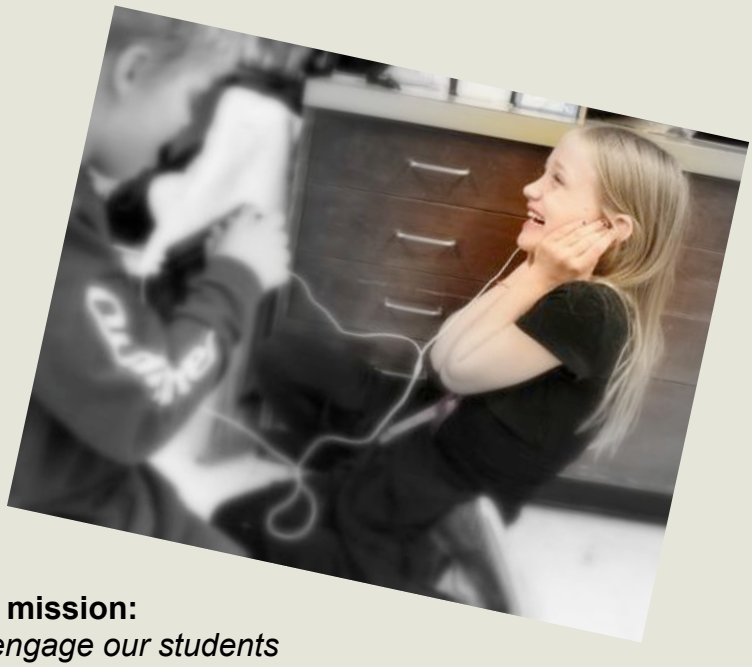
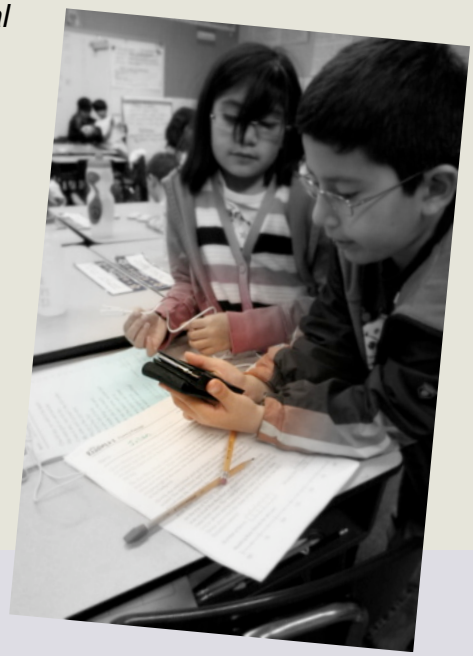
Beaverton School District

Technology Report



Our mission:
To engage our students in rigorous and joyful learning experiences that meet their individual needs so they may thrive, contribute, compete, and excel.



Report to the School Board
November 14, 2011

BEAVERTON SCHOOL DISTRICT
THRIVE • CONTRIBUTE • EXCEL

Introduction

The Beaverton School District Information Technology Department is beginning year one implementation of the *Technology Plan 2011 – 2014*. This report details the following:

- Progress on technology plan initiatives
- Student information system replacement update
- Data and collaboration tools used by teachers
- Innovative practices using technology to support student learning
- "Horizon" projects that will expand the ability of technology access in schools for students, staff, parents, and the community

Status of Technology Plan 2011-2014 Initiatives

The *Technology Plan 2011 – 2014* created and articulated the strategic technology vision for the District with a focus on improving student learning through appropriate instructional and administrative uses of technology tools. The technology plan was presented to the School Board at the February 7, 2011 School Board meeting.

While progress on many of the activities detailed in the technology plan is underway, budget constraints prevent initiation of some of the projects in the technology plan.

The tables below provide a status report of the activities contained in the *Technology Plan 2011 – 2014*.

