

Technology Plan

2009-2013

October 23, 2009

Bertschi School

The Bertschi Technology Committee undertook the task of updating the 2004-2008 Technology Plan in order to assure that our graduates leave our school with 21st century skills. This document aligns with the mission and goals of the Bertschi Strategic Plan.

Our Mission

Bertschi School educates children to become compassionate, confident and creative learners in a global community.

Our Values

Our community values integrity, inclusiveness, respect, and a commitment to sustainable practices.

Acknowledgements

Student, Teacher, and Administrator Technology Standards from:
ISTE International Society for Technology in Education Standards
www.iste.org

Special thanks to all those who participated in the Bertschi Technology Committee:

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Message from the Head of School

Inspiring a new generation to become fluent in a global world

We know that one of the most critical shifts today is the awareness that technology in education is a global phenomenon.

The economic and social landscape has changed, and demands on educators and students have shifted. We look for a framework for educators to use as they transition schools from and Industrial Age to a Digital Age. Although traditional literacy skills, the arts and science, and the social/emotional development of each child are important elements, we also know that students must master a host of new skills in order to become successful global citizens. Rapid advances in technology affect every facet of our lives, from the way we conduct business to the social relations we form.

How does it work? Classroom teachers and resource specialists work together in preparation of various projects. Information technology is integrated into the library program, science, the arts, and core subjects. Project-based learning is a creative, cooperative and interdisciplinary approach and is enhanced with technology.

What is Bertschi's philosophy about age appropriateness? We know how important it is for young children, to have time to explore, create, and learn through a hands-on and experiential curriculum therefore we ensure that the social and emotional and tactile learning opportunities are fully valued and in place.

Bertschi's view in how to prepare this whole new generation of youngsters who will be digital natives operating in the world of technologies is to use the ISTE and NETS standards as our guiding points. We would like to see our students to have the ability to:

- Demonstrate creativity and innovation
- Communicate and collaborate
- Practice digital citizenship
- Use technology effectively and productively
- Think critically, solve problems, and make decisions

It is also is equally important to embrace a shared vision for educational technology among the faculty, specialists, administration, students and parents in our community and also to equip and support our school personnel with professional development and financial resources.

Education is changing. Students are becoming empowered to tap into their natural curiosity and skills for mastering new information, social awareness, environmental practices, diversity, and sustainability are more than a concept, they are the core values of our community and are woven through our curriculum. We strive to empower our students to contribute to the social and civic fabric of their communities.

In closing, I would like to thank the group of talented professionals here at Bertschi for their countless hours of work, wisdom and expertise they contributed this academic year 2008/09 to ensure that the roadmap for our school in this field of technology is well thought out and carefully planned.

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I. Vision, Philosophy and Goals

“It is important to continue developing well educated and caring students who are equipped to thrive in an increasingly global, diverse and technological world. Technology will continue to revolutionize the classroom and expand our ability to use technology as an integral learning tool.”

-Bertschi School Strategic Plan

Vision

Our vision is to inspire a new generation to become fluent in a global world to:

- * Demonstrate creativity and innovation
- * Use technology effectively and productively
- * Think critically, solve problems, and make decisions
- * Enhance learning across all disciplines
- * Practice digital citizenship

We believe our students have unique talents and voice that can be expressed using a variety of technologies.

We believe our teachers should provide opportunities for students to use technology in ways to foster creativity and innovation.

We believe that our students should build confidence using technology to solve authentic problems.

Our students will face a rapidly changing technology landscape and we believe they need a foundation of skills that will enable them to learn and adapt to new technologies as they evolve.

We believe that an important role of education is to teach students to use technology in productive and responsible ways.

We believe strongly that sustainability is an important philosophy of our curriculum and that technology will be used to reinforce and synthesize the learning goals in our sustainability program.

Philosophy

Bertschi believes that all students who graduate fifth grade should be well prepared to use the technology tools that will be required of them in their secondary education. All students are exposed to technology via teacher modeling, awareness and understanding of our energy and conservation systems (rainwater reclamation cisterns, solar panels, kiosk demonstrating energy use at our school, recycling and garbage collection), building and design during the early years in science classes, and observing older students using technology.

