



***THREE-YEAR DISTRICT  
TECHNOLOGY PLAN:  
2013 – 2016***

**Lumberton Township School  
District**

**Lumberton, New Jersey**

**Terrence Healey  
Superintendent of Schools**

**April 10, 2013**

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## **I. Executive Summary**

**A. Technology Plan creation date:** April 10, 2013

### **B. District Profile**

The Lumberton Township School District is a preschool through grade eight public school district located in central Burlington County, NJ. In the late 80s, the district consisted of one school that housed eight grades -- 500 students. Now, the Lumberton school district is home to four schools with nearly 1,700 students and technology that rivals the finest schools in the U.S. For the past 15 years, the Lumberton Township School District has been one of the most rapidly-growing public districts in the southern New Jersey area. Comprised of 14 square miles – much of it farmland – and a population of just over 10,000 residents, Lumberton Township has become known as a rural-suburban community in the middle of it all, but one that still retains its small-town feel.

Leading the district is Terrence Healey, Superintendent of Schools, along with Thomas J. Fanuka, Business Administrator/Board Secretary. The Lumberton Township School District is comprised of four schools. Florence L. Walther School houses students in preschool through first grade. Leading students at the Florence L. Walther School is its principal, Ms. Coletta Black. The Walther School has approximately 315 students enrolled and class sizes range from 19 to 22 students. Ashbrook Elementary School houses students in second and third grades. Mr. Scott M. Dailey is principal of approximately 330 students at Ashbrook Elementary School. Class sizes in this grade two and three school range from 20 to 22 students. Bobby's Run School houses students in fourth and fifth grades. Mr. Scott Heino is principal of approximately 330 students at Bobby's Run School. Class sizes in this intermediate school range from 21 to 22 students. Lumberton Middle School is home to students in grades six through eight. Ms. Patricia Hutchinson is principal and Mr. Peter DeFeo is assistant principal. Lumberton Middle School educates approximately 565 students from grades six to eight, in class sizes of about 24 students. Rounding out the district and supporting these four fine schools we have: Ms. Maria Matlack, the district's Curriculum Supervisor; Ms. Betty Donahue, Supervisor of Child Study Team; Ms. Betsy Kapulskey, Supervisor of Public Relations; and Mr. Ian McCleaf, the district's Director of Buildings and Grounds.

The district is known for its focus on technology and exemplary curricular offerings. The school maintains a web presence at <http://www.lumberton.k12.nj.us> that provides the community with up-to-date information that includes, but is not limited to, school programs, staff, curriculum, activities, Board of Education minutes/agenda, lunch menus, available before- and after-school services, and events.

Technology Plans are no longer required to be submitted by all LEAs, as a result of the elimination of federal funding for the ESEA Title II-D program. However, as a district, we felt it was prudent to continue with the update of our 3 year technology plan and to also carry forth with the local board approval and formal submission to the Burlington County Office of Education. In light of these new requirements, we decided to make some changes on how this current Technology Plan was developed. Instead of continuing with our normal, yet sometimes cumbersome large committee effort, we scaled it back to a much smaller committee consisting of a few administrators and teachers. Although smaller in size, this committee was formed with specific staff members that have demonstrated diverse technology knowledge either inside or outside of the classroom. They brought a vast amount of experience to the table while updating this Technology Plan.

### **C. District Vision Statement**

Education in the Lumberton School District will provide all students with the opportunity to acquire and use technology knowledge and skills in an ever-changing world. Computers are utilized as a powerful tool to assist and expand basic learning imposed by technological advancements.

Technology education is not the territory of any one department or grade level, but rather a powerful resource applicable to all students in each learning environment. A carefully developed implementation plan will effectively enable our students to fulfill the educational requirements of the globally competitive twenty-first century.

### **D. District Technology Mission Statement**

The Lumberton Township School District will develop an advanced technology environment in all curricular areas for its students and staff in an effective and cost sensitive manner. The education process will include the integration of technological skills to enhance the teaching/learning process and improve the efficiency of all district operations. Lumberton Schools are committed to preparing our students to be proactive citizens in an ever-changing global society. To provide students with the best skills, attitudes, and equipment to positively function in a 21<sup>st</sup> century work force, technology is used as a mechanism that immerses the students in a real-world environment that fosters higher-order critical thinking and problem-solving skills. Through increased and continual professional development, educators must combine and integrate technological tools with new instructional models that continue to acknowledge the individual learning styles of a diverse student population. Doing so will ensure all students opportunities to become life-long learners.

The district's philosophy towards technology as a facilitator of a quality education can be summed up with these belief statements:

- We believe that effective and continual professional development for educators and administrators is critical to our district's ability to achieve sustainable growth in student achievement.
- We believe all students deserve comprehensive access to a wide range of educational technologies to help them achieve their maximum potential as lifelong learners.
- We believe the essential "teaching" of core technology skills is most critical in the primary grades (K-4). Grade-appropriate "application" of these core technology skills is an important secondary objective, and a function of student capability and need.
- We believe the "application" of core technology skills is most critical in the secondary grades (5-8). "Teaching" core technology skills is an important secondary objective and a function of student capability and need.
- We believe technology instruction should be coordinated within itself as an educational discipline (i.e., K-4 Computer Lab, 5-8 Applied Technology, and K-8 Media Center) as well as be optimally integrated with regular classroom curriculum. It should also be compliant with existing and future technology standards promulgated by the NJ Department of Education and appropriate national entities (e.g., ISTE NETS).

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- ☑ We believe our district should coordinate with local high schools (Rancocas Valley Regional High School, Burlington County Institute of Technology) to ensure that our 8<sup>th</sup> grade students have the technology skills they need to continue their educational careers.
- ☑ We believe our district must invest in technology infrastructure (hardware, software and services) to ensure the continual availability and complete functionality of technology resources for students and staff.
- ☑ We believe that recognizing and promoting the work of all teachers and staff will encourage sharing and result in an increase in technology integration throughout the school.

