

**GOP Education Policy Committee Hearing
March 15, 2010
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Lampeter-Strasburg School District**

I want to thank Honorable Stan Saylor and the GOP Education Policy Committee for giving me this opportunity to present to you. It is a privilege and an honor for me to be able to give you my perspective on technology in education. My name is Lester Stoltzfus and I am the Director of Technology at Lampeter-Strasburg School District (L-S) in Lampeter, Pennsylvania, near Lancaster. Since 1984, I have been in the education industry in the Pennsylvania public school system, having worked for an intermediate unit for 19 years and the past seven years for a school district. Lampeter-Strasburg School District has approximately 3,400 students, 500 employees, a \$45,000,000 district budget, 7 buildings, 1,800 computers, and 50 servers.

When I was hired at Lampeter-Strasburg School District I set three technology priorities:

1. recruit and develop **highly skilled staff**
2. install superior **infrastructure technology and administrative technology**
3. deliver the best **instructional technology** available

Staff:

From a staffing perspective, we work hard to “**deliver professional responsive quality service**” which is our motto. Our Technology Department **staff** includes:

- Instructional Technology Specialists (2) – technology coach, supporting teachers with incorporating technology in the curriculum and assisting teachers with using it in the classroom
- Technology Specialists (3) – help desk technicians who make sure hardware and software work for teachers and students
- Network and Systems Engineer (1) – responsible for availability and security of data, voice, and video networks, installation and support of all servers, as well as Internet access and more.
- Database Administrator (1) – responsible for integrity and reporting of student, employee, and financial data

Infrastructure Technology and Administrative Technology:

In order to deliver effective instructional technology, a school district must implement a solid **infrastructure technology** framework. Only after a well designed and well implemented infrastructure can one begin to deliver administrative technology and instructional technology. At Lampeter-Strasburg School District we implemented **enterprise level** solutions in each major area of our infrastructure technology using **industry standard** products and services from **tier one** vendors.

Infrastructure technology is often assumed, taken for granted, or misunderstood. It is important that it is done correctly to support the current and future needs and the growth of the school district. Infrastructure includes:

- A room identified as the Data Center or Network Operations Center – data, voice and video network hub, server farm, and data storage, with proper physical security
- Electrical power in Data Center including power management, power backup, power distribution with battery backup and motor generator
- Air Conditioning in Data Center to maintain proper temperature and humidity
- Network backbone design and implementation district-wide, from building to building, and MDF and IDF's in each building, as well as access to the public Internet
- Network LAN design and implementation along with management of end-user access, performance and security
- System and Application Servers
- Data Storage Systems
- Data Backup Systems
- Directory Service

- E-Mail System and e-mail archiving
- Filtering services (web filter, SPAM filter, anti-virus protection)
- Voice-Mail System
- Virtualization of servers and desktop computers – Virtualization is probably the biggest technology ever, and it allowed us to consolidate servers and use Thin Client Computers that offer significant savings.

Within school districts there are numerous business or administrative functions that are needed that indirectly support the education process in the classroom, such as transportation, food services, accounting, payroll, human resources, etc, all of which depend heavily on technology and computer systems. Undoubtedly the most important support system is the student information system that tracks and reports regular education and special education student data for local, state, and federal reporting which directly impacts school funding. At the Lampeter-Strasburg School District our **Administrative Technology** includes: student information system - PowerSchool Premier; special education system - IEP Online; state reporting of student information data – PIMS; handheld student data system – PrinciPalm; library system – Destiny; cafeteria system – LunchBox; transportation system – Edulog; budgetary accounting system, payroll/human resources system, census/tax billing system – CSIU; substitute teacher system – AESOP; and nurses and physical education teacher(s) medical records system - Health eTools.