We believe that the use of computers themselves is not developmentally appropriate for our youngest students (PK and K), and that technology should be slowly introduced throughout first and second grade. Beginning in second grade, teachers integrate technology into some aspects of their curriculum. On a continuum, by fifth grade technology is fully integrated into the curriculum and students have constant access to a variety of technologies, such as SMART Boards™, document cameras, digital cameras, scanners, recording equipment, and computers. We are working toward a “one computer per student” program in grades 3-5.

Technology Goals

We will implement our technology plan using the following goals:

1. Acknowledge that technology will continue to revolutionize the classroom.
2. Expand our ability to use technology as an integral learning tool.
3. Expand our use and understanding of technology across all disciplines.
4. Provide students with a wide range of experience using a variety of technology tools to solve problems in creative ways.
5. Explore and implement a one-computer-per-student program (in grades 3-5)
6. Stimulate intellectual curiosity by maintaining a strong, integrated educational program that recognizes student readiness, learning styles, interests and social and emotional development.
7. Encourage teachers to be innovative in the classroom.
8. Offer ample professional development opportunities.
9. Provide to teachers the time necessary to develop the program.

II. Background

Overview

The Bertschi Technology Committee was formed in December 2007 to review Bertschi's Technology Program and create a new three-year Technology Plan for the school. This Technology Plan would replace the 2004-08 Technology Plan and would set goals and outcomes for the Bertschi faculty to adhere to in integrating technology into its curriculum.

The committee was comprised of teachers, administrators, and one outside consultant who met regularly during the school year to discuss a wide range of issues involving technology and elementary school education. The committee was assigned the task of reviewing the framework for Bertschi's Technology Plan, as well as grade-specific technology curriculum plans that are tied both to the new National Educational Technology Standards for Students (NETS) as well as to the Bertschi curriculum.

The International Society for Technology in Education (ISTE) regularly publishes Education Technology standards for students, teachers, and Administrators. This is an ongoing publication that provides educators with criteria to use and factors to consider for setting technology standards.

The committee was also required to produce an implementation plan that included provisions for teacher training and assessment tools that will make it possible for the faculty to measure its progress toward the goals to be achieved, and a three-year budget recommendation tied to the *Bertschi Technology Plan*.

Technology Committee Process

The steps that the committee took to arrive at this new technology plan were as follows:

1. A survey was conducted to determine the classroom use of technology at Bertschi. The results were published and then reviewed by the technology committee.
2. The new National Educational Technology Standards (NETS) for Students (Second Edition) released in 2007 by the International Society for Technology in Education (ISTE) standards were reviewed by the committee and incorporated into the plan. These standards were used as foundational guidelines for developing the plan.
3. The committee reviewed the current *Bertschi Technology Plan (2004-2008)* and each section was discussed and evaluated. Notes were compiled for suggested changes and edits for each section.

Guiding Principles

1. Continue to provide students with the necessary skills to traverse the rapidly changing Internet environment
2. Integrate library (Information Science) as a key part of the technology program.
3. Adopt relevant and appropriate technology for students in grades Prek through Grade 5.
4. Incorporate new evolving technologies that provide a rich, interactive experience for students.
5. Acknowledge the appropriate mix of integrating technology into the curriculum using laptops in the classrooms, mobile devices (handhelds), and the computer lab. Identify the role that the classroom teacher and the resource teachers play in the instruction and curriculum design.
6. Design and assess projects that are creative, innovative, and problem solving in nature.
7. Explore parts of the curriculum lend themselves to the new technologies and new ways of learning.
8. Teach appropriate use of these emerging technologies.

Definition of Technology

The definition of technology that the technology committee adopted is: "Technology is the combination of human imagination, inventiveness and electronic tools that transform ideas into reality, communicate information, or solve a problem." Electronic tools are meant to include computers, smart phones, video and audio technology, robotics, educational software, subscriptions, and the Internet.

Age-Appropriate Technology

Technology is appropriately integrated at all grade levels. Teachers are expected to utilize appropriate instructional technologies to make learning more relevant and engaging. The use of Smart Boards, document cameras, digital cameras and other instructional tools are used at all grade levels. As students move through grade levels they are given more opportunities to use a variety of technologies to innovate, communicate, and create products to demonstrate their learning.