Teaching and Learning Environment

Activities	Funded	Status
Electronic Plan & Profile	✓	Report in use at elementary level. Plan & Profile application is beginning design phase. Implementation will be phased in conjunction with replacement of Student Information System.
Online Education		Team has been identified to research models of online education.
Technology Research & Development		
Instructional Technology Specialists Model		
TeacherSource	✓	See below for TeacherSource update.
Technology Professional Development for staff	✓	The focus to date has been on Google Apps for Education. Training has been provided on applications and integration into instruction.

Communication, Collaboration, and Community

Activities	Funded	Status
Web sites redesign	Partial	Redesigned staff portal to launch January 16. Public website redesign dependent on future funding.
School site and teacher tools		School sites will be delivered through SharePoint portals, offering improved Content Management System (CMS) tools. Teacher web sites to be migrated from FirstClass to Google Sites, providing improved tools for teacher use.
Student Collaboration Tools	✓	Student email migrated to Gmail. Students have access to Google Apps for Education. See section below for Google Apps for Education update.

Activities	Funded	Status
Social Media Toolkit	✓	Administrative Regulations nearing completion. Social media guidelines web site to be developed.
Learning Management System (LMS)		

Equity in Access

Activities	Funded	Status
21st Century Classrooms		
Site-based computer support		
After school community access		Possible community access as part of enterprise wireless project.
5 year computer replacement cycle		Teacher replacement workstation monies eliminated from current budget due to budget reductions.

Infrastructure

Activities	Funded	Status
Enterprise Wireless Network	Partial	See below for Enterprise Wireless update.
Telecommunications System		Request For Proposal completed. Awaiting funding.
Integrated Financial and Administrative Solution (IFAS) improvements	✓	Inter-departmental team implementing improvements to the HR/Financial system.
Messaging system replacement		Messaging system replacement will be evaluated after the Student Information System replacement.
Student Information System Replacement		See section below for update on Student Information System replacement.
Library System Replacement		
Enterprise Site Licensing		

Student Information System Replacement

Background

aal, our current Student Information System vendor, was sold to Pearson last November. Pearson will not support the eSIS product after June 2012. It is in the best interest of the District to invest in a new student information system rather than exist in an unsupported environment on the application that houses all student data. For many years, the Beaverton School District has been a part of a consortium of Oregon school districts that have worked together to share development costs and create efficiencies with State reporting. The Beaverton School District is a part of the consortium of Districts and ESDs who are seeking to implement a new student information system and has been a full participant and leader in the Request For Proposal (RFP) process.

Current Status

The student information system consortium issued an RFP in July of 2011. Three semi-finalists had the opportunity to demonstrate all aspects of their product over a three-day scripted demonstration session. These sessions were attended in-person by the evaluation team, and also made available for viewing through WebEx sessions. BSD IT staff led the authoring of the demonstration scripts and participated on the evaluation team. Two locations in-District were made available for staff to view the demonstration sessions via WebEx.

After the scripted demonstrations concluded, usability testing was conducted on each system. BSD staff participated in the usability testing and provided feedback to the evaluation team.

The results of the scripted demonstrations and usability testing narrowed the list to two finalists:

- Follet Aspen
  (http://www.follettsoftware.com/school-administration-software)

- Edupoint Genesis
  (http://www.edupoint.com/Products/GENESISSIS/GENESISOverview.aspx)

There were additional sessions to explore the gradebook modules of each vendor. These sessions were conducted on October 26 and 27, 2011. The gradebook sessions were recorded and Beaverton teachers participated in the gradebook sessions. The link to listen to the gradebook sessions will be shared once it has been published.

Due to cost constraints, "Virtual" site visits were conducted during the week of October 31with districts using the two student information systems. The purpose of the site visits was to ask questions regarding capabilities, implementation, and support provided by the vendors. BSD staff participated in the site visits.

The finalist will be announced on November 7. Once the finalist has been announced, the Consortium will begin contract negotiations. Upon reaching agreement with the vendor, BSD staff will begin planning the transition to the new Student Information System, with a target phase one go-live date of September 2012.

