AND RATIONALE

This Instructional Technology Plan is intended to provide a clear framework, direction and support model to address the expanding use of technology within our schools. The plan is also intended to guide and assist us in addressing the constantly changing face of educational technology, in best utilizing existing technological resources, and in directing the selection and implementation of emergent technology.

The primary focus of our instructional technology plan is in supporting both student learning as well as the most effective instructional practices. The overarching purpose of the plan is to achieve broader ministerial goals in raising levels and decreasing gaps in student achievement, as well as to address our district's second strategic priority: ***“YCS will provide a range of meaningful educational experiences and opportunities to challenge each student to achieve academic and individual excellence.”***

Current research suggests this “range of meaningful educational experiences and opportunities” must serve to prepare our students to become citizens of the global community. Such a focus on “21st Century Skills” will, indeed, characterize our efforts in integrating technology into the fabric of our educational system.

Many leading educational theorists propose skill sets that young people need to successfully move into adult roles in society. Garner, James, and Weigel in “Learning: Peering Backward and Looking Forward in the Digital Era” (2009, p.7) summarize these thought leaders this way:

In these frameworks, the traditional “three R’s” remain, but are supplemented by a broader focus on metacognitive skills and an acknowledgement that individuals live within a complex world defined in part by existing but fluid frames of meaning. Most would agree that a well-educated individual should be able to:

- successfully participate in a global economy where money, culture, ideas, and people circulate rapidly.
- synthesize and utilize vast rivers of information obtained through a variety of channels (textual, visual, multimediated).
- engage with this information across a variety of disciplines.
- to be comfortable negotiating a range of social connections, including interacting with diverse populations.

- serve as an engaged and responsible member of one’s profession and one’s community.

The GNWT Education Renewal and Innovation Framework also redefines student success in the 21st century, highlighting the impact of new and ever-changing technology upon the world of education where, *“Easy access to endless amounts of*

online information is shifting the teacher's role from being a holder of information, to that of a coach, showing students how to apply information in meaningful ways.” (“ERI Framework: Directions For Change: Executive Summary”, 2013).

Finally, in terms of areas for further consideration, and very much a reflection of the general direction of educational reform within the NWT, The Ontario Ministry of Education, in a roundtable discussion with educational partners and stakeholders, identified four emerging themes in the area of teaching and learning in a digital world:

- i.) Teaching and learning in a digital world is as much about leading and supporting a culture change in schools as it is about sharing best instructional practices that engage and prepare learners for the knowledge society and digital global economy.
- ii.) The enabling and transformational role of technology in: personalizing learning; differentiated instruction; multi-leveled and multi-layered learning; curriculum relevance in all subjects and grades; developing knowledge, skills and competencies for the 21st Century; in fostering creativity, collaboration and community; in promoting student engagement; and in closing the gap in student achievement.
- iii.) The teacher’s role needs to move from keeper of the knowledge to facilitator of student learning.
- iv.) Need to mind the equity gap – access, connectivity.

With this contextual framework in mind, it is clear that technology’s role within our education system will continue to evolve over time. As such, we must be responsive to this changing landscape, focusing our efforts on using technology as a potential tool to enhance student learning.

In conclusion, this plan is intended both as a guide as well as a basis for further discussion as to the overall direction and philosophy for technology in our classrooms. It is intended to be reviewed and revised annually, always in consideration of emerging needs, fiscal realities, and changing technology.

INSTRUCTIONAL TECHNOLOGY VISION

Yellowknife Catholic Schools is committed to preparing our students to lead and innovate in a 21st century global society. Through empowerment, encouragement and high expectations, students will be challenged to utilize various aspects of ethical awareness necessary to achieve their goals.

The Yellowknife Catholic School Board’s vision for learning and instructional technology is based in the context of 21st century learning skills:

- Collaborative inquiry to solve real and relevant problems
- Creativity and innovation
- Critical thinking and problem solving
- Communication

Technology enables this kind of learning, and engages students by:

- Providing learning, anywhere, anytime
- Supporting teacher innovation and capacity building
- Enhancing equity of access through the use of personal devices and internet resources
- Using social media to support inquiry and communication while building social responsibility and digital literacy
- Strengthening connections with parents

Our current reality demands that we reexamine the culture of teaching and learning with new eyes. We must be prepared to take advantage of students' natural desire to explore the world and to develop the skills they need to solve increasingly complex problems. Beyond its practical functions within the educational field, technology can also be a powerful motivator along this journey of discovery. This represents a shift in control with respect to who manages learning.

However, adding computers to the classroom is the easy part. The difficult work is on reshaping the relationship between teachers and students. It is about a transformational shift of control from the school system to the learner. In this process, the traditional boundaries of school will most likely be challenged and redesigned.

“It is unlikely that technology will improve learning without a powerful vision and without thoughtful and creative teachers challenging students to go beyond traditional expectations of achievement.” (November, A., “Empowering Students Through Technology”, 2010, p.4)

The identification of knowledge and skills that today's students need for the future has evolved into several trends reshaping the structure of public education in the NWT. Some common threads running through proposed reforms, such as the blending of content knowledge, specific skills, expertise and literacies, will continue to impact Yellowknife Catholic Schools and serve to shape the overall educational environment. Required change will affect not only the school district's instructional program, but also the ways in which it operates, manages people and information, and communicates.

Designed instructional activities will increasingly require student-computer ratios of 4:1, 2:1 and 1:1, necessitating that a varying number of appropriately equipped computer workstations be available in each classroom for constant student use. This includes use of emerging products such as portable handheld devices and special-purpose information appliances, whether they belong to the school district or are personally owned by students themselves, leveraging wireless technology to provide flexible mobility. Innovative instructional schedules, methodologies and classroom management strategies will be employed in all curriculum content areas, allowing students to routinely use

technology in their pursuit of knowledge and the development of required skills.

Opportunities for student collaboration in project-based learning will exist both within and beyond the walls of the classroom, whether an isolated exchange, a social media interaction with one or more concurrent partners, a shared desktop presentation, an electronic field trip, or a scheduled videoconference-based class session. Every student will be able to communicate and share ideas and information with others in remote locations on a regular basis, from any classroom or from home using emerging social networking and other Web 2.0 tools. Text, images, voice, and video will be exchanged effortlessly and responsibly as students travel down new pathways, participate in virtual communities or visit electronic venues of information using vehicles of technology.

Teachers and administrators will continuously increase their utilization of technology to gather, manage and report information using the computers on their desk, or from any location using a portable computer or handheld device. Their ability to collaborate in the completion of tasks, locate and procure instructional and non-instructional resources, and share ideas will be enhanced significantly. The simplification of clerical or administrative-oriented tasks for staff helps to increase the amount of time available for instructional planning and leadership activities.

Teachers will be better able to exploit new lines of communication between the home and the school. Time factors require that parent-teacher relationships be maintained routinely with voicemail, e-mail, facsimile, and interactive web pages, to complement the traditional phone calls and face-to-face conferences. Face-to-face conferences may also be conducted between teachers and parents in remote locations via desktop videoconferencing, streaming video, or emerging virtual (simulated) environment technologies.

