

Burlington Community School District

1:1 Initiative Plan

April 18, 2013



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Introduction

In 2002, a select group of schools in the state of Maine embarked on a project to place a computing device in the hands of every student. For the next 10 years, school districts across the nation have struggled with the unique challenges to follow in the footsteps of these pioneers.

Students today grow up in a world that would be foreign to a generation born 10 years before. The digital revolution has changed how we consume information, work, play and learn. It is clear that BCSD needs to prepare our students to live and work in this new digital world.

Background

BCSD has been working every year to improve the network infrastructure, bandwidth of Internet access, and the number of computers. As we continue to improve student access to technology and the internet, we saw that there would be a day when we could provide a device to every student. The tech committee for the BCSD has determined that the district is in a position where we can provide a device to every student.

Rationale

Providing a device for every student is not about the device, equality, or the access to the Internet. It is about instruction. When we provide teacher and student with the resources, access, training, and support, we have the opportunity to transform learning. The technology is the tool that allows the classroom to expand. No longer are the teachers and students bound by a the same lesson plan and information contained in a textbook written years ago. Nor is learning limited to only the people within their 4 walls. The technology allows teachers to effectively differentiate their students' learning, expand their classroom resources beyond the classroom and the school library, and to reach out to fellow learners across town or oceans away.

By providing a device for every student, the teacher can effectively integrate the technology into the curriculum without worrying about sharing the resources with the other teachers. At this time, the number one issue with technology is consistency of access. In our two most modern buildings with the most labs, Aldo Leopold and Edward Stone, there are seven classrooms to one lab. So, each teacher has access less than one day a week to a lab. Technology cannot be transparent to the learning environment until there is no need for sharing devices.

Plan

Infrastructure

In the past 4 school years, the Technology Department has been focused on a step by step approach to improving the infrastructure of the district. One of the foundational principles used to direct the upgrades is the eventual need to have one device per student. Any 1 to 1 device would need to connect to the network through a wireless connection. Currently, the network infrastructure between buildings and to Great Prairie AEA is in place to deliver high speed internet to every classroom. Enterprise wireless systems that are centrally controlled and balanced are installed in: Aldo Leopold, Edward Stone, North Hill, Corse, Grimes and 3 regions of the High School.

Internet Connectivity

BCSD network is serviced by a 250 Mb/s network connection from the Iowa Communication Network through Great Prairie AEA. The connection from BCSD to GPAEA is a single mode fiber line that can be upgraded to 10 Gb/s or higher as technology advances. This infrastructure allows BCSD to grow in internet connectivity to meet any future needs.

Wireless

BCSD's wireless network is designed for coverage at this time. This allows a limited number of clients access anywhere in our buildings. Our plan includes moving our wireless design from coverage to density. This plan states that each classroom will be equipped with a managed access point that can support 50+ devices. A density design will give BCSD's 1:1 initiative the connectivity required.

Support

In our investigation, one area of all successful 1:1 initiatives for large schools was that of professional development and instructional support. In our survey of the staff, in the fall, the greatest concern was for professional development and support. We have identified three levels of support that BCSD must add to the current support that is provided by the BCSD Technology Department. Without these extra support positions, the technology committee advises not to pursue a 1:1 initiative.

Technology Integration Support Specialist

This position would be a certified teacher with a Masters in Curriculum or Instructional Technology and have experience in the use of technology in their classroom. The Technology Integration Specialist would aid teachers in integrating the 1:1 device into their curriculum. This staff member would also work with administrators to continue to define ongoing goals and objectives of the 1:1 initiative. The tech committee recommends that the district hire one for every level: High School, Middle and Elementary.

Tier One Support Staff

The role of tier 1 support was provided by teachers until the 2009 school year. Due to budget cuts, the teacher stipend was removed from the budget. The teacher tech coach position has never been resurrected. In the 2013 tech audit, the auditors identified that tier one support needs to be addressed. They suggested that we employ associate level staff at 5.5 hours a day as tier one support staff. These associates would have a certification requirement and would work on problems for a maximum of 20 minutes before escalating the issue to tier 2 support. Tier 2 support would be the current technology support specialists. The tech committee recommends hiring 8 associates, one for each instructional building.

