



Three-Year Technology Plan
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Introduction

Since 2011, Bremen City Schools has lowered the student-to-device ratio from 2.24 to 1.49 in 2017. Our progress toward a one-to-one student to device ratio is slower than some districts due to Bremen City Schools' limited access to federally and state funded programs. Due to these limitations, Bremen City Schools has been forced to utilize E-SPLOST or general funding for computer devices. The Board of Education has approved funding of computer device leases totaling over 1.3 million dollars since 2011. By continuing to utilize existing Chromebook devices and adding an estimated 2,000 more Chromebooks over the next two years, we expect to reach a district-wide one-to-one student-to-device ratio by FY 2019.

Approximately \$165,000 has been approved by the Board of Education over the past 3 years toward the progressive replacement of interactive classroom displays. Currently, every classroom at Jones Elementary School has a newly installed interactive projector, and many more have been replaced throughout the rest of the district. In order to proportionate annual spending on this project, we expect to have all classroom interactive display devices replaced by the summer of 2019.

Over the past two years, the Bremen City Schools Technology Department has also utilized approximately \$300,000 of funding from the Connections for Classrooms Grant provided by GaDOE and GOSA, and federal E-Rate funding to upgrade the network infrastructure throughout the district which began in the summer of 2015. In addition to the increase in Internet bandwidth provided by GaDOE, we have upgraded the network infrastructure to provide a 10 GB WAN backbone, and installed an 802.11ac wireless access point in virtually every instructional room throughout the district. The intermediate data frames throughout the district will be upgraded in the summer of 2017 in order to provide a 10 GB LAN backbone for each school campus. We expect the network infrastructure to be able to handle over 4,000 concurrent wireless device connections district-wide, easily providing for expected enrollment growth over the next several years.

Bremen City Schools has been able to perform 100% online testing at the high school level since the 2013-2014 academic school year and by utilizing district Chromebook devices, began performing 100% online testing from elementary through middle school grade levels beginning in the 2015-2016 academic year. Outside of the typical cloud-based technical issues that were experienced by all GaDOE districts during the 2016 spring End of Grade (EOG) and End of Course (EOC) testing, the technology devices and infrastructure at Bremen City Schools performed well. We successfully performed the 2016 winter EOC testing with no problems and expect the infrastructure and devices to successfully allow for 100% participation of the 2017 spring EOG and EOC online testing as well.

Components for System-Level Technology Plan

I. Vision for Technology Use

Bremen City Schools Purpose Statement:

Bremen City Schools is committed to a shared purpose which is “excellence in all we do.” Expectations for student learning are high in the system. The community and parents expect the school system to provide an education that is exemplary. An expectation of excellence is interwoven into everything.

Technology Vision and Mission:

We share a belief that the effective and efficient use of technology will enhance the quality of teaching and positively impact the learning process. We envision an educational environment rich with opportunities allowing all learners access to the benefits of technology. This educational environment will allow our students to be lifelong learners, problem solvers, responsible citizens, and productive in a changing society. This technology vision supports the purpose statement of the school system.

The objective of the Bremen City Schools technology plan is to aid and improve student achievement and teacher performance. The fulfillment of this objective will require the latest technology be made available, sufficient training of teachers and a curriculum that properly utilizes the technology.

Over the next 3 years we envision:

- Schools will be a dynamic environment where all students and staff have ready access to a full range of current technology, software, as well as online applications and information.
- Comprehensive professional development to provide the knowledge and skills necessary to seamlessly integrate technology into the curriculum.
- The active use of technology hardware such as computers, tablets or other mobile devices, interactive projectors, and student response systems in order to provide enhanced instruction.
- The use of web-based technology such as Georgia Online Formative Assessment Resource (GOFAR), USA Test Prep, Study Island, Renaissance Learning and other such applications to support all learning across the curriculum, for direct instruction in rigorous courses, benchmarking and progress monitoring of math and ELA skills.
- The use of online learning management software in order to facilitate communication between teachers and students, promote collaboration between students, and provide the students and teachers with 24/7 access to their classroom assignments and curriculum in a web-based environment.
- The use of the student information system and Georgia SLDS to supply and access the information necessary to develop appropriate educational strategies.
- The effective evaluation and use of the latest technology to decrease the student to computer ratio and provide a more robust and efficient computer and network environment.