## II. Technology Inventory/Overview

### A. Current Technology Inventory

<b>Current Inventory Table</b>					
<b>Equipment</b>	<b>FLW</b>	<b>AES &amp; Board of Education Offices</b>	<b>BRS</b>	<b>LMS</b>	<b>Totals</b>
<b>Desktop Computers</b>					
Student Workstations	55	92	75	125	347
Teacher Workstations	30	31	33	45	139
Office Workstations	10	21	21	20	72
Lab Workstations	25	29	29	107	190
Library Workstations	6	7	12	11	36
<b>Laptop Computers</b>	3	20	32	35	90
<b>Printers</b>					
Inkjet	36	35	42	55	168
Monochrome Laser	5	10	12	12	39
Color Laser	1	3	2	1	7
<b>Cameras</b>					
Digital Still	5	5	6	10	31
Digital Video	2	2	5	10	19
Document	5	21	18	16	60
<b>Scanners</b>	5	8	6	7	26
<b>Projectors</b>	4	20	18	15	57
<b>SMART Boards w/ Projector</b>	7	4	7	15	33
<b>Sound Field Systems</b>	5	4	2	0	11

The district's network is client-server based with servers running Windows 2000/2003/2008 Server operating system. Currently, the client workstations are all running the Windows XP Professional operating system with service pack 2. The district plans on upgrading the operating system on all desktops/laptops to Windows 7 over the summer of 2013. Dell or HP is the district standard for servers and desktop workstations. The district's current desktop workstation standard is a Dell Optiplex GX280 & GX360 and the HP 4000 Pro desktop, running Windows XP Professional with a minimum of 1.5GB of RAM. District servers are Dell PowerEdge 1950, 2650, 2950, R310, or R710's equipped with dual/quad processors, 4GB of RAM or more and RAID 5 Arrays.

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All schools connect back to the Network Operation Center via fiber (combination of private/dark and leased/lit from Comcast). Connectivity between building MDF and IDF switches is copper and so is the connectivity between the IDF's and classroom locations. Our content filter appliance is the Barracuda 610, which is C.I.P.A. compliant. Internet service is provided by Comcast via two separate connections (1. Metro-E – provided via fiber connectivity; 30Mbps down / 30Mbps up & 2. Comcast Business Line – provided via cable modem; 50Mbps down / 5Mbps up). An Internet load balance device by FatPipe allows us to dedicate Internet traffic over the two connections as required to provide the most efficient use of our Internet pipes throughout the day and more specifically has supported the use of video streaming (YouTube, etc.) in the classrooms. An anti-spam e-mail filter by Barracuda is installed in front of our 2010 Microsoft Exchange E-mail server to limit the amount of spam that trickles to our staff e-mail accounts.

The Ericom PowerTerm Webconnect w/ Blaze client acts as the district's VDI appliance to support staff remote desktop access to their files/applications. This access can occur from anywhere in the world and at any time day or night as long as they have an Internet connection. District files/applications are backed up nightly using Symantec Backup Exec to two automated DLT/LTO tape library devices and one Network Attached Storage hard drive array for a full disaster recovery initiative. APC battery backup units complement our multi-racked network infrastructure located in our Network Operations Center, which provides temporary runtime if a loss of power occurs. A separate and dedicated climate control system supplies a continuous and stable environment for our Network Operations Center.

The district has at least three Internet-connected, multimedia capable student workstations available in every classroom, as well as a dedicated teacher workstation. The district has developed a comprehensive plan to acquire new equipment and redeploy existing hardware as needed. Student computers complement the learning process by their use in "centers" (typically, K-4) or as standalone research workstations (typically, 5-8). Using these computers and related software, students can access and save their work on individual home directories, which are stored on networked storage drives. Computer access remains a continual focus and the Video Broadcasting classroom space now accommodates 22 computers. In addition to supporting the Middle School's Video Broadcasting curriculum, these computers are available for staff and students as a mini-lab when the room is not being used for instruction and the mobile lab may be signed-out for use in other instructional classrooms. Furthermore, two more mini-labs with at least 12 computers were added to the LMS building to support the smaller resource classrooms. These additions effectively created additional computer labs in the Middle School, which were needed to fulfill present levels of demand. The Applied Technology classroom houses a mobile computer lab with over 25 laptops that not only supports the Applied Technology curriculum but also is available for sign-out by classroom teachers.

Shared-use technology resources (Elmo document cameras, student response systems, wireless slates, LCD projectors, digital cameras, video camcorders, mobile laptop carts, computer labs, SMART Board locations, etc.) are scheduled using Microsoft Outlook Public Folder Calendars, which are on-line / real-time calendars. Staff can access these resources, both day and night, from any computer with an Internet connection.

Permanent SMART Board and Elmo document camera installations in classrooms of all four schools have been the trend as the budget

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allows. Teachers in the district receive both in-house and external SMART Board training to assist with the integration of this technology into their classrooms. Wireless slates and student responder systems compliment the SMART Boards and captivate students with unique classroom functionality. Teachers find the student response systems to be an excellent way to engage the students and perform ad-hoc assessments during the instruction on a “real-time” basis. Teachers’ experiences with the SMART Board have been extremely positive and many have noted that the technology makes lessons more memorable for the students, fosters greater participation, and most importantly, engages them in a way traditional teaching and classroom discussion cannot.

Similarly, the laptop cart has proven to be extremely beneficial in classrooms and the Applied Technology class. As with the SMART Boards, teachers develop lessons that capitalize on the 1:1 personal nature of the laptops. While a 1:1 student-to-computer ratio is provided in the computer lab, having the laptops in the students’ regular classroom allows the teacher to utilize their other classroom teaching materials available in their room. Teachers have noted that the 1:1 ratio works especially well when working with students at varying skill levels, allowing them to work at their own pace through the material.



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**B. Technology inventory needed to improve student academic achievement through 2016.**

