

Lewis Central Community
School District
Technology Plan



2015-2017

Vision, Goals and Strategies for Technology at Lewis Central

VISION

Lewis Central Community School District believes that engaging all stakeholders in meaningful learning experiences seamlessly integrated with technology will challenge and prepare students with the 21st Century Skills needed to become successful in a global society.

Lewis Central School District will provide:

- Dynamic and relevant curriculum for all students.
- Emerging technologies that support the future needs of learning and operations.
- Efficient technologies that are integrated seamlessly.
- Dependable technologies that are secure, supported, and built on a sound infrastructure.
- Accessible technologies that are appropriate for all users.

Necessary to achieve the vision:

- Learning tools to support student achievement
- Teaching tools to reach learning targets
- Effective communication tools for all stakeholders
- Infrastructure and resources to operate efficiently

GOALS

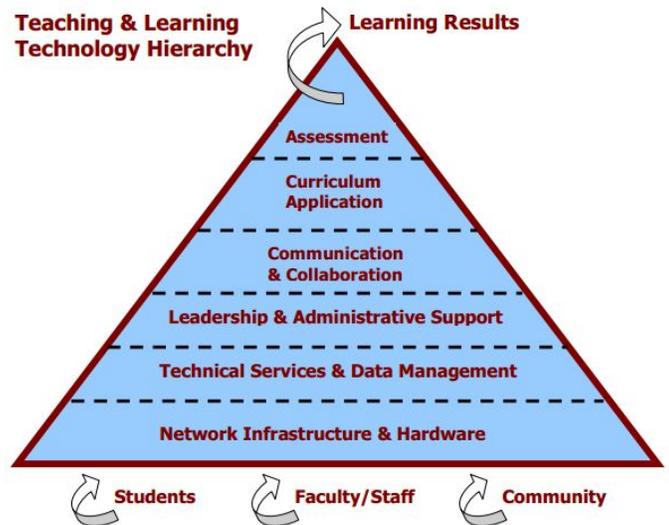
The goals and objectives for technology at Lewis Central are:

- To create a network and technology infrastructure that will grow sufficiently to support all of the needs of instructional delivery and accountability. It will include a network operations center and a comprehensive disaster recovery plan.
- To provide students with 21st century skills for the workplace and higher education.
- To integrate technology into all facets of learning.
- To digitize and customize curriculum.
- To provide staff with all necessary technology support and professional development.
- To develop technology support that provides technical and instructional support and oversight to all staff and students.
- To provide a 1:1 computing model for students.

STRATEGIES

Technology is the foundation on which we are creating a more effective and rich educational environment. These are the educational strategies we focus on to improve student learning:

- **Assessment:** Assessment of student work, beyond standardized test scores, so that it is ongoing, timely, and formative, informs instructional practice and curricular planning. The use of online, adaptive, and virtual assessments will increase.
- **Curricular Resources and Instructional Practices:** Ubiquitous access to digital curricular resources and collaborative environments affords enriching and timely content that creates a blended (both online and in-person) learning environment. A variety of multimedia, instructional practices meet the range of student learning styles, personalize learning, and nurture creativity.
- **Communication and Collaboration:** Online communication provides opportunity for better communication with parents and the community (both local and global).
- **Professional Development:** Ongoing, embedded, and collaborative professional development affords more opportunity for learning about and sharing best practices. Teachers learn in online professional learning communities and participate in webinars and other online professional development seminars and courses.



The Network Infrastructure and Hardware, and the Technical Services and Data Management components form the foundation for this hierarchy of teaching and learning.

They support the Teaching and Learning strategies:

- Leadership and Administrative Support
- Communication and Collaboration
- Curriculum and Instruction, and
- Assessment.