Tools Supporting Professional Learning Communities

TeacherSource

TeacherSource is a web application supporting professional learning communities by providing a place for teachers to create, share, and use lesson plans, prompts, and assessments. The purpose of TeacherSource is to give teachers access to high-quality instructional materials, an ability to collaborate with their colleagues, and a place to manage and organize instructional materials.

Status Update

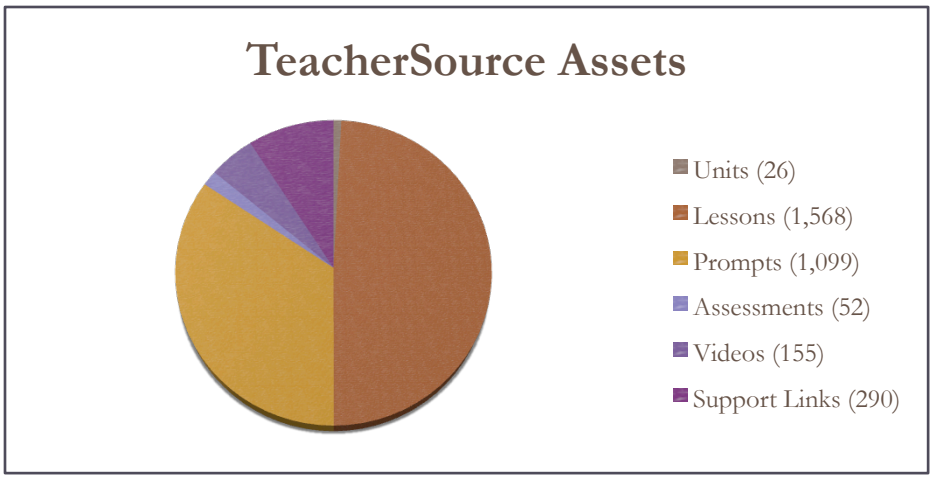
TeacherSource is slowly and deliberately easing into the teacher culture within the District. The intentional and strategic rollout of TeacherSource was to support groups of "ready" teachers whether in grade level teams, specific content areas, or an identified content group centrally (i.e., Grade 6 Science last year). Identified and trained teacher leaders (called "Scouts") spread throughout the District have presented to staff, set up trainings, held open labs, and personalized their support within the buildings over the past two years. This strategy allows TeacherSource to be adopted from the classroom level, and then spread naturally and organically throughout the District.

Work Sessions

Scouts are identifying teachers who desire to be involved in the content work and providing opportunities for different types of involvement. These range from team-based work sessions to upload units, lessons and assessments, to individual tasks such as uploading quality educational web sites. The goal is that teachers will begin to plan and create their lessons directly onto TeacherSource, where rich-editing tools are available to them.

Assets

As of Nov. 1, 2011, TeacherSource contains nearly 3,200 assets, including units, lessons, prompts, assessments, support links and videos. Teaching & Learning has supported the work of teachers to develop materials in small content groups to upload quality instructional materials. The goal is that district-wide collaboration happens with TeacherSource "at the table" of initial planning.



Collaboration and Individualization

The collaborative nature of TeacherSource allows teachers to plan lessons, units and assessments collectively and provides the capability for teachers to integrate specific differentiation and Sheltered Instruction Observation Protocol (SIOP) components be built into lessons, units and assessments. These components better allow teachers to plan lessons and units that more accurately accommodate student needs, are easily accessed centrally in one common platform, and improved over time.

User Data

Both average weekly and daily visits have increased as more teachers in District become exposed to TeacherSource.