**Three Year Technology Plan Inventory Table (2013 – 2016)**

Area of Need	Describe for 2013-14	Describe for 2014-15	Describe for 2015-16
Technology Equipment	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. adding more SMART Boards and document projectors in all 4 schools.</li> <li>2. purchasing more assistive technology hardware.</li> <li>3. replacing existing server VMHosts with new quad-core servers, like the Dell PowerEdge R720, and expanded memory capabilities.</li> <li>4. upgrading VM Storage with iSCSI appliance</li> <li>5. replacing outdated Dell GX280 workstations with current Dell/HP workstation models.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. adding more SMART Boards and document projectors in all 4 schools.</li> <li>2. installing additional network attached storage devices for district data backups.</li> <li>3. migrating more existing physical servers to the current virtualized server farm.</li> <li>4. installing a mounted projector and 16:9 screen in the F.J. Logandro Performing Arts Center.</li> <li>5. replacing existing backup strategy (Backup Exec) with a backup appliance like Barracuda 490/690.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. upgrading network attached storage devices for district home directory data and e-mail.</li> <li>2. migrating more existing physical servers to the current virtualized server farm.</li> <li>3. adding more SMART Boards and document projectors in all 4 schools.</li> <li>4. purchasing more assistive technology hardware.</li> <li>5. upgrading laptops in the BRS/LMS wireless carts.</li> </ol>
Networking Capacity	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. replacing all existing network cabling in BRS/LMS with CAT 6 wire home runs.</li> <li>2. installing fiber optic cabling between network closets in BRS/LMS.</li> <li>3. replacing all existing network switches in the network closets in BRS/LMS.</li> <li>4. upgrading primary (Comcast Fiber Metro-E) Internet bandwidth from 30Mbps to 50Mbps.</li> <li>5. adding a VM iSCSI switch for the VM Host environment</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. replacing all existing network cabling in FLW/AES with CAT 6 wire.</li> <li>2. installing fiber optic cabling between network closets in FLW/AES.</li> <li>3. replacing all existing network switches in the network closets in FLW/AES.</li> <li>4. installing wireless infrastructure for FLW/AES to support BYOD and In-house wireless devices.</li> <li>5. upgrading secondary (Comcast Business Class) Internet bandwidth from 50Mbps to 100Mbps.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. replacing the existing Cisco ASA firewall.</li> <li>2. replacing the existing FatPipe Internet load balancer appliance.</li> <li>3. upgrading the existing staff VPN appliance for remote desktop access.</li> <li>4. upgrading the Barracuda spam filter appliance.</li> <li>5. replacing listserv software with one that integrates with Genesis.</li> </ol>

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**Three Year Technology Plan Inventory Table (2013 – 2016) - CONTINUED**

Area of Need	Describe for 2013-14	Describe for 2014-15	Describe for 2015-16
Software used for curricular support and filtering	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. continuing the Microsoft School agreement for software upgrades.</li> <li>2. upgrading desktops/laptops to Windows 7 operating system.</li> <li>3. continuing Adobe school licensing agreement.</li> <li>4. continuing ASP agreement with Contour Data for IEP writing/reference</li> <li>5. continuing the subscription to <i>Destiny, Genesis, Study Island, Lexia, &amp; WYNN</i></li> <li>6. evaluating student virtual desktop infrastructure (VDI) for internal and remote access using Ericom PowerTerm Webconnect.</li> <li>7. investigating more textbook support software.</li> <li>8. evaluating digital textbook delivery.</li> <li>9. purchasing more assistive technology software.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. continuing the Microsoft School agreement for software upgrades.</li> <li>2. continuing Adobe school licensing agreement.</li> <li>3. continuing ASP agreement with Contour Data for IEP writing/reference</li> <li>4. continuing the subscription to <i>Destiny, Genesis, Study Island, Lexia, &amp; WYNN</i></li> <li>5. continuing and expanding both student &amp; staff virtual desktop infrastructure (VDI) for internal and remote access using Ericom PowerTerm Webconnect.</li> <li>6. investigating more textbook support software.</li> <li>7. evaluating digital textbook delivery.</li> <li>8. purchasing more assistive technology software.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. continuing the Microsoft School agreement for software upgrades.</li> <li>2. continuing Adobe school licensing agreement.</li> <li>3. continuing ASP agreement with Contour Data for IEP writing/reference</li> <li>4. continuing the subscription to <i>Destiny, Genesis, Study Island, Lexia, &amp; WYNN</i></li> <li>5. continuing and expanding both student &amp; staff virtual desktop infrastructure (VDI) for internal and remote access using Ericom PowerTerm Webconnect.</li> <li>6. investigating more textbook support software.</li> <li>7. evaluating digital textbook delivery.</li> <li>8. purchasing more assistive technology software.</li> </ol>
Technology maintenance policy and plans	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. continuing with the summer workstation and printer preventative maintenance policy currently in place.</li> <li>2. renewing all software licensing, including the licensing for VMWare and Backup Exec.</li> <li>3. extending Dell warranty on all equipment to end-of-life.</li> <li>4. renewing support contracts on all district software including <i>Destiny</i> and <i>Genesis</i>.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. continuing with the summer workstation and printer preventative maintenance policy currently in place.</li> <li>2. renewing all software licensing, including the licensing for VMWare and Backup Exec.</li> <li>3. extending Dell warranty on all equipment to end-of-life.</li> <li>4. renewing support contracts on all district software including <i>Destiny</i> and <i>Genesis</i>.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. continuing with the summer workstation and printer preventative maintenance policy currently in place.</li> <li>2. renewing all software licensing, including the licensing for VMWare and Backup Exec.</li> <li>3. extending Dell warranty on all equipment to end-of-life.</li> <li>4. renewing support contracts on all district software including <i>Destiny</i> and <i>Genesis</i>.</li> </ol>

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**Three Year Technology Plan Inventory Table (2013 – 2016) - CONTINUED**

Area of Need	Describe for 2013-14	Describe for 2014-15	Describe for 2015-16
Telecommunication services (Central Telephone, PA System, CCTV, Cable TV, and Distance Learning)	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. evaluating a voice-over-IP solution to integrate our data/voice/video on the same network infrastructure.</li> <li>2. installing more webcams throughout the district to promote the infusion of more Skype or other cost-effective distance learning applications in the classroom.</li> <li>3. investigating alternate and more cost effective Internet Service Provider solutions.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. installing more webcams throughout the district to promote the infusion of more Skype or other cost-effective distance learning applications in the classroom.</li> <li>2. evaluating the current CCTV systems in all four buildings for possible technology upgrades/enhancements.</li> <li>3. investigating alternate and more cost effective Internet Service Provider solutions.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. evaluating our current central telephone and PA systems in all four buildings for possible technology upgrades/enhancements.</li> <li>2. investigating alternate and more cost effective Internet Service Provider solutions.</li> </ol>
Technical support	<p>Technical support for workstations and servers that are still under warranty is provided by the respective manufacturers. The district provides its own technical support for workstations and servers that are out of warranty. Parts for these out of warranty technology items are purchased, stocked, and used as-needed.</p>	<p>Technical support for workstations and servers that are still under warranty is provided by the respective manufacturers. The district provides its own technical support for workstations and servers that are out of warranty. Parts for these out of warranty technology items are purchased, stocked, and used as-needed.</p>	<p>Technical support for workstations and servers that are still under warranty is provided by the respective manufacturers. The district provides its own technical support for workstations and servers that are out of warranty. Parts for these out of warranty technology items are purchased, stocked, and used as-needed.</p>
Facilities – infrastructure including security, fire, and alarm systems	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. replacing analog security cameras with IP digital security cameras in BRS/LMS.</li> <li>2. replacing the security DVR appliances with current models/technology in BRS/LMS.</li> <li>3. evaluating the installation of a separate power line from the existing emergency generator at BRS to the network operations center.</li> </ol>	<p>The district plans on:</p> <ol style="list-style-type: none"> <li>1. evaluating the replacement of individual battery backup units in the Network Operations Center with a centralized, single unit that is scalable and homogeneous.</li> <li>2. replacing analog security cameras with IP digital security cameras in FLW/AES.</li> <li>3. replacing the security DVR appliances with current models/technology in FLW/AES.</li> </ol>	<p>The district plans on evaluating the current security system (cameras and recording device) in all four buildings for possible technology upgrade/enhancement, which includes but is not limited to: more security cameras, enhanced security camera recording/viewing software, additional hard drive storage capability, pan-tilt-zoom security cameras, night-vision security cameras, parking lot security cameras.</p>
Other services	<p>The district plans on migrating the current district website to an ASP service for hosting/maintenance/upgrades.</p>	<p>The district plans on investigating the use of cloud data backup services.</p>	<p>The district plans on continuing to utilize the district-wide technology trouble ticket request log system and activity reports.</p>