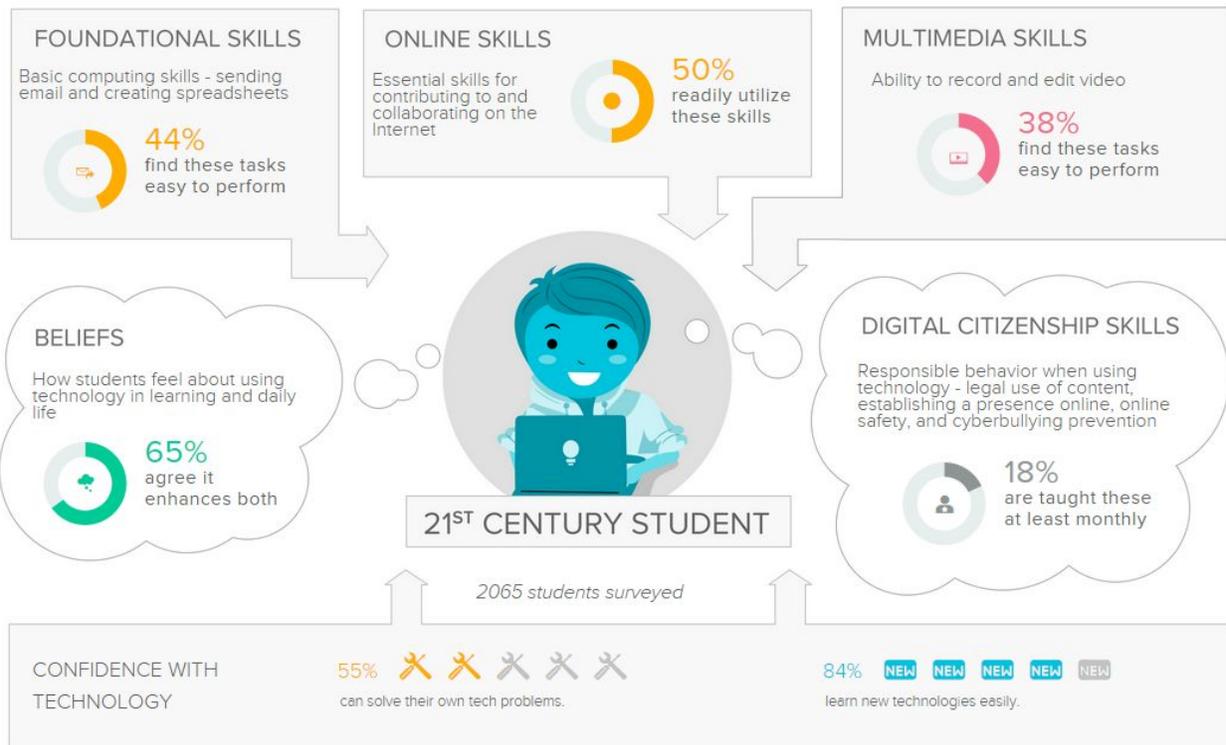
The recommendations/actions for this 2015-2017 plan are sectioned into the following sections: “Curriculum, Instruction, and Assessment”, “Communication, Collaboration, and Professional Development”, “Network Infrastructure & Hardware”, and “Technical Services and Data Management”. Each section includes information from our Clarity BrightBytes survey taken by students, teacher and parents, as well as recommended actions for achieving the target environment in 2017.

Curriculum, Instruction and Assessment

Although today's students are digital natives with many skills in social networking, the majority of them are not social learners with the ability to apply complex technology skills to every challenge.

Given this, a modern curriculum must purposefully include incremental technology-infused skill acquisition. However, the design of every effective curriculum begins by considering the unique needs of the learners. Although students are comfortable tweeting and surfing the web, they still need support to use technology for productivity tasks such as creating spreadsheets and sending professional email.

Being aware of students' skill profiles with technology can greatly inform the development of a cohesive, integrated curriculum that allows students to build the technology skills sets necessary for college and career.



*Text and data snapshot taken from Lewis Central's [Clarity BrightBytes](#) Curriculum Report.

Year 2012-2013 Highlights

- Implemented a curriculum mapping system including resources, lessons and common assessments
- Improved student and teacher access to technology with an increase in technology devices (300 laptops, 162 iPads)
- Expanded professional development opportunities for staff
- Begin to implement the Iowa Core 21st Century skills
- Implemented Google Apps for Education for all staff
- Increased professional development opportunities in technology use
- Increased use of online instructional/decision-making tools such as StandardsInsight and Inform
- Expanded use of Odyssey in credit recovery and TAG programming
- Expanded the use of Standards management in PowerSchool at the Middle School