Student Support Staff

In many successful 1:1 initiatives, BCSD staff has seen student IT support. Most of these examples are in the form of a building centered help center to support hardware issues. Creating a system where students help students will provide better support to the initiative and also give student's interested in the IT field a chance to experience live support situations.

Administration

The committee recommends that there be designated educational leadership assigned to the district wide initiative. One educational administrator should be assigned part-time responsibilities for oversight of the effective use of the devices in the classroom and integration into the curriculum. We envision the supervisory of the Technology Integration Support Specialists will be the responsibility of this administrator.

Device

The tech committee has considered many possible devices. Cost of the device, usability, keyboard and manageability were all factors. The tech committee recommends that BCSD go in to a 1:1 initiative with the Google Chromebook, specifically the Samsung Chromebook 3 for grades 6 - 12. The cost, usability and management allows BCSD to keep Tier 2 technology staffing at current levels, and add the Tier 1 support as well as the Technology Integration Specialist. The technology

committee understands that a device is very important to the 1:1 initiative, but it takes a distant second to strong support structure, professional development and the technology integration specialist. Without this support, a 1:1 initiative device will only become a digital pencil and paper and a waste of valuable resources.

The tech committee also recognizes that technology changes quickly. The technology committee will recommend a device for grades K - 5 by the end of the first semester of year two of the 1:1 implementation.

Software

A device is only as good as the software that it runs. BCSD is looking at 3 specific areas of software excluding the vast resources of the Internet and our current systems that need to be part of this plan.

Email

Currently students have Gmail accounts as part of their Google Apps for Education (GAFE) account. Teachers, staff and administrators are served by an internally housed Exchange 2010 server. It is highly recommended by the technology department and the tech committee to move all employees from the Exchange 2010 server to Gmail. This will give significant cost savings that will help offset the costs of the 1:1 device.

Productivity Suite

A productivity suite allows us to create digital content in the form of documents, spreadsheets, presentations and drawings. The most common software suite is Microsoft Office. We propose that we use the online suite called Google Apps for Education (GAFE). This is a free productivity suite provided to education institutions from Google. This suite can be accessed by any modern internet browser on any internet connected computer. This suite is also the base suite for the Google Chromebook. GAFE also has email, website creation, and survey systems built in that are not part of other productivity suites. GAFE is not new to BCSD. Many teachers throughout BCSD have been using GAFE for 2 or more years.

Device Management

When BCSD teachers were surveyed, one of the biggest concerns that surfaced was that of classroom management and management of the device. Each device that was evaluated had a different degree of management. The Google Chromebook came to the top with the most comprehensive management in both the classroom and outside the classroom. Chromebooks are managed through the same control panel that is used for GAFE. This gives GAFE and Chromebooks a seamless management experience.

Teacher Dashboard for Google Apps from Hapara with Chromebook management will be used for classroom management. This service will integrate with Infinite Campus and GAFE to provide teachers with a full featured management suite. Teacher Dashboard will allow teachers to distribute assignments, collect assignments, open tabs on student machine and many other management activities. With integration with Infinite Campus, the teacher will not be required to set up their classes. Roster changes will also automatically update in Teacher Dashboard.

Learning Management System (LMS)

A learning management system is a software platform that creates a common place for teachers and students to access. This system will allow teachers to build digital coursework and curriculum. A LMS will offer a level a management but offers much more. The tech committee would like to investigate if BCSD needs a separate LMS outside of GAFE and Teacher Dashboard. This decision needs to be determined in the first semester of year one.

Insurance and Warranty

The BCSD administration will have to discuss if BCSD will be self insured like Council Bluffs or use a company like Worth Group to cover ongoing repairs. The tech committee does not have a preference on this issue and asks the administration to decide this point. This decision will be made before the end of year one of the 1:1 implementation.