**3 Year Technology Enhancement Description:**

A. Core Objective:

The district maintains a wide variety of educational technology equipment, supplies, and services to ensure that educators are well-equipped to provide students with:

- access to technology that assists with their classroom work, whether on an individual or group basis, in a dedicated computer lab, regular classroom, or the media center.
- a multitude of Internet-based resources during independent research and supervised online instruction.

B. What We've Been Doing Over the Last 3 Years:

In the fall of 2012, the district upgraded the e-mail server to a Dell PowerEdge 710 running a virtualized Microsoft Exchange 2010 environment. All staff e-mailboxes were migrated over and the GFI Mail Essentials listserv engine was upgraded to support Exchange 2010. The summer of 2012 focused on the implementation of a building-wide Cisco wireless infrastructure coverage at BRS/LMS. With this wireless infrastructure in place the district is now able to support the growing need for BYOD and district wireless device coverage throughout both buildings in a secure environment (WPA2 certificates with separate VLAN's to support both a public and private SSID). A new district Internet content filter (Barracuda 610) was installed to support the BYOD wireless content along with the standard district Internet traffic monitoring. We also upgraded the Microsoft productivity software on all workstations from Office 2003 to Office 2010. Staff training on Microsoft 2010 immediately followed at the district's first September in-service date. An opportunity to increase our 5Mbps Internet pipe for the same contract rate was identified, so we upgraded to a 30Mbps Internet pipe from Comcast Metro-E services. Finally, the district administrators were assigned MacBook Pro laptops in preparation for the new Stronge Teacher Evaluation system expected to be implemented for the 2013-14 school year and beyond. Administrators are expected to leverage the building-wide wireless coverage using their laptops to document teacher observations. The administrators will be able to take their notes on the laptops while observing in the classroom and then continuing the evaluation process online, accessing the Stronge-OASYS application. Furthermore, the laptops are expected to increase the administrators' productivity at home through the use of these laptops to access the district's remote desktop VDI and web-based applications

The summer of 2011 brought the upgrade of 50% of our desktop inventory with the installation of HP 4000 Professional desktops (Dual Core, 2.93GHz, and 4GB of RAM). The strategy the district followed on the placement of the new computers was teacher workstations, computer labs, and the media centers getting the majority of the new computers.

Rounding out the major implementations during the 2010-2013 Technology Plan was the migration of our student information system from SASI to Genesis during the summer of 2010. This was a monumental effort of planning, execution and training. The

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student data in SASI was scrubbed and migrated. Then it was checked again for accuracy. Custom reports were developed along with standard and custom interfaces to existing legacy systems (Comalex Lunch POS, Destiny Library Automation software, Global Connect Emergency Dialer database, and Network Active Directory database). In-house training materials were developed to supplement the vendor-offered training, which was turn-keyed.

### C. Where We're Going Over the Next 3 Years (Funding permitted):

In preparation for the technology requirements/guidelines of the Partnership for Assessment of Readiness for College and Careers (PARCC), the district has issued the following specification standards for a computer to be considered part of the district's network, each workstation should have a minimum of:

- Windows 7, Mac 10.7, Chrome, Apple iOS, or Android 4.0 Operating System
- Wired or wireless network interface card (NIC) that supports Internet connectivity
- 1 GHz or higher Dual core processor (CPU)
- 1 GB of RAM or more
- Video Card that supports at least a 1024x768 screen resolution specification
- Sound Card and speakers (or headphones)
- 17 inch or larger screen/monitor

Another expectation of the PARCC IT Readiness is the increased bandwidth required to the desktop. In preparation for the impending online testing for the 2014-15 school year, the network switch equipment will be upgraded from 10/100Mbps ports to 10/100/1000 Mbps (Gig) ports. Furthermore, copper connectivity between network equipment closets will be replaced with 12 strand multimode fiber to increase trunk throughput. Finally to support end-to-end Gigabit throughput, the single CAT 5 cable runs to the classroom with unmanaged classroom switches will be replaced with multiple CAT 6 homeruns from the network closets to the classroom.

The amount of concurrent devices required to support the PARCC online testing necessitates a solid core server infrastructure as well. Our current VMWare Server hardware, storage, and switch environment will be upgraded with faster processors, more memory, increased storage, and larger throughput gateways.

Addressing the desktop computer, internal network infrastructure, and server farm is just the internal part of the puzzle. It is not clear whether the PARCC online testing will be buffered and sent or real-time, but either way the data has to get from the district to the PARCC databases. Therefore, we need to continue to address the amount of Internet bandwidth supplied to the district and be able to throttle/manage the use of this bandwidth during testing periods. We plan to upgrade the Comcast Metro E Internet bandwidth from 30Mbps to 50Mbps over the summer of 2013 and increase it again during the summers of 2014 & 2015. Furthermore, we will also upgrade the Comcast Business Class Internet bandwidth from 50Mbps to 100Mbps over the summer of 2014. Our FatPipe Internet load

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balancer will be used to traffic shape and manage the Internet bandwidth supplied to district devices while PARCC testing is occurring. This will ensure that all students taking the online test are supplied with the bandwidth they need to successfully complete it.

The district installed a building-wide Cisco wireless infrastructure for the BRS/LMS campus during the summer of 2012. We plan to continue this project and install a building-wide wireless infrastructure for the AES and FLW school buildings by 2014-2015. The new wireless infrastructure for FLW/AES will also support the BYOD initiative along with district-owned devices just like the existing BRS/LMS wireless infrastructure.