Risks and Concerns

There are risks to any change, including the use of technology at Bertschi. Below are some risks we have identified and our strategies for managing these risks:

Risk/Concern	Strategy
The ergonomic and physical interactions associated with using technology can have adverse physical effects.	<ul style="list-style-type: none"> • Ensure students have the proper physical arrangements for using technology in an ergonomically appropriate way. • Minimize any potential physical harm associated with using keyboards, earphones, and screens.
The internet is rapidly evolving as a social network where people interact and engage in social activities with family, friends and strangers.	<ul style="list-style-type: none"> • Students will be taught the appropriate etiquette when using social networking applications.
Using the internet exposes children to a wide variety of inappropriate material and the potential for inappropriate contact with adults.	<ul style="list-style-type: none"> • Teach students basic Internet safety using a standard curriculum. • Teach students the ethical, legal, and responsible considerations when using the Internet. • Provide Internet filtering at school to minimize exposure to inappropriate material. • Enforce the Bertschi Internet Use Policy • Provide parents with guidance and resources so that they can support and reinforce Internet safety at home.
Integrating technology into the curriculum can consume time and resources, which can potentially detract from the learning goals of the curriculum.	<ul style="list-style-type: none"> • Technology will be used to enhance and support the curriculum. • Appropriate technologies will be introduced and differentiated across grade levels.
Students read and learn in age and developmentally appropriate ways. The internet and software applications are not necessarily created and organized for children.	<ul style="list-style-type: none"> • Emphasize the auditory and visual aspects of technology with younger students (PreK & K) • Utilize appropriate technologies for both instructional use and student use at all grade levels. • Select age appropriate Internet resources and subscription services. • Utilize software and Internet resources to target teaching and learning objectives. • Teach students how to navigate and evaluate Internet resources.
Technology applications rapidly change and evolve. Applications and procedures taught today will likely be significantly different in the coming years.	<ul style="list-style-type: none"> • Emphasize using a wide variety of applications as tools for students to solve problems and encourage creativity.

III. Program Implementation

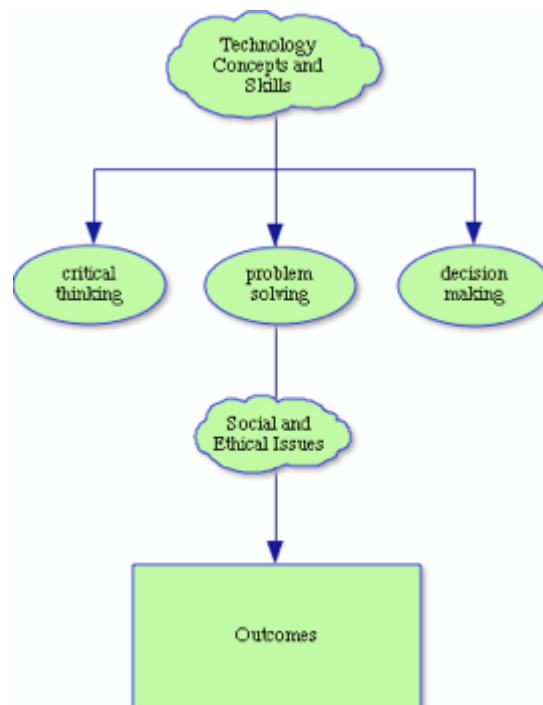
Overview

We acknowledge that technology will continue to revolutionize the classroom and we will continue to expand our ability to use technology as an integral learning tool. As we expand our use and understanding of technology across all disciplines we will provide students with a wide range of experiences using a variety of technology tools to learn in creative ways. We believe that the implementation of a one to one computer to student ratio will adequately support and enhance the use of technology in a more integrated fashion.

Our program will stimulate intellectual curiosity by maintaining a strong, integrated educational program that recognizes student readiness, learning styles, interests and social and emotional development. Teachers will be encouraged to be innovative in the classroom and we will provide all educators ample professional development opportunities, time, resources, and the support necessary to incorporate new technology skills in the learning process.

Framework for Thoughtful Technology Integration

The framework for thoughtful technology integration was developed to serve as a tool for planning technology use within the curriculum. It provides a tool for teachers to reflect on their instruction and use technology in ways that support learning goals.