Instructional Technology:

With an excellent infrastructure in place our district is able to deliver some of the best instructional technology systems available. Working with our instructional technology coordinator, media center specialists, the Technology Curriculum Instruction Assessment (CIA) Committee, building principals, language arts and mathematics coaches, and department heads, the following instructional technologies and applications have been implemented in the classroom at Lampeter-Strasburg. These software applications include:

- **iTunes U**
- **Blog** (WordPress)
- **Wikis** (WikiSpaces)
- **MOODLE** – learning management system
- **WebAchiever** - Mathematics for Grades 6 through 8 from Brainchild, Inc.
- **First In Math** - Mathematics for Grades 7 and 8 from Suntext, Inc.
- **Learning A-Z**, for grades K through 5 and all Special Education including Vocabulary A-Z; Writing A-Z; Science A-Z; Reading A-Z; Reading Tutor; and RAZ Kids
- **World Book Online**, for all grades (including a version for K to 5)
- **Kidspiration**, for all elementary schools
- **Inspiration**, for middle school and high school
- **Study Island**, for Grades 3 through 11
- **Type to Learn** for Grades 3 through 8
- **Discovery Education Streaming** Including Streaming Plus for all grades
- **Culture Grams** for all grades
- CFF grant provided us with over 40 software applications on teacher and student laptops, including **Microsoft Office** and **Adobe Creative Suite** products
- Many **Web 2.0 tools** are being used on a regular basis such as Ning, Jing, Glogster, Audacity, MOODLE, Google.docs, Blabberize, and Voicethread

Thanks to the State for Major Technology Initiatives:

- **Link To Learn** – Years ago, Link-To-Learn was an initiative that kick started Local Area Network (LAN) design and implementation at school districts across the state.
- **Act 183** – Over the past several years this grant has made it possible to work with our intermediate unit, Lancaster-Lebanon Intermediate Unit, and upgrade our access to the Internet from a shared 10 MB link to a shared 400 MB link with much improved service and availability, as well as access to I2 services.
- **CFF** – We continue to build on what the Classrooms for the Future (CFF) Grant provided our high school over the past two and one half years. CFF provided all mathematics, science, social studies, and language arts classrooms with 38 Promethean Activboards, 38 Epson projectors, 493 ThinkPad Laptop Computers, 15 Computer Carts, 38 speaker systems, 72 wireless Access Points with 240 antennas, 5 color printers, 5 web cams, 5 digital video cameras, and 5 still digital cameras. Over 40 software

applications were included on teacher and student laptops, including Microsoft Office and Adobe Creative Suite products. Our total grant amount over three years is \$507,187.

- The 42 high school teachers in these four subject areas completed professional development courses over a two year period on 21st Century Skills
- The Need for Change Involving 21st Century Skills.
- Teaching Authentic Math/Science/Social Studies/Language Arts in the 21st Century Classroom.
- Promethean, Inc., and our CFF Coach provided training sessions on the Activboards, ActivStudio/ActivInspire software, and ActivExpression systems.

Teacher/Student Success Stories:

With nearly 350 teachers at Lampeter-Strasburg School District there are many stories that could be told that describe the value, importance, and advantage of using technology in the classroom. Most of the infusion of technology in the classroom has occurred in the last two years and tools to measure student achievement are now being implemented with a product called Performance Tracker. Funds to purchase Performance Tracker came from stimulus money. Performance Tracker is a data driven decision making tool giving teachers and administrators the ability to monitor student progress more quickly and modify the instruction accordingly.

High School Language Arts Teacher, Claudia Ruoff, is one of many teachers who uses technology everyday in her delivery of instruction in just about every way one could image. Here is a particular list of the technology she and her students use on a daily bases. Two years ago, before CFF, none of this was used and instruction was delivered in a drastically different way.