- Encourage parent and community use of available technology resources to aid and support in increasing student achievement.

II. Current Reality

Instructional Use of Technology

Bremen City Schools utilizes a wide variety of technology tools to enhance the overall instructional process. Through the use of the district network, Bremen City Schools is able to provide collaboration, communication and instructional resources. Active incorporation of technology into direct instruction is increasing dramatically, with interactive white boards and projectors being utilized daily for classroom presentation and instruction, interactive web-based applications, and in conjunction with the handheld student response systems.

A monthly, collaborative meeting between the Media Specialists, Teacher Leaders and the Technology Department is intended to develop a more organized approach to the vertical alignment of technology use in the classroom. Another purpose of this monthly collaboration is to provide more in-room, instructional technology training for faculty of all grade levels. Although our budget currently does not allow for full-time Instructional Technology Specialists, we plan for this collaboration to provide some of the support the faculty might receive from such a position. The "Lunch and Learn" meetings currently provide hands-on training for instructional technology, and are the types of opportunities we would like to increase. The expectation is that we will see an increase in the utilization of the instructional and assessment tools we currently provide, such as Google Drive and other cloud-based products, Google Classroom, Google Read&Write, Quick Key, Remind, Renaissance Learning, Discovery Education, and Safari Montage. We also expect new and exciting instructional tools be added to that list as we increase technology proficiency and promote imaginative uses of new technology.

Read&Write for Google Chrome is a good example of a new instructional tool that has been used by our Special Education Department (SED) this year. Read&Write for Google Chrome offers a range of powerful support tools to help students gain confidence with reading, writing, studying and research, including: hearing words, passages, or whole documents, read aloud with easy-to-follow dual color highlighting, seeing the meaning of words explained with text and picture dictionaries, receiving suggestions for the current or next word as students type, turning words into text as students speak, highlighting text in documents or on the web and collect for use in other documents, creating and listening to voice notes directly inside of Google Docs, and simplifying and summarizing text on web pages. Our SED faculty is very excited about this new tool and is finding new ways each day to utilize it to help students.

The district also utilizes stationary and mobile computer labs to provide student access to web-based applications such as the Renaissance Learning Suite (Accelerated Reader and Star), Reading Horizons, Read Naturally, Fast Math, Fraction Nation, AIMSweb and many others.

Administrative Use of Technology

Administrative access to technology is consistent across the system. All schools use the student information system for student records and data access. Grade reporting through the student information system is utilized at all schools from grade 2 and up. All members of the faculty are provided with a district-owned notebook computer, and all schools have access to the district telephone system and email for communication.

Parent/Community Use of Technology

Across the system, the primary parent/community use of technology is accomplished by providing each teacher with a school email address and voicemail to facilitate communication with parents. Most schools send out weekly

newsletters via e-mail, either by grade level or even individual classes, to keep parents informed and involved. All teachers and administrators are required to use a texting program to communicate with the parents and the teachers about upcoming assignments and events. In addition to the Bremen City Schools website, each school also has a website which provides information to parents, students, and community members. School websites are updated regularly with news, events and other information. Parents of students in grade 2 and up can access their student's grades at any time through the web-based student information portal.

System Readiness

In addition to providing access to hardware and software, Bremen City Schools provides a technology director, a network administrator and a support technician to maintain all technology throughout the district. A web-based ticket system is utilized to collect and manage support requests for technology problems or needs. Emergency problems are handled on a case by case basis. The current infrastructure provides for a 10 Gigabit inter-campus backbone, and 1 Gigabit backbone at each campus. System readiness is equal across all schools and subgroups. Content filtering is maintained and managed by the network administrator.

II. Technology Goals

Access to Technology

Bremen City Schools plans to achieve a one-to-one device to student ratio. Although this has not yet been accomplished, the ratio has steadily decreased over the past three years (current ratio is 1.49). This has been accomplished by adapting to the available technology, and providing a steadily increasing number of devices to students that are both affordable and functional. This is also being made possible by leveraging the single sign-on capabilities provided by the district's Google Apps for Schools domain. The ratio of devices to students is also becoming more critical as we approach the requirement of performing 100% of assessment testing by computer.