Expansion of the current virtual desktop infrastructure will be investigated. Currently VDI is only offered to staff members for remote desktop access. With the possibility of PARCC allowing students to bring their own device for online testing, we will be looking into offering VDI to students so their device acts as a pass-through agent. Instead of having to manage each and every student device brought into the district, the device will only act as a gateway/portal to the virtual desktop that will be standardized on district servers for all students regardless of the device used to access it.

Technology devices used for school safety/security will be continually monitored and evaluated for cost-effective applications in the district to enhance our current security infrastructure. New IP based security cameras with correlating storage and management software will be continuously reviewed. Emerging technologies for building access and staff/parent/visitor badging will also be constantly addressed for possible upgrades/installations.

Hurricane Sandy also reminded us to investigate the possibility of moving the district website offsite to a managed ASP hosting service to guarantee uninterrupted communication during extended loss of power. Re-routing the network operation center (server room) power to its own grid linked to a diesel emergency backup generator will also be evaluated.

Our current backup strategy will be evaluated and upgraded during this 3 year Technology Plan. We will investigate and evaluate offsite backup services with an onsite backup appliance like the Barracuda 490/690. Our disaster recovery plan will be updated accordingly.

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From a curriculum perspective, we have partnered with Lockheed Martin to introduce a new rigorous and innovative Science, Technology, Engineering, and Mathematics (STEM) education curricular program for the middle school. This program is called Project Lead the Way (PLTW) and is funded through various grants. Our plan is to blend this program into our existing Applied Technology middle school curriculum to create an engaging and thought-provoking class that will help students develop critical thinking skills through hands-on project-based learning that will prepare them for real-world challenges. The funding has supported instructor training, course materials, and associated technology. The first course will be offered to an 8<sup>th</sup> grade class during the 4<sup>th</sup> quarter of the 2012-13 school year. During the timeframe of the 2013-16 Technology Plan, the PLTW program will be enhanced and expanded for future offerings to all three grade levels in the middle school with possible additions in coursework from the following Gateway to Technology (GTT) units:

- Automation & Robotics
- Design & Modeling
- Energy and the Environment
- Flight & Space
- Green Architecture
- Magic of Electrons
- Science of Technology
- Medical Detectives

### III. Needs Assessment

Based on professional development offerings, web-based surveys, and classroom observations/evaluations educator proficiency in the use of technology can be categorized as follows:

Staff	Partially Proficient	Proficient	Advanced Proficient
Classroom Teachers	5%	60%	35%
Library Media Personnel	0%	0%	100%

All library media personnel have been classified in the advanced proficient range, as they maintain the library automation software databases and are the audio-visual coordinators for their respective school buildings.

The PARCC IT requirements for the upcoming 2014-15 online testing played a major part in the needs assessment for the 2013-16 Technology Plan. PARCC released a minimum requirement for the desktop, bandwidth to the desktop, and Internet throughput. Using these requirements as a guideline, we identified the telecommunication services, hardware, software, and other services needed to improve our existing environment. Another driving force that played a role in identifying the technological needs of the district over the next three years was the new teacher evaluation model being introduced in 2013-2014. The impending & extensive additional workload being generated from the new teacher evaluation system calls for supporting technology for the administrators. A wireless infrastructure, portable computer devices, documenting software, and a network share portal all lend to increasing the efficiency and effectiveness of the evaluator in completing their increased workload in a shortened amount of time.

Educator technological needs are evaluated in a variety of ways. They include, but are not limited to, professional development surveys (both hard copy and electronic), electronic communication, grade level team meetings, faculty meeting dialogue, classroom observations by administration, and informal discussions with technology team members.

Student technological needs are also evaluated in a variety of ways. They include, but are not limited to, electronic portfolio assessment, completion of projects, rubric evaluations, classroom observations, informal discussions with their teachers, tests, and the high school technology placement test results.

Numerous district in-services and professional development classes have focused on technology integration. Prior professional development classes attended have included topics such as beginner and intermediate level SMART Board integration in the classroom, NJ Techspo conference workshops, *Destiny* library automation software training, *Genesis* student information system training, WordPress teacher website training, *Microsoft Office 2010* productivity training, assistive technology software/hardware training, and Project Lead The Way training.

District administrators attend a variety of professional development sessions that focus on technology. Prior professional development classes attended have included topics such as beginner and intermediate level SMART Board integration in the classroom, NJ Techspo conference workshops, *Genesis* student information system training, WordPress teacher website training, *Microsoft Office 2010* productivity training, and assistive technology software/hardware training, and Project Lead The Way training. All administrators have attended out of district technology workshops, principal roundtable meetings that discuss technology, national technology conferences, principal and supervisor national conferences, and administrative council meetings discussing technology. District administrators then turn-key this technology information to the staff at faculty meetings and in-services. Administrators also disseminate this information to their staff members using e-mail.



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The district provides technology supports in addition to the professional development in-services and classes offered. The Lumberton Township School District employs a Director of Educational Technology, one Trained Technological Assistant (TTA), and a part-time computer technician.

The Director of Education Technology oversees all facets of technology within the district. He supports the staff by evaluating emerging educational technologies, developing and maintaining the technology budget, performing responsibilities of the network administrator, maintaining district e-mail, managing all network software applications, and providing appropriate technology information at school staff meetings & in-services.

The TTA and part-time computer technician supports educators on a daily basis. They assist with both hardware and software problems. Educators submit computer work ticket requests and the TTA and/or computer technician responds to their requests within 24-48 hours. They deal with emergency technology situations that may arise along e-mailing educators on a regular basis regarding technological issues and assisting with technology integration within the classroom. Furthermore, the part-time computer technician assists the technology department by taking part in the implementation of the district-wide technology maintenance policy and plans.

Educational technology professional development needs have been identified by both traditional and on-line surveys. All educators are surveyed at the end of each district in-service. The survey-responses are reviewed and additional technology instruction is offered at the next in-service. Educators are also assessed regarding their technological needs using online surveys (Survey Monkey) completed for the district's annual Professional Development Plan. Survey hyperlinks are sent to all educators via e-mail and they are given a week to respond to this 10 minute survey.