The school and district will demonstrate increased utilization of digital media in its efforts to provide the community with information. Secure parent access to student information related to attendance, assignments, grades, and discipline will provide comprehensive snapshots of student progress in a self-service format, while arrangements for automated notifications, alerts or subscription-based content using these resources may be used to provide real-time updates about relevant changes as they are made.

The changing face of the technology-rich environment and the openness of communications delivery systems will increasingly, and unfortunately, continue to include many new risks for users related to their information, applications and equipment. Technology managers must continuously assess these threats, such as hackers, viruses, spam, and various forms of malware, and then provide security measures that may prevent and/or address the impact of attacks on both technology resources and their users. Technology users must be active

participants in the protection of the resources they use with the guidance and support of technology managers. Caution also must be taken, with heightened awareness, concerning Cyber safety and the potential for risks users often take while interacting in social networking environments, on commerce sites, or in any circumstance when the exposure to inappropriate content and/or the sharing of personal information is involved.

Provisions for fault tolerance and disaster prevention/recovery will receive heightened emphasis as access to data, digital content and resources becomes more critical in the operations of all facets of the school district. This will also be more pronounced as the school district attempts to interpret and apply existing regulations for traditional analog information in its new digital formats, such as copyright, privacy, records retention and discovery issues.

Users, both students and staff, will all be held more accountable for their technology use behaviors related to threat prevention and management, digital content utilization, productivity during the workday, and interpersonal relationships. Establishment of clear policy, refocused staff development and instructional programs, and supervision will all contribute to emphasize the ethical and societal components of technology use.

Technological development often forces change, and change is uncomfortable. Mastering change created by technology requires the ability to work with discomfort. As we begin to understand the connection between new technologies and our capacity for embracing them, we must find ways to become more quickly adept with these new resources.

The school district's vision lies less with the technology and more with the importance of developing the mind set or paradigm of the people who use the technology. Paradigm determines how well we handle changes, and dealing with change requires individuals to cultivate a unique set of attitudes and skills that are necessary if we are to successfully leverage the changes for our benefit. It is mindset that determines how people visualize the potential of a new technology and how it may be used to enhance our professional and personal lives, and if driven by a desire for comfort that outweighs the potential benefits of implementation, even the most powerful of new technologies have limited impact. The key to our success in the emerging technology-oriented global culture of the 21st century is being able to make a radical shift in our mind set and paradigm for life.

GUIDING VALUES AND PRINCIPLES

When investing in technology-based solutions, appropriate and responsible decision-making, should be guided by a common set of values and principles. The following values are congruent with the educational philosophy of Yellowknife Catholic Schools.

- 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 to access the curriculum as based on his/her Individual Education Plan (IEP)
- Staff professional development is needed to build 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 YCS.

As is the intent of any educational technology plan, this plan is intended to drive change - change which will empower members of the educational community to be life-long learners in an information- and technological-oriented society.

The **Target Areas** portion of this document outlines areas that Yellowknife Catholic Schools needs to review in order to achieve its educational technology mission. to achieve its educational technology mission and pursue the realization of its vision. Seven (7) **target areas** have been identified. A context for and **goals** have been developed in each of these target areas in order to establish direction based on perceived needs.

TARGET AREAS

(1) Instructional Technology

Emerging Web 2.0 tools, including social media web sites, virtual learning environments, and cloud-based services have significantly enhanced learning opportunities for students seeking to acquire 21st century skills.

Because devices (and applications) used to connect us to these resources commonly exist in our schools, at the workplace, in our homes, or in our pockets or backpacks, we are no longer limited to participation within the confines of the four walls of a classroom, or in a “one-size-fits-all” methodology. As such, there is now greater flexibility for location, time and circumstances in which

learning can take place.

The advent of Bring Your Own Device (BYOD) initiatives, with students and teachers bringing personally owned mobile devices to school and using those devices to access the internet and online school resources as well as their personal applications and data, presents many new and interesting advantages and possibilities for learning. However, while some school districts may save money on the evergreening of expensive technology and users may take better care of devices they view as being their own, there remain many challenges and concerns regarding: school liability, security of network resources, lack of control (content filtering), equity (not all students have these devices), wireless network bandwidth capacity, alignment of related policies and procedures, and the establishment of an environment of non-standard, dissimilar resources (devices and applications).

The Alberta Learning document, “Bring Your Own Device: A Guide For Schools”, <http://education.alberta.ca/admin/technology/research.aspx>, examines the potential benefits, weighs them against the anticipated costs, and forces would-be innovators to carefully consider the logistics and extended ramifications in pursuit of a mobile learning environment, where each student would have exclusive access to a mobile device. The YCS District Technology Committee will continue to use this resource in assisting us as we move forward in this regard.

Another important consideration will be the current technology-infused, inquiry-based projects taking place in our schools. As we continually seek to engage our learners using technology as a tool, we must also make sure that there is equity for all students, not just for those who have teachers that choose to actively engage them in technology-rich learning activities. This principle must apply to all content areas, while addressing 21st century themes as well as the teaching of competencies outlined in the new Literacy with ICT, infused curriculum. Staff development opportunities must follow, and the trend to move technology away from the explicit domain of the computer lab and into the classrooms will continue.

These kinds of changes will necessitate a pedagogical shift as teachers and learners must constantly adapt to the ever changing educational landscape. Part of this process will see student learning outcomes evolving to be more global, authentic and having real world significance. As such, purchase of new wired and wireless devices will have to be consistent with learning and assessment goals. This all has implications for professional development, budget and sustainability, as well as the network infrastructure that will be required.

Target Area 1: Instructional Technology

Goal	1.1	Maximize the appropriate integration of technology resources in the teaching-learning process (including privately-owned devices where allowed) within all content areas based on relevant research, providing equal access to all students.
Goal	1.2	Increase student proficiency in using technology to complete inquiries (plan and question, gather and make sense, produce to show understanding, communicate and reflect)

(2) Administrative and Productivity Initiatives

The district professional staff’s ability to more effectively collect, organize, and retrieve information, to communicate, and to manage time and other resources, is directly linked to its success as an educational organization. Reducing the time and effort spent while engaged in necessary administrative and clerical duties increases time available for the planning, implementation and evaluation of the overall instructional program.

Practices in promoting data management standardization, data threat/risk management, digital records and communications retention, and GNWT student data reporting requirements are being infused into the use of the applications available to our users. These are important for regulatory compliance, as well as for the protection of the information, and to facilitate our ability to share it between dissimilar systems.

PowerSchool, from Pearson School Systems Inc., is the district’s key student information system. Data maintained here by the GNWT in its centralized database is supplied to other applications so that their data refreshes quickly, and to ease the burden of repetitive data entry. Student information regarding demographics, scheduling, grading & grade reporting, attendance, discipline, and other relevant data is maintained here. Although school-based users see this information only for students attending that school, district users have a consolidated view of all student information, depending on their assigned security privileges.