ISTE Technology Standards

Bertschi School has adopted the ISTE (International Society for Technology in Education) NETS (National Educational Technology Standards) for students, teachers, and administrators. The ISTE standards identify the skills and knowledge that are required to succeed in using technology in schools. These standards were developed over a number of years engaging a broad range of stakeholders in the field of education and technology. Following is a breakdown of each set of standards and a brief outline as to how they will be implemented within our school and program:

Teacher ISTE Standards

1. Facilitate and Inspire Student Learning and Creativity
2. Design and Develop Digital-Age Learning Experiences and Assessments
3. Model Digital-Age Work and Learning
4. Promote and Model Digital Citizenship and Responsibility
5. Engage in Professional Growth and Leadership

Bertschi Teacher Implementation

- Teachers work with Educational Technology Coordinator to integrate technology standards with curriculum.
- Teachers work with Educational Technology Coordinator to learn to use new technology tools and skills.
- Teachers will attend in-house training sessions, with clock hours when possible, from outside professionals (i.e. SmartBoard, document camera, netTrekker, new grading software, etc.)
- Teachers will take advantage of funded professional development classes outside of the workplace.
- Teachers will continue to be encouraged to support one another via peer coaching and just-in-time training.
- Teachers will utilize library resources to incorporate technology integration standards.
- Teachers will continue to use technology to communicate with school community.

Student ISTE Standards

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving, and Decision Making
5. Digital Citizenship
6. Technology Operations and Concepts

Bertschi Student Implementation

- Students will have consistent access to technology.
- Curriculum incorporates opportunities for students to learn and utilize new technology tools.
- Students are provided instruction on the ethical, legal, safe, and responsible use of

technology.

- 21st Century information literacy skills will be integrated into the curriculum.
- Students are provided opportunities to use technology to communicate and share their ideas and work.
- Students are involved in using technology to understand and evaluate authentic environmental and societal challenges.
- Students are provided opportunities for peer teaching, interaction and collaboration.
- Students will integrate the sustainability concepts into their work in the field of technology.

Administrator ISTE Standards

1. Leadership and Vision Educational leaders inspire a shared vision for comprehensive integration of technology and foster an environment and culture conducive to the realization of that vision.

2. Learning and Teaching Educational leaders ensure that curricular design, instructional strategies, and learning environments integrate appropriate technologies to maximize learning and teaching.

3. Support, Management, and Operations Educational leaders ensure the integration of technology to support productive systems for learning and administration.

4. Assessment and Evaluation Educational leaders use technology to plan and implement comprehensive systems of effective assessment and evaluation and performance in using technology and use results to facilitate high-quality professional development and to inform personnel decisions.

5. Social, Legal, and Ethical Issues Educational leaders understand the social, legal, and ethical issues related to technology and model responsible decision making related to these issues

Bertschi Administrator Implementation

Administrators will work with staff to ensure that technology is available in a timely manner to be successfully integrated into the curriculum.

Administrators will develop adequate infrastructure, training and support systems to ensure successful use of technology in the school and classroom.

Administrators will provide the necessary tools to allow teachers to assess, manage, and implement technology-related student projects.

Administrators will provide oversight and systems to ensure technologies are implemented with the proper social, legal, and ethical considerations.

Curriculum Integration

Classroom

Technology will be used to enhance instruction and engage students in the learning process. It will also be used to enable students to demonstrate learning and produce products that reflect curriculum learning goals. Teachers will work with Educational Technology Coordinator to create new curriculum and learn to use new hardware to integrate 21st Century technologies into their curriculum.

Art/Music/Drama/Language

Technology will be used in to enhance learning and to showcase student work to the broader Bertschi community.

Information Science (Library)

Utilize library resources as information center to incorporate 21st Century Literacies.

Science and Robotics

Bertschi sees a close relationship between science and technology. Science and technology faculty work together in areas such as robotics and Vernier™ Probeware. Using Vernier probes/sensors, students can measure motion, light, temperature, pressure and other factors in their environment and display, graph, analyze, and recall data. Using Lego robotics equipment and sensors, students can design, construct, program and operate robots that perform specific tasks and interact with their environment.

Technology Resources for Instructional Integration

A critical component of successful technology integration is access to up-to-date and reliable resources for students and teachers. Teaching and learning is a dynamic process and technologies must be available and supported to accommodate the learning environment. The time and effort to utilize technologies must be minimized in order to maximize timely and successful integration. This requires training, support, backup systems, updating, and a constant assessment and maintenance of hardware and software to ensure seamless and reliable integration.

Hardware

The 21st century classroom environment needs to be dynamic, flexible, connected and interactive for teachers and students. The following are hardware resources we have identified that can fulfill this commitment of creating an ideal classroom teaching and learning environment:

Smartboards: Providing an interactive, visual learning tool for students.

Document Cameras: Providing ease of displaying information and student work.