Year 2013-2014 Highlights

- Teach all students to be responsible digital citizens, keeping staff and students informed of the latest legal and ethical behavior issues related to technology.
- Embed K-12 information literacy standards in all curricular areas.
- Increase online course offerings for students and teachers both in and out of District.
- Used cloud based tools for communication and collaboration by all students and staff (the Google ecosystem).
- Implemented student accounts K-12 for Google Apps for Education
- Investigate and pilot the use of online text resources in conjunction with 1:1 implementation at the secondary level.
- Investigate appropriate iPad/Chrome apps and other software to support intervention systems for struggling students
- Expanded the use of iPads for instruction at the elementary level in Special Education and English Language Learner programs.
- Increased professional development opportunities in technology use

Year 2014-2015

- Expand the use of cloud based tools (especially social media) for communication and collaboration by all students and staff.
- Expand the use of PowerTeacher Gradebook for communicating standards assessment information with students and parents.
- Develop a classroom technology standard and ensure all classrooms are equipped appropriately (projection, sound, phones, paging systems, document cameras, etc.)
- Expand the use of tablets for instruction at the elementary level.
- Increase professional development opportunities in technology use
- Embed K-12 information literacy standards in all curricular areas.
- Increase online course offerings for students and teachers both in and out of District.
- Teach all students to be responsible digital citizens, keeping staff and students informed of the latest legal and ethical behavior issues related to technology.
- Pilot a K-5 technology curriculum for basic computer skills

Year 2015-2016

- Implement a K-5/8 technology curriculum to develop basic computer skills for students.
- Continue to provide staff with opportunities and examples to embed the K-12 information literacy standards in all curricular areas.
- Continue digital citizenship lessons and offerings for students.
- Continue professional development for staff on safe and ethical use of technology for instruction and communication.
- Expand the use of technology to inform instruction (assessment uses)
- Work with companies who provide Lewis Central instructional materials to find ways to access the online information when a network connection is not available.