Student information from PowerSchool is passed back and forth between the grading component in the main product and the teacher Gradebook module at specified “posting” times during each marking period. Exports required for the GNWT reporting are made easily and cleanly as needed.

Similarly, using TieNet, support records for all YCS students are kept in PowerSchool.

Issues with using PowerSchool for discipline tracking have been identified by YCS administrators. Work will need to be done in this area to find an alternative “add on” that integrates with Power School.

FirstClass provides all YCS staff with integrated email, task scheduling, contact and document management capabilities using a traditional Mac or PC client as well as a secure web client interface. The district has a limited number of licenses that are shared by staff. Our schools are moving to using a Google platform for all student, teacher and parent communication. A discussion about and exploration of a new eMail service is warranted.

The District websites are used to communicate to parents, students and the community at large. Breeze for Teachers allows for the electronic communication of homework, recommended websites for students and teacher webpages. The design of these sites is now five years old and an update is probably warranted.

Target Area 2: Administrative and Productivity Initiatives

Goal	2.1	Implement technology in ways that help all staff members better manage, organize, access and report information.
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(3) Software, Online and Data Resources

In the implementation of technology-based solutions for meeting educational needs of students, the availability of quality educational courseware, applications such as creativity and reference software, and collaborative services is a key issue. Software, either as a curriculum supplement, extension or as a component within a complete curriculum package, is an important ingredient in successful curriculum-technology integration. The medium on which the software is delivered, as well as the design of the product, determines what types of hardware and connectivity are required for its implementation. Our definition for the term “software” extends to include the many subscription-based resources that service providers deliver over the Internet and device-specific “Apps” that provide content delivery, create simulations, facilitate gaming, or have value for productivity.

Although we try to identify our instructional needs first before selecting the software best suited to particular situations, followed by the exploration of the hardware, operating system and connectivity requirements that determine how the software may be used, sometimes we put the cart before the horse. The implementation of iPads is a case in point.

Aside from those instances where a specific app is needed to perform a

specific task that meets a specific educational need, and the iPad is the only delivery system for that resource, much of the draw to the iPad centers around the attributes of the device itself. As a personal device for each student, with hand-picked apps that meet that student's needs, archived eBooks and digital textbooks, and installed productivity tools, there is great potential – if it's important for us to create that 1:1 environment, then we must commit to doing so and make it happen.

However, in our current environment, these devices are shared and are fairly generic concerning configurations and available apps. They cannot save information to our network servers, nor can they print to our printers – without retrofitting our infrastructure. We might as well be trying to fit a square peg into a round hole. iPads have their place, but so do desktop Mac's, notebook computers, other tablets running Windows or Android operating systems, Google Chromebooks and virtual desktop interfaces (that can run on virtually anything). We need to turn away from the marketing and resist the glitz of new toys [devices], keeping grounded in our principles and looking at the big picture when making our hardware selections – the needs determine the tools, not the other way around.

The “Bring Your Own Device” (BYOD) movement is an attempt to achieve the 1:1 environment mentioned above more quickly, combining district resources with those personally owned by students (assuming that many students have such devices and that parents will provide consent for them to be used in school by their children). The District has given the High School permission to move to a “Bring Your Own Device” (BYOD) s c h o o l as a first step towards embracing a “Bring Your Own Device” (BYOD) initiative in all our schools. Under this initiative student-owned devices (e.g., smart phones, iPads, iPods, Laptops, etc.) may be used by the student for the completion of an assignment(s) if approved by both the parent and the teacher. There is no provision for use of district network resources, other than access to the Internet, technical support, nor school liability for loss, theft or damage. There are no restrictions on the use of any audio, still image or video recording features of a device. Internet access on a student-owned device must o n l y be conducted with the permission of the supervising teacher. Students are given individual accounts allowing them access to the Internet via the school portal, and consequently the protection of the GNWT content filter.

The District must ensure that Internet Safety Policies and technology protection measures are in place. Other considerations should include provisions for inequity (“haves” vs. “have nots”), responsibilities for monitoring student activity on these devices in both instructional and non-instructional areas, the media content stored on the device, use of features for recording still images, video and audio, expectations for access of power outlets for device charging, the performance of device troubleshooting and maintenance tasks, and

the instructional management of multiple students working with dissimilar devices to achieve designed learning outcomes. As stated before, the selection of the device (no matter who owns it) as a conduit to an online resource should be based on the goals and objectives designed for a given activity.

With respect to district curriculum needs, each school also has its own unique set of needs as well. Each principal generally budgets to purchase software requested by staff members interested in engaging in a particular project that may be recommended to improve an area of weakness, provide enrichment or pursue 21st Century literacy.

Administrators and staff responsible for Student Support, select and purchase assistive technology resources that meet the needs prescribed in student individual education programs - some products may remediate, extend or reward learning in the classroom, while others are adaptive, allowing the child to use common tools in an alternative way in order to surmount or bypass a restriction imposed by the child's disability. Regardless of who purchases the software, once installed and made accessible it may be shared by all groups within the constraints of the licensing agreement.

Educational resources deliverable via the Internet have become increasingly prevalent in recent years with many publishers providing free and subscription-based access to media rich content, collaborative applications and activities that either replace or enhance products delivered in more traditional ways. The district's evolving communication infrastructure now makes the use of these resources possible. The district's pursuit of Web 2.0 tools, require not only increased Internet bandwidth and computing power, but heightened awareness about Internet safety, etiquette, ethics, and consequences for risk taking online.

Measures are taken to ensure that users of these online resources, both students and staff, may do so safely and with reduced risk of exposure to inappropriate content or contact. Acceptable Technology Use Policies to include usage guidelines and signed permission forms, parent & student information sessions on cyber safety, published links to online safety websites, consistent student supervision and related discussion, positioning of equipment in the room for monitoring purposes, etc., are needed to collectively safeguard the online environment.

Yellowknife Catholic Schools educational community recognizes that we need to help our students prepare for high school, post secondary education, future citizenship and other 21st century needs by engaging them online in real information-rich, technology-infused learning opportunities in the K-8 environment. We do struggle, however, with balancing the need to technologically empower students with our concerns regarding safety, respectful behavior, and the law. The question relates to whether the district

should provide access to K-8 students in "open" social media environments as opposed to the "closed" environments we currently have that offer students a similar, but potentially safer experience.

When looking at open (managed by the student – Facebook, Twitter, GMail) versus closed (managed by school officials) web 2.0 tools, similar experiences may be realized in each type of environment with the proper planning. Closed environments can be opened to extend the reach based on the needs in a designed project, but open environments in school can only really be controlled with content filtering or good teacher supervision.

Internet safety, technology acceptable use, and digital citizenship need to be addressed as students interact with each other, with teachers and with outside entities that have been vetted first. We need to ensure that we create an environment where mistakes or misbehavior are disciplined and lessons are learned, but no one's safety is in jeopardy.

Target Area 3: Software, Online and Data Resources

Goal	3.1	Ensure continued safe and appropriate access to both local and Internet-based resources and content by entire school community.
Goal	3.2	Identify acquire and utilize media, software applications and online services for instructional purposes, data management, productivity and communications purposes.