The district has determined the needs to improve academic achievement for all students through the integration of technology as follows:

- Provide more funding for out-of-district professional development
- Offer educators technology training that incorporates 21<sup>st</sup> century skills and themes and enhances instruction in STEM (Science, Technology, Engineering, & Mathematics) fields
- Provide educators training related to enhancing problem solving and critical thinking skills.
- Give educators time to utilize technology
- Hire more technology trained assistants
- Require all students to take at least one technology oriented elective class in both 7<sup>th</sup> & 8<sup>th</sup> grade
- Encourage all educators to take one professional development class that relates to technology every three years
- Increase technology articulation time between educators
- Require that all educators utilize technology within one class lesson per subject, per week

The priority of the identified needs to improve academic achievement for all students through the integration of technology is as follows:

1. Offer educators technology training that incorporates 21<sup>st</sup> century skills and themes and enhances instruction in STEM (Science, Technology, Engineering, & Mathematics) fields
2. Give educators time to utilize technology
3. Provide educators training related to enhancing problem solving and critical thinking skills

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4. Increase technology articulation time between educators
5. Encourage all educators to take one professional development class that relates to technology every three years
6. Encourage all educators to utilize technology within one class lesson per subject, per week
7. Require all students to take at least one technology oriented elective class in both 7<sup>th</sup> & 8<sup>th</sup> grade
8. Hire more technology trained assistants
9. Provide more funding for out-of-district professional development

## **IV. Three-Year Goals**

- A. The needs assessment results show a need for a network infrastructure overhaul/upgrade in all four school buildings.
  - 1. Goal 1 – Network cabling in all 4 school buildings will be upgraded from CAT5 wiring to CAT6 wiring. Single runs from IDF to classroom with unmanaged classroom 10/100Mbps switches will be replaced with individual homeruns (a cable run for each classroom device) from the IDF to the classroom. Copper cabling between MDF/IDF closets will be replaced by 12 strand multimode fiber cabling.
  - 2. Goal 2 – Network switches in all IDF closets will be upgraded from 10/100Mbps port switches to 10/100/1000Mbps port switches.
  - 3. Goal 3 – VMHost servers will be upgraded with faster processors and more memory. VM Storage will be upgraded with more storage and faster access iSCSI drives. VM network switch will increase productivity and throughput of the data in the server farm.
  - 4. Goal 4 – Internet bandwidth will be increased from 30Mbps to at least 50Mbps or greater for the Metro-E Comcast pipe. The Internet bandwidth will be increased from 50Mbps to at least 100Mbps or greater for the Comcast Business Class pipe.
- B. The needs assessment results show a need for a building wide wireless infrastructure for FLW and AES.
  - 1. Goal 5 – Install CAT6 network cabling to the proposed access point locations in FLW and AES.
  - 2. Goal 6 – Provide Power of Ethernet (POE) switch ports for each access point cable run.
  - 3. Goal 7 – Install and configure access points to allow for secure connectivity of district-owned devices and also BYOD devices.
- C. The needs assessment results show a need for a strategy to minimize network downtime (website, VDI remote desktop access, staff e-mail, and Genesis student information system) in the event of an extended power failure.
  - 1. Goal 8 – Provide emergency diesel generator backup power to the network operation center in the event of an extended power loss.
  - 2. Goal 9 – Migrate the existing Lumberton School District website to a hosted ASP environment service.
  - 3. Goal 10 – Ensure the existing disaster recovery strategy/plan is up-to-date. Investigate and upgrade the backup strategy to either an offsite backup service or a backup appliance like the Barracuda 490/690. If backup media is onsite, keep a backup copy offsite to ensure redundancy.
- D. The needs assessment results show a need for expanding the Project Lead The Way (PLTW) curriculum.
  - 1. Goal 11 – Investigate external funding/grants to help sustain the program.
  - 2. Goal 12 – Continue to invest in extensive training for the PLTW instructor(s).
  - 3. Goal 13 – Evaluate, purchase, and implement emerging technologies to support the PLTW program and course work.

**V. Three-Year Implementation and Strategies Table**

<b>Three-Year Technology Implementation Activity Table</b>				
<b>District Goal</b>	<b>Strategy/Activity</b>	<b>Timeline</b>	<b>Person Responsible</b>	<b>Documentation</b>
1	Network cabling in all 4 school buildings will be upgraded from CAT5 wiring to CAT6 wiring. Single runs from IDF to classroom with unmanaged classroom 10/100Mbps switches will be replaced with individual homeruns (a cable run for each classroom device) from the IDF to the classroom. Copper cabling between MDF/IDF closets will be replaced by 12 strand multimode fiber cabling.	Summer 2013 (BRS & LMS) Summer 2014 (FLW & AES)	Director of Technology, TTA, Computer Tech, and Outside Vendor	Cabling maps. End-to-end testing report.
2	Network switches in all IDF closets will be upgraded from 10/100Mbps port switches to 10/100/1000Mbps port switches.	Summer 2013 (BRS & LMS) Summer 2014 (FLW & AES)	Director of Tech., TTA, Computer Tech, and Outside Vendor	Network switch layout diagram with port mappings to classroom location. Classroom ports identified on map. Switch configuration backups.
3	VMHost servers will be upgraded with faster processors and more memory. VM Storage will be upgraded with more storage and faster access iSCSI drives. VM network switch will increase productivity and throughput of the data in the server farm.	Summer 2013 & Summer 2014	Director of Tech., TTA, Computer Tech, and Outside Vendor	Testing and Director of Technology sign-off on project documentation.
4	Internet bandwidth will be increased from 30Mbps to at least 50Mbps or greater for the Metro-E Comcast pipe. The Internet bandwidth will be increased from 50Mbps to at least 100Mbps or greater for the Comcast Business Class pipe.	Summer 2013 & Summer 2014	Director of Tech., TTA, Computer Tech, and Outside Vendor	Testing report from Comcast. Internet speed test reports from various sites. Load balancing configuration report.
5	Install CAT6 network cabling to the proposed access point locations in FLW and AES.	Summer 2014	Director of Tech., TTA, Computer Tech, and Outside Vendor	Cabling maps. End-to-end testing report.
6	Provide Power of Ethernet (POE) switch ports for each access point cable run.	Summer 2014	Director of Tech., TTA, Computer Tech, and Outside Vendor	Network switch layout diagram with port mappings to classroom location. Switch configuration backups.
7	Install and configure access points to allow for secure connectivity of district-owned devices and also BYOD devices.	Summer 2014	Director of Tech., TTA, Computer Tech, and Outside Vendor	Testing and Director of Technology sign-off on project documentation. Access Point configuration backups.