Projectors: Making the classroom rich with visual learning stimuli.

Digital cameras: Documenting student work and student experiences. Providing a powerful way to convey student activities with the broader Bertschi community.

Printers: Providing a convenient way for students to publish work in a timely manner.

Scanners: To enable the digitization of materials for inclusion in student projects.

Computers: Access to computers for just-in-time research and student productivity.

Internet Access: Wireless and wired for seamless connections to resources and communication tools.

Software

Software applications still provide the mainstay for students to create products that demonstrate learning. Students will use a wide variety of software tools to create, present, and publish work related to their class assignments. The range of applications will include word processing, spreadsheets, presentation tools, audio/visual creation tools, communication applications, assessment and collaboration tools. Used together these instruments will enable students to analyze information, think critically about problems, and find new ways to communicate ideas.

Electronic Subscription Services

More information resources are becoming available on a subscription basis. Software applications and electronic resources that were traditionally “packaged” products are migrating to web-based applications or services. This new model requires a flexible and long-term approach to acquiring and deploying these subscriptions. This also presents a unique opportunity to strengthen the home-school connection with subscriptions and applications that can be made available to students at home. This extends and enhances the learning outside school hours. Students can access information and learn skills in a highly differentiated way. Curriculum offerings can be extended to meet the needs of individual students and families by allowing access from various locals.

Teachers can also benefit from these electronic subscription services for professional development, collaboration, training and curriculum development,

Access to Technology Resources

Classroom

The classroom becomes the primary location where technology can be used seamlessly to enhance the learning environment. Having a wide variety of tools available at hand for both instruction and learning enables teachers to engage students in a collaborative and interactive way. Technology can also be used to differentiate the learning goals so that all students can reach their potential. (See hardware list above for the recommended tools for the classroom.)

Campus

All parts of the Bertschi campus are potential learning spaces that students and teachers can use. A robust wireless network is essential for enabling immediate and reliable access to all resources. Fixed networks can also facilitate access for more advanced audio and video collaboration tools around the campus.

Technology Media Center/Computer Lab

While a majority of the access to technology should take place within the classroom there is still a need for a group instruction environment that can be used for training and skill development. The traditional “computer lab” concept needs to have a broader use to accommodate the evolving needs of students and technology. In addition to a fixed set of computers to accommodate group instruction for a class a future media center at Bertschi may include:

A recording studio used to create high-quality audio, vocal and musical instrument recordings, a video production studio to provide students with a location to design and produce video projects, and a broadcast studio that can be used by students and staff to create visual media projects for distribution to the broader Bertschi community.

Staff Roles

Educational Technology Coordinator As well as working closely with the Technology Director and the Technology Support Specialist, the Educational Technology Coordinator works closely with, and supports, students and teachers in learning and advancing technology skills throughout the grade levels.

Technology Director * The Technology Director is responsible for the infrastructure that supports the technology program as well as faculty and staff technology. He purchases and manages technology hardware and software, manages the technology budget and manages network services.

Technology Support Specialist The Technology Support Specialist’s primary responsibility is tech support for faculty, staff, and students. Maintains all classroom technology hardware and software, provides user access to network services, as well as direct program support.

Classroom Teacher Collaborates with Educational Technology Coordinator to find authentic ways to integrate technology into the curriculum. Strives to incorporate appropriate technologies as a regular part of the teaching and learning process.

School Administrators Support and facilitate the seamless use of technology as it is used by teachers and students for learning and other school-related activities. The Technology Director and Technology Support Specialist work closely with the Educational Technology Coordinator in determining hardware, software, and support needs for the program.

V. Technology Grade Level Benchmarks

By the end of first grade students should be able to:

Benchmark	ISTE NETS Standard
Use the trackpad or a mouse	6-a
Identify basic parts of a computer	6-a
Log on to and off of the network and find their own documents and applications folders.	6-a
Understand expectations for basic care and use of computers at school.	6-a
Open and close applications	6-a
Create and save documents	6-a
Create a simple multimedia project (KidPix slideshow) about a particular unit of study.	1-b, 2-d, 4-b
Take a photograph of self for use in projects	6-a, b

By the end of second grade students should have mastered all first grade skills and be able to:

Benchmark	ISTE NETS Standard
Begin to develop understanding of how the computer is used as a learning tool.	6-a
With teacher supervision, access curriculum-related websites for information.	3-a, b, c
Type with two hands, understanding the home row and how to use the shift, tab and space bar keys.	6-a
Collaborate with a partner or group, communicating ideas effectively.	2a-b
Contribute to project teams to produce original works or solve problems.	2-d

By the end of third grade students should have mastered all first and second grade skills and be able to:

Benchmark	ISTE NETS Standard
Create original works as a means of personal or group expression.	1-b
Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.	2-a
Plan strategies to guide inquiry.	3-a

based on the appropriateness to specific tasks.	
Process data and report results.	3-d
Advocate and practice safe, legal, and responsible use of information and technology.	5-a
Exhibit a positive toward using technology that supports collaboration, learning, and productivity.	5-b
Select and use applications effectively and productively.	6-b

By the end of fourth grade students should have mastered all first, second, and third grade skills and be able to:

Benchmark	ISTE NETS Standard
Communicate information and ideas effectively to multiple audiences using a variety of media and formats.	2-b
Develop cultural understanding and global awareness by engaging with learners of other cultures.	2-c
Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.	3-b
Plan and manage activities to develop a solution or complete a project.	4-b
Collect and analyze data to identify solutions and/or make informed decisions.	4-c
Troubleshoot systems and applications.	5-c

By the end of fifth grade students should have mastered all first, second, third, and fourth grade skills and be able to:

Benchmark	ISTE NETS Standard
Apply existing knowledge to generate new ideas, products, or processes.	1-a
Use models and simulations to explore complex systems and issues.	1-c
Identify trends and forecast possibilities	1-d
Identify and define authentic problems and significant questions for investigation.	4-a
Demonstrate personal responsibility for lifelong learning.	5-c
Exhibit leadership for digital citizenship.	5-d
Understand and use technology systems.	6-a
Transfer current knowledge to learning of new technologies.	6-d

V. Infrastructure, Inventory and Support

Infrastructure

The six buildings of the Bertschi campus are connected via a fiber backbone with switched 10/100baseT in each building. Multiple outlets are located in each room with category 5 cabling connecting them to a data closet in that building. The cabling system is set up in a manner that provides a universal cabling system that can be used for both the data network and the telephone system.

The campus is also equipped with a secure wireless network consisting of eight wireless hubs that provide coverage for the entire campus including outdoor areas. All Bertschi laptops have wireless capability and can connect to the network through either the wired or wireless system.

Internet service for the campus is provided by a 1.5 Mbs DSL connection as well as a T-1 connection that also serves the telephone system. Network security is provided by a firewall device that includes virus protection and Internet content filtering. An email filter is also in place.

Hardware and Software Inventory

Hardware Inventory

As of May, 2009 there are 220 computers and 26 printers on the Bertschi campus. Table 1 below shows the distribution of computers by use. The majority of student and faculty computer hardware is manufactured by Apple, with a mix of Dell and Apple in the admin and server areas. The majority of the printer hardware is Xerox, Ricoh, and HP. Networking hardware is primarily 3Com.

The age of most of the computer hardware ranges from new to 6 years old. The printers are from new to 6 years old. The server hardware ranges from new to 8 years old. Networking hardware also varies in age from new to 8 years old. In most cases, as equipment ages it is moved to a lesser demanding role in the network.

Use	May 0809	0910	1011	1112	1213
Student Laptops – Grades 2 to 5	139	139	149	158	159
Student Desktops – Grades 2 to 5	12	12	8	8	8
Faculty Laptops	34	34	35	35	36
Faculty Desktops	2	2	2	3	3
Admin Laptops	11	11	12	12	13
Admin Desktops	15	15	15	16	16
Servers	7	8	8	8	8
Total	220	221	229	240	243

Table 1 Total Computers on campus as of May 2009 and prediction for next 4 years.

The first four rows of table 1 above indicate all of the computers used by students and faculty for the education program. This includes the computer lab, Library, classrooms, and Learning services. The technology education program budget includes all computers, associated hardware, and supplies used by students and faculty.

Table 2 below, indicates the classroom laptops dedicated to each grade level and the ratio of laptops to students for the next four years.

Grade	# of Students	0809 Laptops	Ratio	0910 Laptops	Ratio	1011 Laptops	Ratio	1112 Laptops	Ratio	1213 Laptops	Ratio
2	34	18	1:2	18	1:2	18	1:2	18	1:2	18	1:2
3	36	27	1:1.3	27	1:1.3	27	1:1.3	36	1:1	36	1:1
4	36	18	1:2	27	1:1.3	36	1:1	36	1:1	36	1:1
5	36	36	1:1	36	1:1	36	1:1	36	1:1	36	1:1

Table 2 – Classroom Laptop Computers to Student Ratio 0809 through 1213.