(4) Facilities, Hardware and Infrastructure

By providing an environment that allows students and staff to use their personal devices to create, store and collaboratively edit files in a web-oriented cloud-based fashion, the district must ensure that there are sufficient network resources and bandwidth to support these activities. Measures must also be taken to ensure that users of these resources may do so safely and with reduced risk to exposure to inappropriate content or contact.

We must consider the replacement of all LAN switching equipment reaching end-of-life and end-of-support, refreshing the infrastructure with higher capacity in device switching fabric and uplinks between switches, providing the scalability needed to address both our short and long term needs. Also, providing a solution for bringing more wireless bandwidth into perceived high traffic areas within and around our buildings is important for avoiding

potential bottlenecks created by regional saturation of wireless devices.

The need to sustain acceptable levels of available technical support, and maintain resources for disaster prevention and recovery, such as data backup systems, antivirus/anti-spyware/anti-spam solutions, intrusion prevention, web content filtering, Internet firewall protection, etc., continues to compete with our need to provide resources for instruction and productivity. However, these costs to protect and maintain end-user resources do contribute directly to extending the lifespan of the products we have.

Detailed network diagrams, school floor plans and wiring diagrams that itemize the equipment residing in each building and its location should exist, stating the function and how these resources are configured and utilized. This documentation should be kept and maintained by the Technology coordinator. There should be a clear outline of all major appliances, switches and technologies as well as detail related to the most critical components compiled in a formalized operations manual, including policies and procedures. The district's overall disaster recovery and contingency plans should be included too, documenting procedures, description of rotation schemes, backup device makes and models, software versions and media, location of software, steps to restore data in the event of a failure, and other pertinent information related to the current backup strategy. A standard operating procedures manual of daily procedures should be continuously updated and maintained as the information technology environment changes.

The cost to maintain the existing technology infrastructure, i.e., computers, cabling, network servers and communications devices, etc., at reasonably current standards, has been prohibitive. This will always be a recurring issue due to the changing nature of technology and its impact on the local school budget. The cost to extend and replace available educational technology resources grows in proportion with the initiatives planned.

Traditionally the district has tried and maintained a minimum number of computers in each elementary school classroom. Regular maintenance, incremental upgrades, retrofits and repurposing of computer hardware have been and will continue to be performed to prolong usefulness. The district has been relying on Mac computers as the classroom computer of choice. Replacement costs have been prohibitive, slowing the process of refreshing our technology resources as quickly as we would like. Further experimentation with other, less expensive, resources may be in order.

Inequity concerning the availability of instructional technology resources continues as a sore point among staff in each of the district schools. For various reasons, certain schools often receive more financial assistance in

acquiring technology products and services than others. One of our schools has been provided with additional funding not available to the others. These funds are often used for the purchase of technology resources. Some school parent faculty organizations are more technology oriented than others, and they provide the means to acquire new technology resources via proceeds from their fundraising activities. Whether some of our classrooms have these desired resources while others do not, it has always been the district’s practice to provide the same resources everywhere. Although we eventually work toward providing the same resources in all of our schools, often this isn’t achieved quickly enough.

Target Area 4: Facilities, Hardware Resources and Infrastructure

Goal	4.1	Maintain and evolve the district's communications network within and among district buildings based on current and emerging specifications for data, voice and video applications
Goal	4.2	Facilitate information-rich teaching, learning and administrative environments by securing and integrating hardware products into activity areas, congruent with requirements determined by software products, online services and research-based instructional methodologies to be employed.

(5) Staff Development

Enhancements to the communications infrastructure over the past several years have allowed the district to provide new online resources and services to the classroom, while improving on those already in place. Classroom tools for the creation, manipulation and sharing of content, such as networked computers, large screen viewing devices, interactive whiteboards, screen control software, digital still and video cameras, and mobile wireless tablets and laptops have been in use for some time. All schools are now networked to allow for access to the Internet by all students, using current school desktop computers, portable mobile labs or individual student and staff “smart” devices.

The district’s communication infrastructure must provide new opportunities for educational applications and content to be more accessible in the classroom, when needed at the point of instruction. Shared resources for live video-based programming, video-on demand, videoconferencing, blogging, collaborative document creation, online discussions, archived computer-based instructional presentations, and educational media-rich web content are some examples.

These resources have emerged as the focus point when describing the development of 21st century skills for communications, media and technology

literacy. Although these new systems provide valuable opportunities, for each, there are underlying requirements that must be met in order to maximize the district's return on its investment. Part of the challenge lies in providing for the administration and maintenance of these added systems without increasing staff, but by reevaluating the roles of existing staff.

Another piece lies in providing effective staff development, beginning with exposure to these resources and including more in depth training opportunities, and the availability of both curriculum support and technical support vehicles that make these resources easy to use.

The last component deals with the importance of administrative leadership regarding the establishment of policy, guidelines and in the setting of expectations for staff related to the use of electronic content and communications resources, so we can do so safely, legally and in a way that ensures equity for all of our students.

Target Area 5: Staff Development

Goal	5.1	Develop a formal staff development program in educational technology, targeting the specific needs of all staff members in the areas of research-based instructional methodology, administrative and productivity initiatives, and technology literacy competencies.
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Goal	5.2	Extend and maintain existing informal opportunities for staff development in educational technology through real time practical experiences.
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(6) Maintenance, Service and Support

The District maintains two full time technical positions, technology coordinator and technology technician. The main responsibilities of the coordinator are setup, monitor and maintain district and school based servers, network equipment, wireless routers and access points. In addition he is the District lead for PowerSchool, First Class, FileMaker Pro and all district software. The responsibilities of the technician are setup, monitor, and maintain district workstations, laptops, LCDs etc. , install software and updates. The District uses an online mailing system , "Gremlins" where staff request assistance with technology problems. The technician manages this and is responsible for the troubleshooting of district computer gremlins.

Over the past decade equipment inventory has increased exponentially. Tasks relevant in all phases of the extended technology life cycle are barely manageable due to the sheer volume of resources maintained by the district. Systems critical to school district operations have increasingly been added to the district's network infrastructure over recent years.

With the steady migration of technology resources into classrooms over recent years, a portion of the maintenance responsibility should fall with the classroom teacher. Through professional growth plans and participation in development opportunities, staff members should be expected to maintain and enhance their skills level so that they are able to minimize down time in the classroom.

We must realize that there are limits to what or technical staff can do. A review of roles, responsibilities and workload is warranted. As our classroom teachers increase their reliance on technology, we must strive to continue providing adequate response to problems they encounter, in a timely manner. We must explore these options:

1. Add additional technical staff, e.g., technician and/or network systems specialist.
2. Set higher expectations for teachers to troubleshoot and find workarounds themselves for the problems they encounter.
3. Reduce our inventory of technology products and resources to a level that permits the existing staff to support products that remain with response time deemed adequate or acceptable.