Instructional Use of Technology

It is our goal to continue and enhance professional learning communities through an intense collaboration between Media Specialists, Teacher Leaders and the Technology Department. Our approach would allow for year-long training and professional development to our faculty on a consistent basis. This would accelerate the progress towards using technology to reach or even surpass our district teaching and learning goals. In the classroom, we plan to upgrade many of the older interactive whiteboards with state-of-the-art interactive projectors. We also have goals to utilize any of the innovative technology that becomes available. Some of the opportunities that could be provided are live events such as distance learning, labs and demos, connected classrooms, international exchanges and guest lecturers. Of course, as the technology continues to be improved, the learning possibilities are only limited by our imagination.

Administrative Use of Technology

A newly installed VoIP system provides the potential for improved communication by providing follow-me functionality, voicemail notifications via email, and many other new features. Our goal is to fully utilize the existing features to make sure we keep a strong communication connection with our stakeholders. We are also happy to see an increase in the use of social media, texting and other technology to better communicate with our students and stakeholders. Our goal is to make use of these and any other upcoming technology advances that may provide the ability to better communicate with our faculty, staff, students and stakeholders. Upgrades to our student information system will most likely be necessary within the new three years. Our goal is to make certain that the hosting hardware is powerful enough to provide robust and efficient performance for the student information software. Whether that hardware is on site or cloud-based will primarily be determined by financial expediency.

Parent/Community Use of Technology

We are currently encouraging parents to make use of the texting and email distribution lists which are used by administration to keep our parents informed of upcoming events, but can also be used in emergency situations. We will continue to make parents aware that they are able to use Twitter, Instagram and Facebook, among other social media applications, to stay informed of accomplishments, events and other announcements provided by district and school administration.

System Readiness

Continued upgrades to the district network backbone will eventually provide a full 10 gigabit backbone. In addition, upgrades and additions to our wireless network infrastructure will provide a robust and efficient wireless network. This will provide the capability to handle the steady, annual increases in the number of wireless clients we can expect, as well as the number of wireless clients necessary to perform online assessment testing of all students.

III. Communication and Marketing Plan

Technology provides an excellent medium for communication and marketing to our stakeholders. The Bremen City Schools' website and the local school websites continue to be used, but social media and texting is also being widely used as a rapid method for dissemination of information to students, parents, and stakeholders. Schools also use other methods, including calendar pages, school newsletters, and current events pages on their websites to notify parents of upcoming events. Award recognitions and other congratulatory items are posted when appropriate. Online surveys are increasingly being used as a method of gathering information and allowing stakeholders input into system decisions. System and school performance on test scores is also available for use by stakeholders in evaluating school performance.

At the district level, communication and collaboration is maintained through several mediums of communication. Administrative personnel meet with the Superintendent once per week for a group staff meeting to share activities, needs, and concerns. The Director of Technology attends these meetings, along with the directors of the other school programs and Title programs. The Director of Technology also participates in the school improvement meetings, provides a monthly report at Board of Education meetings and participates in a leadership retreat which is held once per year.

IV. Professional Development:

Professional development opportunities are made available at the district and school levels to support instructional technology. The administrators, teachers, Technology Department and media specialists assess district and school teaching and learning goals and provide the appropriate professional development to fulfill those goals. The goal of enhancing Professional Learning Communities by increasing collaboration between the technology department, Teacher Leaders, and Media Specialists will dramatically increase the amount and relevance of professional development provided to our faculty on a consistent and ongoing basis. We believe this critically important work will provide the necessary instructional technology tools to our teachers in order to maximize the educational opportunities provided **all** of our students on a daily basis.

Appendix:

Policies and Procedures

Copies of the district's Acceptable Use Policy and Cybersafety Use Agreement are provided.

Copies of any other policies that govern action (for example, purchasing policies, contract awards and management, redeployment of old equipment, minimum specifications for classroom equipment, etc.) are provided.