- Teacher and Students use **laptop computers**
- **Interactive White Board** and **projector** is used for just about everything
- **MOODLE** is used to store and deliver assignments, grammar quizzes, etc.
- **PowerPoint** is used for vocabulary to display a word, part of speech, definition, and a video
- **Quizlet.com** is an online resource for quizzes that student can use at home and at school
- Pop quizzes are given with **Response System** (clickers) giving the teacher immediate response to how well students understood the concept
- **You Tube videos** are phenomenal to show relevant videos on anything including vocabulary
- **Video cameras** from the CFF grant are used by students to create videos on a particular word
- In literature when reading a book students use **Google earth** to find the locate of what they are reading about
- Students use a **Wiki** to collaborate with each other and write about what they read, and then critique each other
- With the laptop computer and the **Internet**, students often will do spontaneous **research**, making it real and relevant, instead of the teacher saying, "I'll look it up tonight and let you know tomorrow." By tomorrow it has lost its relevance and they may have even forgotten why they asked the question in the first place
- In a CFF classroom students are simply **more engaged** and are **learning better** in a much more relevant way

The Future:

The future of technology in education is seeing a shift to more Internet based applications and Web 2.0 tools. This web based environment will support professional social networking, authentic research, application processing, and document storage. This shift will foster devices that are smaller in size such as smartphones (cellphone computers), netbooks (mini laptops), and tablet PCs, but still have the needed functionality for professionals to stay connected and be productive. Many of these smaller devices will be especially suited for education as students will benefit from the smaller size and lower cost per device.

The shift to Internet/Web based applications and services will open the door to a new technology called "Cloud Computing." With Cloud Computing a school district can establish a private cloud and give access to their local server based business and education applications over the Internet via a private cloud.

Another major technology we will see more of is server and desktop virtualization which, if implemented properly, can offer significant savings in numerous areas.

Therefore, as we move forward my list of initiatives and priorities include:

- Use more Web based instructional applications and Web 2.0 tools in the classroom.
- Use more mobile devices in the classroom to engage students, such as iPod (touch, classic, nano)
- Configure more classrooms with CFF resources (interactive white board, projector, speakers, mobile computers, wireless data signal, DVD player, and TVoverIP)
- Implement virtual desktop computing with Thin Client Computers
- Utilize Netbook Computers, Mini Laptop Computers, or Tablet Computers in a one-to-one deployment
- Use Smartphones or Cellphone Computers in a protected and productive way in the classroom.
- Develop and offer more professional development opportunities for teachers giving them the skills, comfort level, and tools they need.
- Deliver wireless access everywhere to facilitate and support mobile computers for every student

Challenges:

When I came to Lampeter-Strasburg School District over four years ago I soon determined that L-S needed a major technology overhaul. It took several years and required some very tough decisions along with a supportive board and administration to build an excellent technology infrastructure. This infrastructure will support our current needs and carry us well into the future. Lampeter-Strasburg now needs to continue to add new end-user hardware, replace aging end-user devices and stay current with new technologies. We are all faced with a global economic down-turn that has halted progress and in some cases has forced many to rewind and take a few steps back. In fact, my technology budget at L-S was reduced this year by 20% which will make it very difficult for us to maintain and continue with the needed upgrades for teachers and students.

The biggest challenge is a dollars and cents issue. We at Lampeter-Strasburg will do everything we can to extend the life of the technology we already have, buy more for less, and take advantage of any cost savings we can from new technologies that are being offered. One thing for sure, in many ways, it is no longer business as it has been.

Closing remarks:

In closing let me say thank you for all the support you have given education. I hope that Lampeter-Strasburg School District is a good example of a school district that is wisely using state and local funds.

Like Act 183 that offered millions of dollars for the build-out of local area networks within school districts, and CFF that offered millions of dollars in hardware, software, professional development, and the development of instructional content, I ask that you **please** continue to support education with funds in unique, creative, and traditional ways.

If our goal is to prepare young men and women for the “real world,” then education needs to keep pace with the “real world.” Our challenge as Technology Directors is to be creative in how we use limited funds to continue to provide our teachers and students with an environment that is mobile, electronic, and digital. Giving them the resources they need to engage students and improve the quality of learning at all levels. We need to teach our students research skills, ethical behavior, and safety in the digital world. We need to continue to change, upgrade, and find new ways to incorporate new mobile and personalized devices in the education process.

Please continue to fund initiatives to further the use of technology. Whenever possible, **please** give school districts options, like you did with CFF (Lenovo and Apple). I would be happy to answer any questions.