Target Area 6: Maintenance, Service and Support

Goal	6.1	Extend in-house support capabilities with existing staff.
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(7) Technology Resource Acquisition

Budget constraints due to decreased funding have, and will continue to impact all aspects of the educational technology program in a negative way. Although the district has been fortunate in its ability to maintain an average to high level of technology funding in its annual budgets, due to the overall reductions in territorial educational funding in recent years, these amounts have declined.

Given the scope of the preceding issues as presented, the school district is confronted with a significant set of challenges. With new technologies rapidly emerging, the need to implement them in schools increasing, and the longevity

of acquired technologies decreasing, creative solutions must be explored. The district recognizes the need to aggressively pursue alternative sources of both financial and human resources.

The district's procedures for acquiring and implementing any solution designed to meet a specific objective should be a more formalized process. It should identify the solutions as well as the selection criteria for the appropriate hardware, software, infrastructure, and or vendors required to meet a given objective. This process should also outline the change management process and the installation of the solution. It would be helpful to have some general requirements or objectives with regards to the process for identifying products, vendors or infrastructure. This could be in the form of purchasing guidelines, selection criteria, or references to policies and procedures. A flow chart or checklist approach can also be a useful tool in developing this phase into a formalized process, as the district continues to strive for the standardization of hardware and manufacturers where possible.

As mentioned previously in this plan, inequity concerning the availability of instructional technology resources continues as a sore point among staff in each of the district schools. The District must continue to work toward providing the same resources in all of our schools.

Target Area 7: Technology Resource Acquisition

Goal	7.1	Utilize annual district funding sources to secure needed educational technology resources
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Goal	7.2	Optimize pursuit of external sources of funding, manpower and expertise to secure needed educational technology
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ACTION PLAN

The **Action Plan** portion of this document represents the course that the YCS is planning to take in a four-year period. **Tasks**, or specific objectives, have been defined to serve as concrete steps leading to the fulfillment of each goal. Each task provides a **timeline** reflecting those years in which some portion of that task will be addressed, and the **responsible persons** (individuals or groups) for implementation are named. The **evaluation** of each task is represented in concrete or observable data serving as an indicator or benchmark in the successful completion of the task.

Target Area 1: Instructional Technology

Goal	1.1	Maximize the appropriate integration of technology resources in the teaching-learning process (including privately-owned devices where allowed) within all content areas based on relevant research, providing equal access to all students.
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Task	1.1.a	Employ instructional methodologies integrating technology resources in the classroom to achieve curriculum and instructional objectives in all content areas, to include Literacy with ICT.
	1.1.b	Enhance all curricular areas, using technology as a vehicle to integrate Digital Citizenship into classroom activities.
Timeline		<input checked="" type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum & Instruction 2. LwICT Coordinator 3. Principals 4. Classroom Teachers
Evaluation		<ul style="list-style-type: none"> • Curriculum guides – goals & objectives • Professional Growth Plans • Teacher lesson plans • Lesson observations

Task	1.1.c	Schedule cooperative planning between teachers and technology specialists focusing on the development and articulation of instructional technology integration strategies, activities and methods.
Timeline		<input checked="" type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum & Instruction 2. LwICT Coordinator 3. Technology Admin Team 4. Lead Technology Teacher 5. Classroom Teacher
Evaluation		<ul style="list-style-type: none"> • Teacher Planning Schedules • Meeting Agendas

Task	1.1.d	Maximize and expand flexible scheduling, utilizing large instructional time blocks, allowing for better integration of subject matter and available technologies.
Timeline		<input checked="" type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum & Instruction 2. Principals
Evaluation		<ul style="list-style-type: none"> • Teacher Instructional Schedules • Computer Lab Schedules • Teacher Lesson Plans • Lesson Observation

Task	1.1.e	Identify assistive technology needs for special education students annually in Individualized Education Programs (IEPs), purchase instructional materials and provide training as required.
Timeline		<input checked="" type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Coordinator Special Services 2. Technology Coordinator
Evaluation		<ul style="list-style-type: none"> • Purchase Orders • Student IEP's • Teacher Lesson Plans • Lesson Observation

Task	1.1.f	Identify, clarify and communicate the content as well as the scope and sequence of LwICT
Timeline		<input checked="" type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curr. & Instr. 2. LwICT Coordinator 3. Lead Technology Teacher
Evaluation		<ul style="list-style-type: none"> • Curriculum Guides – goals & objectives • Teacher Lesson Plans • Lesson Observation

Goal	1.2	Increase student proficiency in using technology to complete inquiries (plan and question, gather and make sense, produce to show understanding, communicate and reflect)
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Task	1.2.a	Increase student participation in authentic technology infused projects using available resources, based on 21 st Century themes.
	1.2.b	Ensure mastery by each student of a core set of technological skills through scheduled participation in mandatory technology-rich projects conducted by the classroom teacher in all academic content areas.
	1.2.c	Assess student technological skills proficiency at the conclusion of each technology-infused project using an appropriate rubric or checklist and manage using grade book software as well as the school's student information system.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. LwICT Coordinator 2. Principals 3. Lead Technology Teacher 4. Classroom Teachers
Evaluation		<ul style="list-style-type: none"> • Shared resource schedules • Teacher lesson plans • Project rubric criteria • Student project assessment data • Student digital portfolio

Task	1.2.d	Maintain a digital portfolio for each student in grades 3-12, archiving integrated projects with identified technology skills as evidence of technological skills proficiency.
Timeline		<input type="checkbox"/> 2014-15 <input type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>

Responsible Persons		<ol style="list-style-type: none"> 1. LwICT Coordinator 2. Principals 3. Lead Technology Teacher 4. Classroom Teachers
Evaluation		<ul style="list-style-type: none"> • Teacher Lesson Plans • Project rubric criteria • Student project assessment data • Student digital portfolios

Target Area 2: Administrative and Productivity Initiatives

Goal	2.1	Implement technology in ways that help all staff members better manage, organize, access and report information.
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Task	2.1.a	Identify legitimate performance expectations for using the productivity tools available to administrative, teaching & support staff.
	2.1.b	Increase administrator and teacher access to online productivity resources in each building by providing demonstrations and training, modifying schedules, reorganizing resource availability, and allowing for the use of privately-owned devices as appropriate.
	2.1.c	Provide the use of available resources for remote access, allowing for staff use of data and communications resources from other locations.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum & Instruction 2. Assistant Superintendent for Business 3. Principals 4. Technology Coordinator 5. LwICT Coordinator

Evaluation		<ul style="list-style-type: none"> • Revised performance evaluation instrument • Published staff minimum technology competencies list • Depth and scope of designed training activities • Scheduled training sessions and participation lists • Staff meeting agendas • Shared resource schedules • Resource usage logs • Observation • Staff survey data
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Task	2.1.d	Identify legitimate performance expectations for using the information management systems available to administrative, teaching & support staff.
	2.1.e	Review current collection, maintenance, access and storage of staff data, student data and business data and make determinations as to whether changes are required based on current needs.
	2.1.f	Maintain and enforce protocol for student enrollment practices, as well as standards related to the format in which data items are recorded in the district's student information systems .
	2.1.g	Maintain custom interfaces to support automated data synchronization between our student information system (Powerschool) and other database applications including: Tie net
	2.1.h	Develop and support common expectations for managing student data, to ensure that data entry is complete, accurate, timely, and conforms to the established standards.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Principals 4. Technology Coordinator 5. LwICT Coordinator 6. Student Support Coordinator