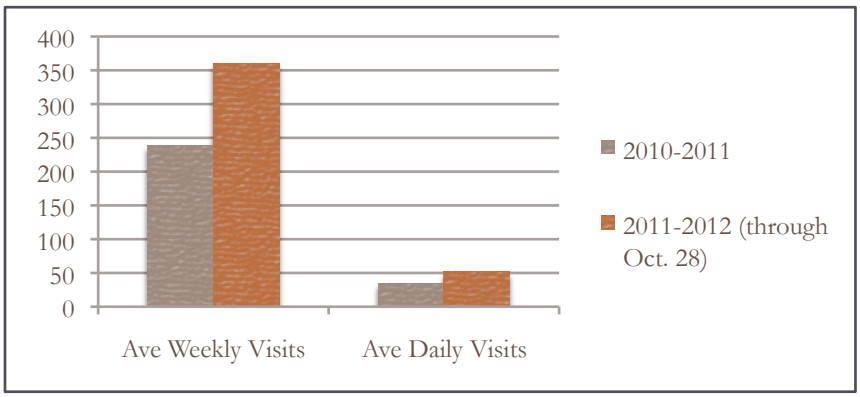


Table 1 - Source: 2011 Annual Staff Survey

Staff Responses from the 2011 Annual District Survey

To date, almost half of teachers in the District have used TeacherSource. Though this could be interpreted as disappointing, this data is consistent with the "readiness" rollout strategy recognizing that TeacherSource will take some time to mature. Use is expected to grow as the library of assessment, prompts, and plans increases.

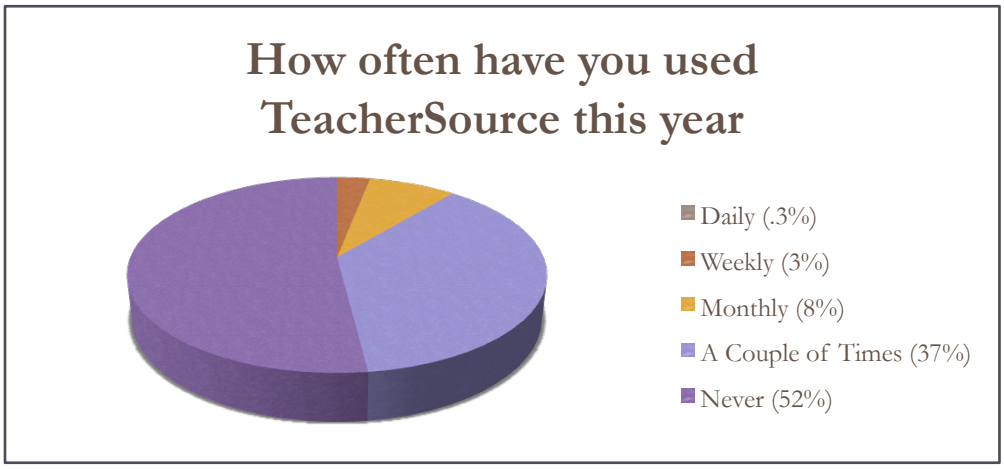


Table 2 - Source: 2011 Annual Staff Survey

The majority of teachers (75%) feel that the system is easy to use and navigate. Eighty-two percent of teachers using the system reported that the quality of materials was either “Very High” or “Good.” Teaching & Learning will be conducting usability testing later this year to identify improvements to the user interface.

Qualitative feedback on TeacherSource

The following are selected teacher comments regarding TeacherSource.

"TeacherSource has opened the door to collaborating with other teachers in the district who are teaching the same things I am. It's so much better than searching the web for something I need...instead I can find it on TeacherSource or ask someone working on the same targets I am."

- Grade 6 Science Teacher

"I like the one-stop shopping aspect of TeacherSource. Because it is set up by learning targets, it really helps to see what resources are available all in one place. The planning becomes much easier."

- MS Math Teacher

Google Apps for Education

Google Apps for Education is a free, and ad-free, set of tools that enable teachers, staff and students to collaborate, communicate, and learn more effectively.

In the spring of 2011, Google Apps for Education was activated for all staff in the District. In August of 2011, work was completed to allow all students to use Google Apps for Education. Parents are required to sign an authorization for their students to use Google Apps for Education. As of November 2, 2011, there were 30,088 active student and staff accounts in the Google Beaverton School District domain.