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<b>Three-Year Technology Implementation Activity Table</b>				
<b>District Goal</b>	<b>Strategy/Activity</b>	<b>Timeline</b>	<b>Person Responsible</b>	<b>Documentation</b>
8	Provide emergency diesel generator backup power to the network operation center in the event of an extended power loss.	Summer 2014	Director of Technology, Director of Facilities, Architect, Outside Vendors.	Project documentation, electrical diagrams, manufacturer spec. sheets, testing documentation.
9	Migrate the existing Lumberton School District website to a hosted ASP environment service.	Summer 2013	Director of Technology, TTA, and Outside Vendor	Fully functional website located on ASP server. Training and access to website for daily maintenance.
10	Ensure the existing disaster recovery strategy/plan is up-to-date. Investigate and upgrade the backup strategy to either an offsite backup service or a backup appliance like the Barracuda 490/690. If backup media is onsite, keep a backup copy offsite to ensure redundancy.	Summer 2014	Director of Tech., TTA, Computer Tech, and Outside Vendor	Testing of backup data, incremental data tests, and configuration backups.
11	Investigate external funding/grants to help sustain the program.	Summer 2013, 2014, and 2015	Director of Grant Writing, Director of Technology, Principal, Vice-Principal, Teacher, and PLTW community.	Report on investigation of various internal and external funding sources.
12	Continue to invest in extensive training for the PLTW instructor(s).	Summer 2013, 2014, and 2015	Director of Technology, Principal, Vice-Principal, Teacher, and PLTW community.	Training materials.
13	Evaluate, purchase, and implement emerging technologies to support the PLTW program and course work	Summer 2013, 2014, and 2015	Director of Technology, Principal, Vice-Principal, Teacher, and PLTW community	Purchased and installed technology supporting the PLTW program and course work.

## **VI. Professional Development**

### **A. Describe the planned professional development strategies by addressing each of the following questions:**

#### **1. How ongoing, sustained professional development to all educators (including administrators) that increases effective use of technology in all learning environments, models 21<sup>st</sup> century skills, and demonstrate learning experiences through global outreach and collaboration in the classroom or library media center?**

All educators will have the following professional development opportunities between 2013 and 2016:

- Technology training at in-services and out-of-district workshops. This will include, but is not limited to the following areas: Microsoft Office productivity software suite, Genesis student information system, Destiny library automation system, Contour Data Tracker, Fortis document management application, Attendance Enterprise software, Office 3000 business software application, Lexia software, WYNN application, Study Island system, and SMART Board integration.
- E-mail communication from Information Technology department imparting technology material/instructions.
- Educators will be provided ample opportunity for articulation regarding technology infusion in the core subject areas to support 21<sup>st</sup> century skills, problem solving, and critical thinking. Collaboration will occur at monthly staff meetings, district in-services, grade level meetings, and departmental meetings.
- The district will continue to reach out to its own in-house “experts” in the various areas of technology to turn-key professional development to their colleagues. Special emphasis will be placed on the experts from our Applied Technology, Critical Thinking, Video Broadcasting, and Video Journalism educators to assist with the infusion of the 21<sup>st</sup> century skills taught in their curriculum to other core subjects.
- The importance of seeking professional development in the area of STEM (Science, Technology, Engineering, and Mathematics) fields will be stressed to all educators. Project Lead The Way (PLTW) training through the PLTW community and business partner (Lockheed Martin).
- With the district’s standardization on the SMART Board, professional development for SMART Board infusion into daily lessons will be emphasized. In-district professional development courses, out-of-district opportunities, and transfer of knowledge through informal collaboration will be some of the ways we train our educators on the use of this technology.
- Professional development on new & existing technology hardware, including assistive technologies (sound field systems, Braille machines, IntelliKeys, MotivAiders, Weighted Vests, etc.), will be offered to all educators.

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- Opportunities for out of district conferences, workshops, and seminars will be offered to all educators to further the effective use of technology and assist with the infusion of 21<sup>st</sup> century skills.
- Monthly district administrative council meetings where attendees receive technology updates, information, and training as needed
- Quarterly county Principal meetings
- Monthly Superintendent roundtable meetings
- Monthly Business Administrator roundtable meetings
- Quarterly county Technology Director/Coordinator meetings
- New Jersey Education Association (NJEA) conferences/workshops/online training
- National Education Association (NEA) conference/workshops/online training
- National Educational Computing Conferences (NECC)
- National Association of Special Education Teacher (NASSET) assistive technology workshops
- Council of Educational Facility Planners International (CEFPI) technology workshops
- National School Public Relations Association (NSPRA) technology workshops
- New Jersey School Boards conferences
- National School Boards conferences
- American Association of School Administrators (AASA) National conferences

### **2. What professional development opportunities, resources, and support (online or in person) exist for technical staff?**

- Technology training at in-services and out-of-district workshops. This will include, but is not limited to the following areas: Microsoft Office productivity software suite, Genesis student information system, Destiny library automation system, Contour Data Tracker, Fortis document management application, Attendance Enterprise software, Office 3000 business software application, Lexia software, WYNN application, Study Island system, and SMART Board integration.
- Quarterly county Technology Director/Coordinator meetings
- National Educational Computing Conferences (NECC)
- Burlington County Technology Users' Group meetings
- Out of district technology workshops
- Knowledge transfer from technology experts staffed at the consulting firm we utilize.
- Access to technical resources available online/Internet through research and self-taught.
- Technology staff meetings

**3. How will professional development be provided to educators on the application of assistive technologies to support educating all students?**

Educators, including employees on the Child Study Team, frequently attend training on emerging assistive technology software and hardware offerings. They receive this training at workshops conducted by specialists at the county special services school, offsite classes such as the Burlington County Educational Technology Training Center, and in-house training given by members of the Child Study Team. With this training, educators and Child Study Team members are better equipped to identify students that have special needs for assistive technology devices. The training also allows them to be better equipped to develop the individualized educational plan that identifies the assistive technology solution to accommodate that particular student's need.

Educators attend in-service trainings both in and out of district to learn about the use of assistive technology. In addition, as new technology is introduced, the district investigates its efficacy and consults with the district's Director of Educational Technology as well as the Assistive Technology Director from the Educational Services Unit concerning its benefits for our student population.