Evaluation		<ul style="list-style-type: none"> • Revised performance evaluation instrument • Published staff minimum technology competencies list • Depth and scope of designed training activities • Scheduled training sessions and participation lists
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Target Area 3: Software, Online and Data Resources

Goal	3.1	Ensure continued safe and appropriate access to both local and Internet-based resources and content by entire school community.
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Task	3.1.a	Ensure proper student supervision during online activities, and secure required administrative permissions in the case of a “BYOD” activity where Internet access is not subject to web content filtering restrictions.
	3.1.b	Maintain network authentication, via user name and password to ensure web content filtering.
	3.1.c	Implement and enforce existing policies for network resource acceptable use, Internet safety, and use of personal devices in school for both students and staff.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Technology Coordinator 3. LwICT Coordinator 4. Principals 5. Classroom Teachers
Evaluation		<ul style="list-style-type: none"> • Student Technology Acceptable Use Policy • Resource Usage Logs • Staff Supervision

Task	3.1.d	Incorporate online safety concepts and skills into student instructional activities at each grade level, as appropriate.
	3.1.e	Ensure proper student supervision during online activities
	3.1.f	Utilize Web 2.0 tools, including approved social media web sites, virtual learning & gaming environments, cloud-based services (storage, apps, digital content), and virtual private network access to school hosted resources, to enhance opportunities for students to pursue 21 st century skills in school, creating a flexible, blended approach to the teaching- learning process.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Classroom Teachers
Evaluation		<ul style="list-style-type: none"> • Teacher lesson plans • Project rubric criteria • Student project assessment data • Student digital portfolios • Lesson observation • Observed student behaviours

Task	3.1.g	Obtain required administrative permissions in the case of a “BYOD” activity where Internet access is not subject to web content filtering restrictions.
	3.1.h	Maintain required parent consent data for each student, as part of his/her record in the district’s student information system, concerning Internet access, media release and use of privately-owned technology devices in school.
	3.1.i	Provide resources for parents regarding online safety, that may include published website links, printed materials, scheduled presentations and/or workshops.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>

Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Classroom Teachers
Evaluation		<ul style="list-style-type: none"> • Website content assessment • Distribution of printed materials • Scheduled presentations • Parent group(s) meeting agendas/minutes • Distribution/Collection of parent consent forms

Goal	3.2	Identify acquire and utilize media, software applications and online services for instructional purposes, data management, productivity and communications purposes.
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Task	3.2.a	Create and utilize curriculum review/revision committees and school- based task forces to evaluate and select instructional media for purchase.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Curriculum Review Committees 3. LwICT Coordinator 4. Principals 5. Technology lead teachers
Evaluation		<ul style="list-style-type: none"> • Product/Service documentation • Selection Committee evaluation data • Curriculum documentation • Published unbiased product reviews

Task	3.2.b	Explore the procurement and use of eLearning resources.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Technology Coordinator 4. Principals 5. School Librarians
Evaluation		<ul style="list-style-type: none"> • Product/Service documentation • Curriculum review documentation • School library online materials circulation catalogues • Purchase orders

Task	3.2.c	Utilize the District Technology Committee to evaluate and purchase standard administrative and productivity applications and services based on identified needs .
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Technology Coordinator 4. Principals 5. Classroom Teachers
Evaluation		<ul style="list-style-type: none"> • Product/Service documentation • Selection Committee evaluation data • User inquiries/ recommendations • Purchase orders • Training Schedules

Task	3.2.d	Ensure availability for timely upgrades of critical software applications via annual support/licensing renewals or direct upgrade purchases where appropriate.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>

Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent for Business 2. Technology Coordinator 3. Principals 4. Coordinators
Evaluation		<ul style="list-style-type: none"> • Equipment Support Contracts • Purchase orders

Target Area 4: Facilities, Hardware Resources and Infrastructure

Goal	4.1	Maintain and evolve the district's communications network within and among district buildings based on current and emerging specifications for data, voice and video applications
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Task	4.1.a	Install maintain and upgrade district communication equipment i.e. switches, routers, access points, cabling etc.
	4.1.b	Install maintain and upgrade district servers, workstations, portable labs, projectors etc.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Technology Coordinator 3. Computer Technician
Evaluation		<ul style="list-style-type: none"> • Technology coordinator schedules and task data • Computer technician schedules and task data • Building equipment inventory documents • Purchase orders

Goal	4.2	Facilitate information-rich teaching, learning and administrative environments by securing and integrating hardware products into activity areas, congruent with requirements determined by software products, online services and research-based instructional methodologies to be employed.
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Task	4.2.a	Redistribute and/or retrofit aging equipment, performing only cost-effective upgrades, into areas where prolonged usage may continue to have perceived value.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Principals 2. Technology Coordinator 3. Computer Technician
Evaluation		<ul style="list-style-type: none"> • Computer Technician schedules and task data • Building equipment inventory documents • Purchase orders

Task	4.2.b	Replace obsolete computers and equipment used in all instructional environments and administrative work areas incrementally, at a pace commensurate with changing instructional and technological needs, not to exceed a period of five (5) years.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator 4. Principals
Evaluation		<ul style="list-style-type: none"> • Computer Technician schedules and task data • Building equipment inventory documents • Purchase orders • Signed leasing agreements

Task	4.2.c	Strive to achieve a student-device ratio in all instructional environments based on needs driven by planned instructional activities – all devices (district provided or privately-owned) should be adequately equipped to perform the desired tasks.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator 4. Principals
Evaluation		<ul style="list-style-type: none"> • Computer Technician schedules and task data • Building equipment inventory documents • Product specification documentation • Purchase orders • Signed leasing agreements

Task	4.2.d	Ensure access for all students to the district’s technology resources, whether located in the classroom, the media center and any other technology-rich access areas (for students) throughout the school. Universal design standards will be considered in any new construction to assure equal access for all, including students with disabilities.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator 4. Principals 5. Student Services coordinator
Evaluation		<ul style="list-style-type: none"> • Building equipment inventory documents • Computer lab schedules • Teacher lesson plans • Observed utilization of products and services • Shared resource usage logs

Target Area 5: Staff Development

Goal	5.1	Develop a formal staff development program in educational technology, targeting the specific needs of all staff members in the areas of research-based instructional methodology, administrative and productivity initiatives, and technology literacy competencies.
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Task	5.1.a	Develop information technology competencies for all staff members, at skill complexity levels identified as beginner, intermediate and advanced, reflecting district expectations for mastery of relevant concepts and skills relevant to the utilization of technology-based resources.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Technology Coordinator 3. LwICT Coordinator 4. Lead Technology teachers
Evaluation		<ul style="list-style-type: none"> • Revised job descriptions • Revised performance and evaluation instrument • Published minimum technology competencies lists • Depth and scope of designed training activities • Scheduled training sessions and participant lists