Google Apps for Education is being used by teachers to collaborate with each other as part of their work in Professional Learning Communities. Teachers are also using Google Apps for Education with students. Examples of how Google Apps for Education are used in the classroom include:

- Student collaboration on projects
- Facilitating writing as a process – teachers are able to view student work in progress and provide feedback
- Teachers using Google Docs to share lesson plans
- Google sites are replacing FirstClass Teacher Web Pages as a web site creation tool for teachers
- Google Forms being used as a formative assessment tool

Training for teachers on Google Apps for Education has been a focus of professional development provided by IT staff for teachers. To date, 250 teachers have participated in formal classes. IT staff also spend time in schools to train teachers on both the applications and how to integrate them into instruction.

Data Warehouse

The Data Warehouse continues to be a valuable application supporting Professional Learning Communities and for identifying students needing interventions. The Data Warehouse is a powerful reporting tool that presently contains information from the Student Information System and from some external assessment systems. Future plans include integration of information from the District HR/Financial system.

The Data Warehouse provides analysis at the District, level, school, and classroom levels, and is used by administrators and teachers for both reporting at the group level and also drilling-down to detailed information on individual students or groups of students. All metrics in the Data Warehouse offer the ability to filter by ethnicity/race, gender, status, grade, and school year. The top three reports currently accessed by staff are the Student Profile, Teacher Dashboard, and Test Scores.

Student Profile

The Student Profile report provides access to a multitude of data points regarding student demographic data, student status, program assignment information, and a variety of academic and behavior data points.

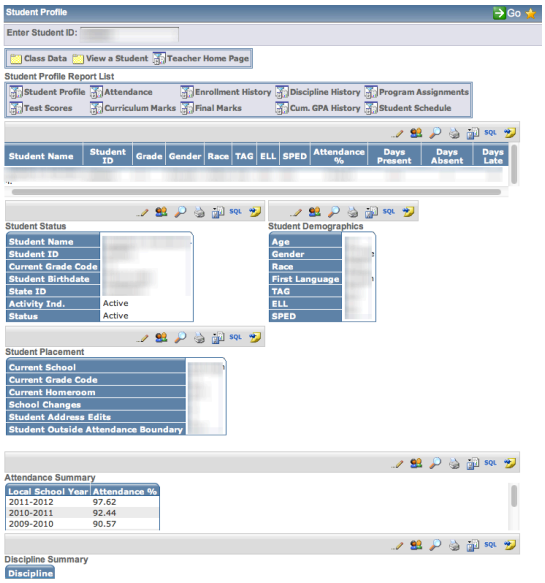


Image 1 - Data Warehouse Student Profile

In addition to information from the current school year, the metrics on the student profile report detail information from prior years, beginning when the student first entered the District. This allows staff to view student academic performance over

time, in addition to current year data.

All metrics and reports in the data warehouse offer the ability to export the data for use in Excel, providing additional flexibility to staff.

Other metrics that teachers and counselors have reported as very important to their work with students include:

- "At-Risk" indicators. This metric allows staff to see students who are classified as potential "at-risk" as defined by 13 indicators.
- Students meeting essential skills
- Cohort progress

Models of Innovation

While timing of this report prevented the ability to report on innovative practices occurring in the school year 2011-2012, it does offer the opportunity to report on the success of two recent opportunities to infuse technology into classrooms.

Project Infusion

Project Infusion was a grant funded by the Oregon EdTech ARRA Competitive Grant process and targeted three major goals:

- All students demonstrate math proficiency by meeting or exceeding district and state learning targets
- All students are on track to be technology literate by 8th grade
- All teachers effectively infuse students' daily activities with digital content and tools

The grant provided laptops computers, interactive whiteboards, iPod touches, and digital cameras for 7 classrooms throughout the District. Four classrooms at Hazeldale and three classrooms at Terra Linda were selected for the grant. A

certified technology coach was also provided as part of the grant, both to support teacher and student learning of the technology, and also to support teachers as they integrated technology into their lessons and the classroom.

The grant began in the spring of 2010 and ended in June 2011. Student tracking was extended and will now conclude at the end of the 2011-2012 school year.