**B. Projected professional development activities that will continue to support identified needs through 2016, including all partners.**

Projected professional development activities are as follows for 2013-2016:

<b>Projected Professional Development Activities for 2013-2016</b>		
<b>2013-2014 School Year</b>	<b>2014-2015 School Year</b>	<b>2015-2016 School Year</b>
Various Genesis SIS training	Continued Genesis SIS training	Continued Genesis SIS training
SMART Board, wireless slate, document projectors, and student responders training (Beginner and Advanced levels)	Continued SMART Board, wireless slate, document projectors, and student responders training (Beginner and Advanced levels)	Continued SMART Board, wireless slate, document projectors, and student responders training (Beginner and Advanced levels)
Destiny Library Automation training	Continued Destiny Library Automation training	Continued Destiny Library Automation training
Contour Data Tracker training	Continued Contour Data Tracker training	Continued Contour Data Tracker training
Fortis Document Management training	Continued Fortis Document Management training	Continued Fortis Document Management training
Microsoft Office Productivity Suite training	Continued Microsoft Office Productivity Suite training	Continued Microsoft Office Productivity Suite training
Attendance Enterprise training	Continued Attendance Enterprise training	Continued Attendance Enterprise training
Office 3000 training	Continued Office 3000 training	Continued Office 3000 training
Lexia, Wynn, and Study Island training	Continued Lexia, Wynn, and Study Island training	Continued Lexia, Wynn, and Study Island training
Project Lead The Way (PLTW) training	Continued Project Lead The Way (PLTW) training	Continued Project Lead The Way (PLTW) training
New staff technology orientation training	New staff technology orientation training	New staff technology orientation training
WordPress teacher website/blog development training	Continued WordPress teacher website/blog development training	Continued WordPress teacher website/blog development training
District website management training	Continued District website management training	Continued District website management training

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<b>Projected Professional Development Activities for 2013-2016 (Continued)</b>		
<b>2013-2014 School Year</b>	<b>2014-2015 School Year</b>	<b>2015-2016 School Year</b>
VMWare management training	Continued VMWare management training	Continued VMWare management training
Windows 7 & Windows Server 2008 training	Continued Windows desktop & server OS training	Continued Windows desktop & server OS training
Firewall, Load Balancer, Content Filter, Anti-spam appliance, Ericom VDI, and Exchange server training	Continued Firewall, Load Balancer, Content Filter, Anti-spam appliance, Ericom VDI, and Exchange server training	Continued Firewall, Load Balancer, Content Filter, Anti-spam appliance, Ericom VDI, and Exchange server training
Distance learning (Skype, etc.) software training	Continued distance learning (Skype, etc.) software training	Continued distance learning (Skype, etc.) software training

## **VII. Evaluation Plan**

### **A. Describe the evaluation process that enables the progress and effectiveness goals to be monitored.**

The Lumberton School District employs a variety of methods to determine and evaluate the effectiveness of integrating technology into the curricula and instruction. Some of these measures to evaluate, monitor, and correct include:

- Results of the NJ DOE Fourth Grade Checklist and Eighth Grade Rubric are indicators of integrating technology into curricula and instruction promoting 21<sup>st</sup> century skills, global collaboration, and outreach.
- By tailoring professional development to the areas of learning needed, the natural result should be increased student growth. Many data sets will be used to determine the impact our professional plan had on student learning including NJASK scores and student performance on class assessments and projects. The data will be analyzed and used to determine educator effectiveness and its impact on student achievement. The information will be used by the administration to work with educators in refining their individual Professional Development Plan goals and by the educators to drive instruction.
- Lesson plans, curriculum maps, annual performance reviews, formal and informal classroom observations, student growth, and completion of educators' Professional Development Plan goals are all evidence of technology integration.
- The district and school professional development plans encourage job-embedded collaboration in a variety of ways. Collaboration is encouraged through vertical and horizontal articulation, participation in professional learning communities, implementation of collaborative plans, and the utilization of turn-key training. Evidence used to support this includes in-service agendas, meeting agendas, refined curriculum maps, and student test data.
- Evaluation forms are distributed at each in-service offered by the district. These results are analyzed to determine trends in the feedback educators provide.
- Site based committees meet on a monthly basis and give feedback on technology services provided in the district by the Information Technology Department team members. Feedback is evaluated and incorporated into the ultimate strategy of the technology department as appropriate.
- The district and school professional development committees meet on a quarterly basis and evaluate gaps in the current teacher proficiency in the use of technology and the technology professional development offerings needed to bridge those gaps. These committees then recommend areas which require more technology professional development or assistance. These areas are reviewed and incorporated in the overall district professional development strategy as future workshops and in-services are developed.

**B. Describe the process to make mid-course corrections in response to new developments and opportunities as they arise.**

The Lumberton School District administrative team meets monthly to discuss developments, opportunities, and possible mid-course corrections as they arise. Outcomes from these administrative council meetings are disseminated by the individual administrator to their staff members at consequential staff meetings. Furthermore, school principals have developed Professional Learning Communities or Strands that meet during these staff meetings to analyze, discuss, and develop mid-course corrections to the technology integration as they develop. District and school administrators oversee these discussions to facilitate and guide the direction as needed.

As newer technologies emerge, the Director of Educational Technology reviews the fit and cost effectiveness as it relates to the overall district goals/direction of the Technology Plan. If mid-course correction is recommended, it is done at the administrative council meetings for review and discussion.

School administrators review teacher lesson plans and specifically look for technology integration. If the principals notice the need for possible mid-course corrections, they bring it to the attention of the district administrators at the administrative council meetings for review and discussion.

In general, the fundamental key to making successful mid-course corrections is communication among all parties involved, which includes students, parents, teachers, administrators, and outside experts. Determining the needs and then developing a plan to integrate the necessary technology to address those needs is paramount.

**VIII. Funding Plan**

<b>Three-Year Educational Technology Plan Anticipated Funding Table (First Year)</b>					
<b>ITEM</b>	<b>DESCRIPTION OF ITEM TO BE PURCHASED</b>	<b>FEDERAL FUNDING</b>	<b>STATE FUNDING</b>	<b>LOCAL FUNDING</b>	<b>MISC. (e.g. Donations, Grants)</b>
Digital curricula (see <a href="#">NIMAS</a> )	E-Books to be viewed on Nooks. Also investigating digital delivery of textbook material.		✓	✓	
Technology Equipment & Supplies	Desktops, laptops, servers, SMART Boards, document projectors, e-readers, projectors, and ink/toner cartridges.		✓	✓	
Network/Capacity	Wiring (CAT 6 & Fiber), Gigabit switches, Internet pipes		✓	✓	✓
Filtering	Barracuda 610 licensing		✓	✓	
Software/Licensing	VMWare, Barracuda Anti-Spam, FatPipe, Backup software/appliance, Global Connect, MyPassword, Cisco switches/firewall/wireless controller, Ericom VDI, Microsoft School Agreement,	✓	✓	✓	
Maintenance	Warranty and preventative maintenance supplies		✓	✓	
Upgrades	Wireless Infrastructure at FLW/AES		✓	✓	
Other services	Website hosting, Server monitoring, technology consulting services,		✓	✓	