Task	5.1.b	Administer an information technology self-assessment instrument for professional and paraprofessional staff members, reflecting the most relevant and essential technology-based concepts and job skills, to establish new baseline for staff development planning.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Principals 2. Technology Coordinator 3. LwICT Coordinator
Evaluation		<ul style="list-style-type: none"> • Staff self- assessment item analysis data

Task	5.1.c	Implement programs leading to staff information technology competency at identified beginner, intermediate and advanced skill complexity levels.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Lead Technology teacher
Evaluation		<p>Schedules, agendas, rosters and evaluations for:</p> <ul style="list-style-type: none"> • Courses • Mini courses • Workshops • In-service training programs

Task	5.1.d	Implement a staff development programs in instructional technology, emphasizing instructional methodologies and resource (district provided and privately-owned) utilization in support of 21 st century themes and skills integration, to be infused across all content areas using the LwICT continuum.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Lead Technology teacher
Evaluation		<p>Schedules, agendas, rosters and evaluations for:</p> <ul style="list-style-type: none"> • Courses • Mini courses • Workshops • In-service training programs

Task	5.1.e	Implement programs designed for retooling new and/or reassigned staff members to achieve competency within all established district instructional, administrative/productivity and technology literacy initiatives.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Lead Technology teacher
Evaluation		<p>Schedules, agendas, rosters and evaluations for:</p> <ul style="list-style-type: none"> • Courses • Mini courses • Workshops • In-service training programs

Task	5.1.f	Enhance current professional development program formats to provide more diversity, include opportunities such as synchronous and asynchronous distance learning using Web 2.0 tools, Massive Open Online Courses (MOOCs), and establish professional learning communities using social media resources.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Lead Technology teacher
Evaluation		<p>Schedules, agendas, rosters and evaluations for:</p> <ul style="list-style-type: none"> • Courses • Mini courses • Workshops • In-service training programs

Goal	5.2	Extend and maintain existing informal opportunities for staff development in educational technology through real time practical experiences.
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Task	5.2.a	Design and implement incentive programs rewarding staff members with funding and/or recognition for engaging in innovative projects in educational technology.
Timeline		<input type="checkbox"/> 2014-15 <input type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Lead Technology teacher 5. Teachers
Evaluation		<ul style="list-style-type: none"> • Staff submitted proposal documents • Samples of public recognition for staff • Purchase orders

Task	5.2.b	Provide opportunities for teachers and administrators to share innovative educational technology initiatives through Web 2.0 tools, demonstrations, collaborative teaching and mentoring activities, and via videoconferencing resources.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Lead Technology teacher 5. Teachers
Evaluation		<ul style="list-style-type: none"> • District Website content • Scheduled demonstrations and classroom visitations • Teacher lesson plans • Teacher professional improvement plans

Target Area 6: Maintenance, Service and Support

Goal	6.1	Extend in-house support capabilities with existing staff.
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Task	6.1.a	Revise information technology competencies for all staff members, at skill complexity levels identified as beginner, intermediate and advanced, reflecting district expectations for mastery of relevant concepts and skills required for the simple operation and troubleshooting of available resources as appropriate by job category.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Lead Technology teacher
Evaluation		<ul style="list-style-type: none"> • Revised job descriptions • Revised performance evaluation instrument • Published Staff minimum technology competencies list • Staff professional improvement plans • Observed compliance data

Task	6.1.b	Extend information technology competencies for all staff members, reflecting district expectations for the performance of simple tasks related to preventive maintenance on the operating systems of the computers and other devices they use.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. LwICT Coordinator 3. Principals 4. Lead Technology teacher
Evaluation		<ul style="list-style-type: none"> • Revised job descriptions • Revised performance evaluation instrument • Published Staff minimum technology competencies list • Staff professional improvement plans • Depth and Scope of designed training activities • Observed compliance data

Task	6.1.c	Realign shared responsibility for equipment management and maintenance between technology specialists, lead technology teachers and teachers, so that the approaches taken may be more closely coordinated and equitable.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Technology Coordinator 3. Principals
Evaluation		<ul style="list-style-type: none"> • Technology specialists job description, list of assigned duties, instructional schedules, staff development and collaborative planning sessions • Technical support log

Task	6.1.d	Conduct routine maintenance tasks, such as the rollout of operating system patches and log monitoring, in a more controlled and consistent manner, based on an established schedule, in order to enhance the district's ability to prevent or resolve trouble with its many resources.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Technology Coordinator 2. LwICT Coordinator 3. Computer Technician
Evaluation		<ul style="list-style-type: none"> • Technology specialists job description, list of assigned duties, instructional schedules, staff development and collaborative planning sessions • Technical support log

Target Area 7: Technology Resource Acquisition

Goal	7.1	Utilize annual district funding sources to secure needed educational technology resources
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Task	7.1.a	Institute process of annual and four year district budget planning for the acquisition of educational products and services.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator 4. Principals
Evaluation		<ul style="list-style-type: none"> • Annual technology budget plan • Four year budget plan • Annual evaluation of prior year spending

Task	7.1.b	Increase the district’s exploration of and participation in leasing and other creative financing programs designed to refresh obsolete technology products at a more appropriate rate.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator
Evaluation		<ul style="list-style-type: none"> • Signed lease agreements • Rollover period for technology products acquired

Task	7.1.c	Develop an Information Technology purchasing policy outlining requirements with regards to purchasing guidelines, selection criteria and the process for identifying products, vendors or infrastructure so that product and vendor standardization remain a priority.
	7.1.d	Update inventory of current technology products and establish minimum specifications for classroom, labs, office and administration equipment. Establish an estimated life span of all products.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator
Evaluation		<ul style="list-style-type: none"> • Rollover period for technology products acquired • Minimum standard for all IT products and equipment • Inventory and lifespan of all products

Task	7.1.d	Eliminate inequity concerning the availability of instructional technology resources in each school, maintaining a minimum standard in each.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator
Evaluation		<ul style="list-style-type: none"> • Minimum standard for all IT products and equipment • Inventory and lifespan of all products • Rollover period for technology products acquired

Goal	7.2	Utilize annual district funding sources to secure needed educational technology resources
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Task	7.2.a	Continue to secure technology products, services and funding through participation in cooperative partnerships with external organizations, agencies and businesses.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator 4. Principals
Evaluation		<ul style="list-style-type: none"> • Signed contracts or partnership agreements • Vendor quotations of products and services reflecting price reductions.