A brief sampling of student activities focusing on improving math skills and understanding include:

- iPod math applications to sharpen and practice basic computation
- Use of the National Library of Virtual Manipulatives to deepen understanding of geometric shapes and relationships
- Recording and sharing angles and symmetry found in the "real" world using digital cameras
- Using Drexel University's *Math Forum – Problem of the Week* to enhance student competence and confidence in problem solving and communication
- Demonstrating solutions to classmates at the interactive whiteboard
- Use of Google Earth to deepen understanding of measurement

Results

Previous years' average classroom scores illustrated an upward trend in math in all seven classrooms, despite the changes in math curriculum and OAKS content and cut score changes. For example, in the fifth-grade grant classroom, average scores increased from 221 in 2008, 228 in 2009 and 232 in 2010. Fourth grade rose from 217 in 2009 to 226 in 2010, and the four third-grade classes show similar increases. Report card marks fairly closely reflect the OAKS results.

The state assessment numbers tell only part of the story. After working with Drexel University's *Math Forum*, an online-based math program purchased with grant funds and iPod math applications, the following graphs illustrate the growth in addition skills by fourth grade students.

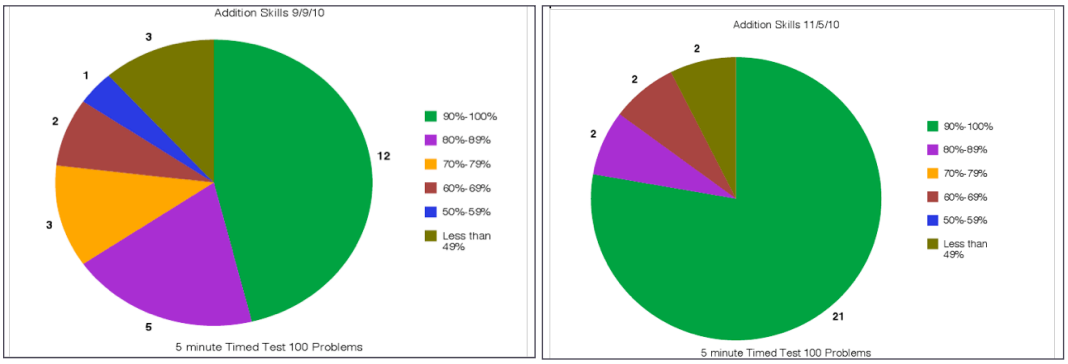


Table 3 - Source: Oregon Ed Tech ARRA Competitive Grant: Final Grant Report

Another indicator of success was illustrated in the growing independence of students as active learners. Students now enter their classrooms and rotate through math centers, work with iPods to practice their facts and new learning, collaborate with the teacher to understand a new concept at the interactive whiteboard, create and illustrate story problems to present to the class using laptops, access the National Library of Virtual Manipulatives, or use real manipulatives to solve problems.

An interesting finding resulting from the presence of laptops (one per two-students) in the classroom is a teacher-reported relaxation of student tension surrounding state testing. Students take the assessments individually in their own classroom when teachers feel they are ready, rather than the entire class travelling to the lab to take the test.

Over the course of the past eighteen months, teachers reported growth in their confidence and ability to more effectively to reach and teach their students. A powerful finding from the experience was the importance of building team

capacity for collaboration, sharing and sustainability. At Hazeldale, the entire team of four third grade teachers participated in the grant. Each teacher would take a different lesson, infuse it with technology and then share with the others. The group then would work together to improve the lesson. One teacher took all of the *Everyday Math* daily opening activities and created interactive whiteboard lessons that she shared with her teammates. At Terra Linda, with only one grant teacher at each grade level, the teachers had to do more individual planning and developing on their own.

The following are comments from teachers regarding their experience with Project Infusion.

"One of the very best experiences I had in education and teaching."

"I loved having the chance to learn more about this with the students."

"I now can't ever teach without it. It is the best stuff ever!"