Timeline

Year One

- i. Hire a Technology Integration Specialist for BCHS.
- ii. Hire Tier 1 support associates for each school.
- iii. Provide the same 1:1 device for student in year two for all teachers at BCHS.
- iv. Identify 10 to 12 high school teachers that want to pilot a 1:1 classroom. They will each be issued a classroom set of devices. These teachers will become our “master teachers” as the initiative continues.
- v. Move BCHS’s wireless network from a coverage system to a density system.
- vi. Move email from internal Exchange server to Google’s Gmail under the BCSD Apps Domain for all staff members.
- vii. Setup Hapara’s Teacher Dashboard for use at BCSD.
- viii. Evaluate the need of an LMS along with Teacher Dashboard
- ix. Provide Professional Development in Google Apps for Education (GAFE) and encourage all teachers to start using the GAFE.
- x. Develop student staffed support structure at BCHS. Supervising teacher, Tier 1 and Tier 2 support personal presence, and if this will be offered for credit.

Year Two

- i. Provide students grades 9 - 12 a 1:1 device to take home.
- ii. Hire a second Technology Integration Specialist for ALMS and ESMS.
- iii. Provide the same 1:1 device for student in year three for all teachers at ALMS and ESMS.
- iv. Identify 10 to 12 middle school teachers that want to pilot a 1:1 classroom. They will each be issued a classroom set of devices. These teachers will become our “master teachers” as the initiative continues.
- v. Expand Teacher Dashboard license to include grades 6 - 8.
- vi. Determine Elementary 3-5 device.
- vii. Provide ongoing professional development.
- viii. Evaluate the 1:1 initiative.

Year Three

- i. Provide students grades 6 - 8 a 1:1 device that will stay at school.
- ii. Hire 1 additional Technology Integration Specialists to serve the 5 elementary buildings.
- iii. Provide the same 1:1 device for student in year four for all grade 3 - 5 teachers at the 5 elementary buildings.
- iv. Identify 10 to 15 elementary school teachers that want to pilot a 1:1 classroom. They will each be issued a classroom set of devices. These teachers will become our "master teachers" as the initiative continues.
- v. Expand Teacher Dashboard license to include grades 3 - 5
- vi. Determine the proper device for Grades K-2 and the ratio to student.
- vii. Provide ongoing professional development.
- viii. Evaluate the 1:1 initiative.

Year Four

- i. Provide students grades 3 - 5 a 1:1 device that will stay at school.
- ii. Evaluate if year two student devices will be usable for a 4th year.
- iii. Provide all teachers K - 2 with the device chosen for the student device.
- iv. Identify 10 to 12 elementary school teachers that want to pilot a 1:1 classroom. They will each be issued a classroom set of devices. These teachers will become our "master teachers" as the initiative continues.
- v. Provide ongoing professional development.
- vi. Evaluate the 1:1 initiative.

Year Five

- i. Provide students grades K-2 a 1:1 device that will stay at school.
- ii. Provide ongoing professional development.
- iii. Evaluate the 1:1 initiative.

Year Six

- i. Refresh all High School student and teacher Chromebooks.
- ii. Provide ongoing professional development.
- iii. Evaluate the 1:1 initiative.

Budget

The technology committee along with the superintendent of schools, recommends that funding for year two and onward in an amount of \$350,000 per year with funding source to be determined. The committee found, in our visits, most districts fund their 1:1 initiatives from PPEL (Physical Plant and Equipment Levy). It is also recommended that the current technology department budget continue to be funded at the current level.

Conclusion

Technology is no longer a luxury in the classroom fated to the few. Technology is a vital, if not required tool, to the modern classroom. With every student equipped with a device, the teacher has the resources to meet the wide range of needs of their students. We ask that the board make this modest commitment to provide tremendous return in student engagement and learning.