Task	7.2.b	Continue to secure technology products, services and funding through grants, donations and revenue-generating activities.
Timeline		<input type="checkbox"/> 2014-15 <input checked="" type="checkbox"/> 2015-16 <input checked="" type="checkbox"/> 2016-17 <input checked="" type="checkbox"/> 2017-18
Task Status		Original <input type="checkbox"/> Revised <input type="checkbox"/>
Responsible Persons		<ol style="list-style-type: none"> 1. Assistant Superintendent Curriculum and Instruction 2. Assistant Superintendent for Business 3. Technology Coordinator 4. Principals
Evaluation		<ul style="list-style-type: none"> • Completed grant applications • Written correspondence between donors and school district officials • Accounting reports reflecting deposited funds

Appendices

Appendix A: Projected Implementation Costs

Appendix B: Recommendations for Immediate Implementation

Appendix A: Projected Implementation Costs

Projected Costs to Implement Instructional Technology Plan
In support of Instruction

Hardware Resources (new & replacement)	Year 1	Year 2	Year 3	Year 4
Hardware (Levelling)	10,000			
Classroom Tech.	10,500	10,500	10,500	10,500
Teacher Desktop		2,400	50,500	30,000
Lab Computers	13,500	22,500	16,500	
	34,000	35,400	77,500	40,500
Network Maintenance				
Infrastructure	15,000	15,000	15,000	15,000
Upgrade Switches	4,000	4,000	4,000	4,000
	19,000	19,000	19,000	19,000
subtotal Technology	53,000	54,400	96,500	59,500
Staff Development				
PD & Teacher release time	55,000	55,000	55,000	55,000
	55,000	55,000	55,000	55,000

Appendix B: Recommendations for Immediate Implementation

In preparing the cost to implement the Instructional Technology Plan, an analysis of the current computers in YCS classrooms and computer labs was undertaken. The concept that we looked at was to set a minimum benchmark for a teacher classroom computer and a student lab computer.

Table 1 outlines the cost of replacement based on continuing to provide iMac’s at an estimated unit cost of \$1,200.00.

Table 1: 2008-2010 Computers in YCS Schools

Year	Teacher computer	Cost of Replacement
2008	27	32,400
2009	29	34,800
2010	4	76,800

A reasonable benchmark would be 2011, but to get there it would cost \$144,000. This cost is prohibitive. Similarly if the benchmark was 2010, it would cost \$67,200, again prohibitive. With a budget of \$50,000 for 2015-16 an alternate approach had to be found. Outlined below are the components of this approach.

(i) Classroom Computers

Year 1: Retire all Apple computers purchased on or before 2008 and replace these with a 2010 computer from the Lab.

Replace these lab computers with an LG Chromebase

Re-image 2209 computers upgrading the Operating System to 10.9

Year 2: Retire all Apple computers purchased on or before 2009 and replace these with a 2010 computer from the Lab.

Year 3: Retire all Apple computers purchased on or before 2010 and replace these with a new computer (TBD).

(ii) Lab Computers

Replace computers moved to the classroom with an LG Chromebase

- (iii) Maintain a small computer lab that will run specialized software. (probably an iMac)
- (iv) The District will implement Google Apps for Education in all schools in 2015-16.
- (v) The District will recommend a modified version of Bring Your Own Device for Grade 6 and 7 students starting in 2015-16. All student devices must use the school network. A cell phone will not be recommended as a device.
- (vi) The District will continue to support portable Chrome Labs in all schools.
- (vii) Over the next two years the District will explore alternatives to an iMac for each teacher's desktop.

Table 2
Current Teacher Desktop Classroom Computers

Classroom Computers by School	purchase					
ESPHS	2008	2009	2010	2011	2012	2013
Year 0 2014-15	9	8	0	2	1	1
Year 1 2015-16	0	8	9	2	1	1
Year 2 2016-17	0	0	17	2	1	1
Year 3 2017-18	0	0	0	2	1	1
Year 4 2018-19	0	0	0	0	0	0
ESJS	2008	2009	2010	2011	2012	2013
Year 0 2014-15	9	9	4	0	2	
Year 1 2015-16	0	9	13	0	2	
Year 2 2016-17	0	0	22	0	2	
Year 3 2017-18	0	0	0	0	2	
Year 4 2018-19	0	0	0	0	0	
WCS	2008	2009	2010	2011	2012	2013
Year 0 2014-15	9	10	0	1	2	
Year 1 2015-16	0	10	0	1	11	
Year 2 2016-17	0	0	0	1	21	
Year 3 2017-18	0	0	0	0	21	
Year 4 2018-19	0	0	0	0	0	
KCTC	2008	2009	2010	2011	2012	2013
Year 0 2014-15		2			1	2
Year 1 2015-16		2			1	2
Year 2 2016-17		0			1	2
Year 3 2017-18						
Year 4 2018-19						2

Table 3
Teacher Desktop Replacement Classroom Computers

ESPHS	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Year 4 2018-2019	Total
Year 0 2014-15					
Year 1 2015-16					
Year 2 2016-17					
Year 3 2017-18			17		
Year 4 2018-19			17	4	21
ESJS	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Year 4 2018-2019	Total
Year 0 2014-15					
Year 1 2015-16					
Year 2 2016-17					
Year 3 2017-18			24		24
Year 4 2018-19					
WCS	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Year 4 2018-2019	Total
Year 0 2014-15					
Year 1 2015-16					
Year 2 2016-17					
Year 3 2017-18			1		
Year 4 2018-19			1	21	22
KCTC	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Year 4 2018-2019	Total
Year 0 2014-15					
Year 1 2015-16					
Year 2 2016-17		2			
Year 3 2017-18					
Year 4 2018-19			2	1	3

Table 4
Current Lab Desktop Computers

Lab Computers by School	purchase				
ESPHS	2008	2009	2010	2011	2012
Year 0 2014-15			30		
Year 1 2015-16			21		
Year 2 2016-17			13		
Year 3 2017-18			0		
Year 4 2018-19					
ESJS	2008	2009	2010	2011	2012
Year 0 2014-15			30		
Year 1 2015-16			21		
Year 2 2016-17			12		
Year 3 2017-18					
Year 4 2018-19					
WCS	2008	2009	2010	2011	2012
Year 0 2014-15					27
Year 1 2015-16					18
Year 2 2016-17					8
Year 3 2017-18					0
Year 4 2018-19					
KCTC	2008	2009	2010	2011	2012
Year 0 2014-15		18			
Year 1 2015-16					
Year 2 2016-17					
Year 3 2017-18					
Year 4 2018-19					

Table 5
Replacement Schedule Lab Desktop Computers

ESPHS	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Year 4 2018-2019
Year 0 2014-15				
Year 1 2015-16	9			
Year 2 2016-17	9	8		
Year 3 2017-18	9	8	13	
Year 4 2018-19	9	8	13	

ESJS	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Year 4 2018-2019
Year 0 2014-15				
Year 1 2015-16	9			
Year 2 2016-17	9	9		
Year 3 2017-18	9	9	12	
Year 4 2018-19				

WCS	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Year 4 2018-2019
Year 0 2014-15				
Year 1 2015-16	9			
Year 2 2016-17	9	10		
Year 3 2017-18	9	10	8	
Year 4 2018-19	9	10	8	

KCTC	Year 1 2015-16	Year 2 2016-17	Year 3 2017-18	Year 4 2018-2019
Year 0 2014-15				
Year 1 2015-16		18		
Year 2 2016-17		18		
Year 3 2017-18		18		
Year 4 2018-19		18		