"I am very thankful to be a part of this grant. I still have a lot to learn; but it has certainly enriched my classroom and made me stretch to learn new things as well."

Educational Technology Enhancement Grant

The primary goal of the ARRA Educational Technology Enhancement grant project at Raleigh Hills K8 School is to provide compelling and measurable evidence that classrooms with continuous access to technology combined with the collaborative power of Google Apps will inspire and improve student learning in math, reading, and technology literacy.

This project involves four classrooms at Raleigh Hills, two fourth grades and two fifth grades, with the goal of ensuring all students demonstrate math and reading proficiency. In order to realize the goal, teachers will be given vision, training,

and ongoing support as they weave cloud technologies, handheld devices, digital cameras, interactive whiteboards, Google Apps and other Web 2.0 tools into the fabric of their daily instruction.

Teachers are using the technology to empower students as learners in classrooms filled with 21st century tools that provide for differentiation, speak more clearly to varying learning styles and allow learners to construct new understandings. Math becomes real when students collect and analyze real data from the world around them. Reading text with images, music, and voice provides a greater context for meaning, particularly for English-language learning and special education students.

The teachers are mentored and supported by a qualified technology coach who is also the Raleigh Hills technology teacher. He recently received his Google Teacher Certification at the Google Academy in Australia and has had unique opportunities to learn about technology immersion and cloud collaboration related to math and reading instruction. Through collaboration with mentors and colleagues via blogs, wikis and professional learning communities, teachers will restructure their classrooms to support and individualize math and reading instruction for students through the deployment of physical and cloud technologies. Interactive technologies and training allow for students to access their education and the world of information virtually anywhere at anytime.

Another special aspect of this technology grant is the education and involvement of the parent community. Biweekly family tech nights offer a unique opportunity to extend the school into the home, and provide further support for students as they work toward math, reading, and technology mastery.

Horizon

There are two interconnected projects that are on the horizon for the Beaverton School District as we continue to provide technology tools supporting instruction, student learning, and teacher collaboration.

Enterprise Wireless

Most of the initiatives detailed in the Technology Plan 2011 – 2014 require a robust and secure network environment. The current wired network capacity is adequate at this time, and is expected to remain adequate for the near future. The existing wireless network is not adequate to meet the needs of students and staff and is largely run on hardware that was designed for home use, not an organization of the size and complexity of the Beaverton School District.

An enterprise wireless network is needed District-wide. This type of wireless network has security features that would allow guest access, facilitating the ability for students and staff to use personal communication devices as tools for learning while protecting the rest of the network and applications containing sensitive data, such as the Student Information System. In addition to providing more coverage and connection capacity for computers, a wireless network will also come with sophisticated management tools, saving support staff travel time out to school sites for problem resolution.

Installation of the enterprise wireless network is complete at the five comprehensive high schools, and phase two will begin soon. The final phase is composed of schools where the wiring closets must be upgraded prior to installation and will occur as soon as data closet renovations are completed.

Bring Your Own Device (BYOD)

Nationally, there is much debate on allowing student-owned devices (computers, cell phones, tablets) into the school environment. Proponents point to student-

owned devices as a way to increase technology access at schools, and since this is a common experience for students entering higher education, it becomes a way to prepare students for what they will experience as they finish their K-12 education experience. Skeptics are concerned about distraction, liability, and equity issues, as not all students have such devices.

As the enterprise wireless network project concludes, we will have the ability to create a guest wireless network. This guest network would allow students, staff, parents, and community members the ability to bring their own device and connect to the Internet. In the near future, we will begin a dialogue about the merits and challenges of integrating staff and student-owned devices into the environment. In preparation for this discussion, the enterprise wireless network we are now building will have the appropriate safety and security measures.

Conclusion

The Beaverton School District Strategic Plan places students at the center of our vision and assumes responsibility for their individual achievement. Technology tools, applied appropriately, have the power to engage students, support individualized and personalized learning experiences, and foster innovation and creation along each student's learning journey. Despite economic challenges, we remain focused on providing the framework and support for individual student learning and teacher collaboration.