Software Inventory

There are currently over 50 software titles in use by Bertschi students and faculty. Licenses range from lab packs to networked site licenses. Many are web-based applications and we are moving toward more use of web resources. Streaming video or a video server is being evaluated to add this resource for student learning. Assessment software is in use and online versions are being explored.

Software is selected in a number of ways. Often individual teachers will select a software title for use in their class. The Education Technology Coordinator selects software for the lab and also works with teachers to help them find software for their classrooms to support their curriculum. The technology support staff also research and evaluate software for classroom use.

Technical Support

Support for the faculty, students, and admin staff is currently provided by the Technology Director and the Technology Support Specialist. The Technology Director also provides long-range facilities planning support for the administration and at times splits his time between these two functions

VI. Budget and Funding

Overview

Starting in 1996 the Board has included the technology program as a line item in the school's operating budget. Table 3 below shows the amount allocated for technology for the 0809 through 1213 school years, broken down by budget category.

The proposed budgets for the four years starting in 2009-2010 are based on the 2009-2010 budget with a 3% per year increase for the subsequent years. This budget only covers hardware, software, and infrastructure for the educational program. Administration hardware and software are *not* included though network and server equipment is included if it supports the educational program.

Budget Category	% of Budget	2009-2010	2010-2011	2011-2012	2012-2013
Computers and Equipment	62.7%	66,500	68,495	70,550	72,666
Network Equipment and Software	12.3%	13,000	13,390	13,792	14,205
Teacher Specific Software	1.2%	1,250	1,288	1,326	1,366
Classroom Software	7.1%	7,500	7,725	7,957	8,195
Tech Supplies	4.5%	4,800	4,944	5,092	5,245
Equipment Repairs and Upgrades	9.0%	9,500	9,785	10,079	10,381
Technology Classroom	1.7%	1,750	1,803	1,857	1,912
Robotics	1.7%	1,750	1,803	1,857	1,912
Total	100.0%	\$106,050	\$109,232	\$112,508	\$115,884
Cost Per Student (225 Students)		\$ 471.33	\$ 485.47	\$ 500.04	\$ 515.04

Table 3 - Four Year Technology Budget Category Breakdowns

Planning for the Next Four Years

The implementation of the four-year technology plan will involve closely aligning the purchase of the budgeted items with the program. As in the past, we are able to make adjustments to the expenditures as the program evolves, allowing for flexibility in the program. We do this, recognizing that all hardware and software has a lifespan. The four budget years of this plan assume scheduled replacement of existing hardware with some increases in the total number of computers in the program.

The above budget reflects an average replacement cycle of 4 years for the laptop computer hardware for the grade 3 to 5 classrooms, library, technology lab, and faculty. Laptops tend to age more quickly than desktop machines so their replacement needs to be on a four-year cycle. This replacement schedule is consistent with that of our peer schools. The budget also includes replacing all laptop batteries at the end of their second year, which is half way through the laptop's lifespan. Desktop computer hardware and printers will be replaced on a five-year cycle.

Document cameras, digital projectors, and interactive white boards are being added to the classrooms each year as the budget allows. The above budget allows for all graded

classrooms and most resource classrooms, including Learning Services to have this equipment by the start of the 1213 school year.

As we progress toward a 1:1 laptop to student ratio in the grade 3 to 5 classrooms over the next three years, technology support time, software licensing, and network infrastructure may also need to be increased to support the increased number of laptops.

Budget Summary

The technology program is adequately funded to maintain its current level of hardware and software with expansion to reach a one computer per student ratio in the grade 3 to 5 classrooms in the next four years. As laptops age, most of them will be replaced on a four year cycle. The laptop replacement cycle will be every four years. Desktops, peripherals, AV equipment, and other hardware will be upgraded or replaced on a somewhat longer cycle. The Computer Lab has enough computers for one whole class to have a dedicated machine per student. The Library has enough for half of one class to have a dedicated machine. Each faculty member and full-time support staff member has a dedicated laptop for his or her use. Document cameras, digital projectors, and interactive white boards are being added to classrooms as the budget allows.