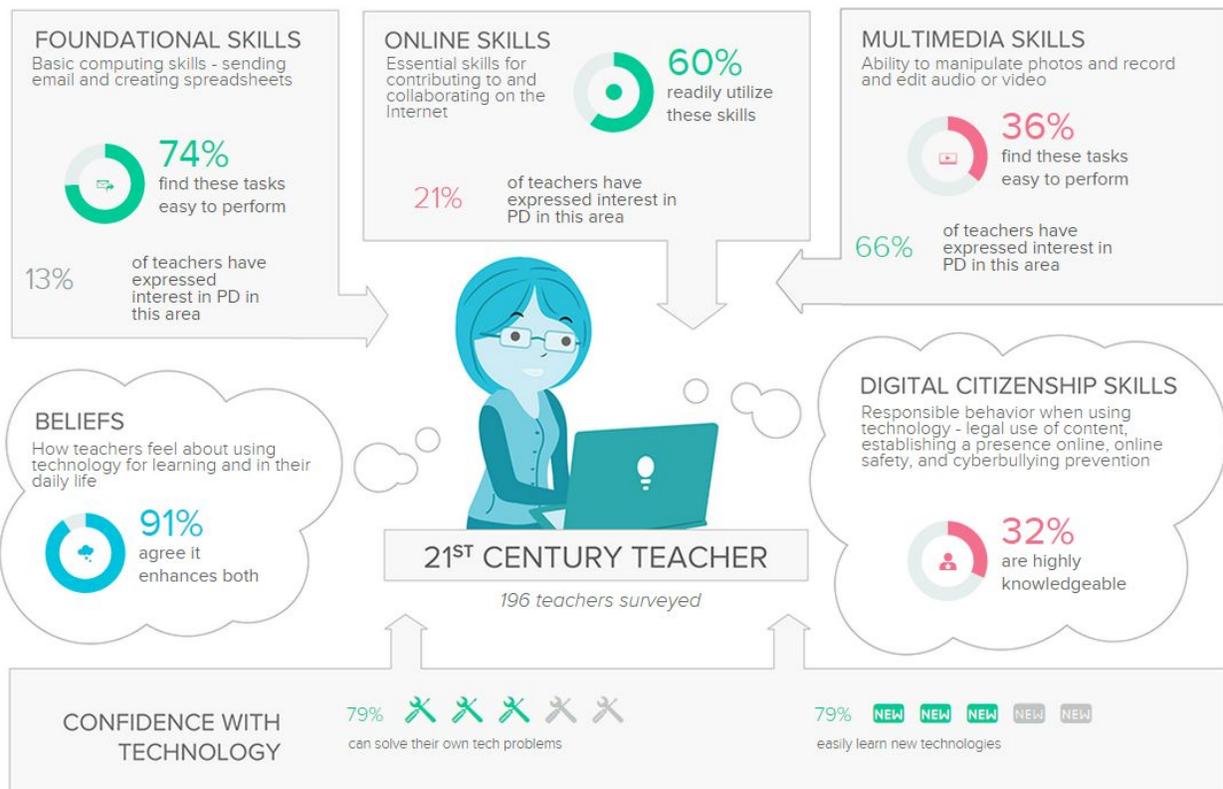
Year 2016-2017

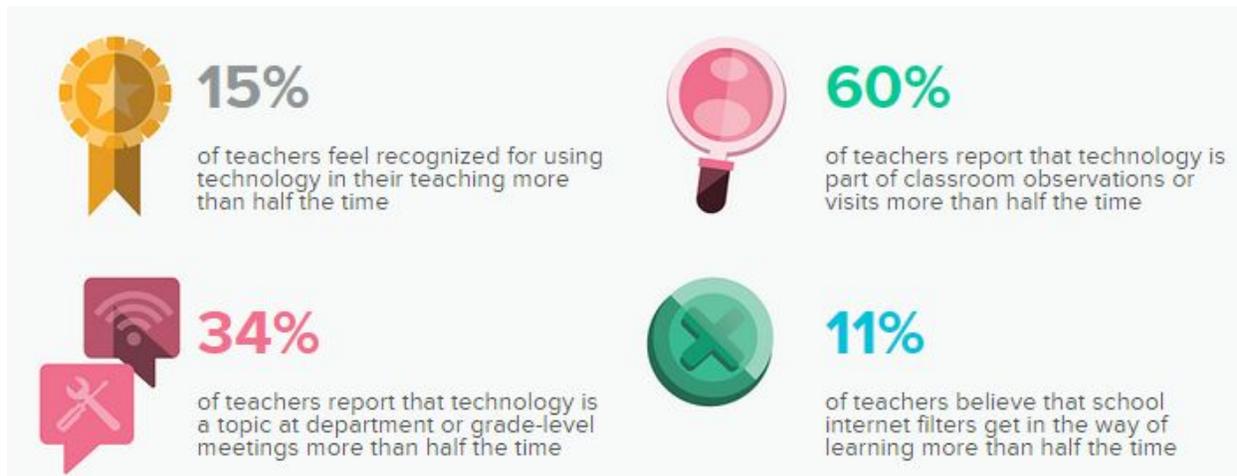
- Implement a K-12 digital citizenship curriculum
- Investigate the option of a combination of bring your own device or use the school provided device at the secondary level.

Communication, Collaboration, and Professional Development

Effective professional development for teachers can have an enormous impact on teaching and learning in an organization. However, professional development experiences for teachers must be sustained and of high quality for improved learning outcomes to be realized. Research from the International Society of Technology Education (ISTE) also reveals that high quality professional development is job-embedded, personalized, and designed to promote skill transfer. Professional learning experiences must respond to teachers' interests, needs, and classroom settings.

Rewarding and acknowledging teachers' use of new technologies is a critical piece of the puzzle. Creating an environment that supports and acknowledges teachers for their efforts with new technologies is necessary for transformational learning to happen system-wide.





*Text and data snapshot taken from Lewis Central's [Clarity BrightBytes](#) Professional Development and Supervisory Report.

Year 2012-2013 Highlights

- Implemented Google Apps for Education for all staff.
- Recruited the support of the AEA to bring professional develop to staff in using Google Apps for Education.
- Began the development of an online training resource for staff.
- Continued the integration of Web 2.0 tools into all curriculum areas.
- Continued to support staff and administration in effective use of the current data systems.
- Update the following district policies: Web Publishing, Student Acceptable Use, Employee Acceptable Use, Social Networking and the Confidentiality.

Year 2013-2014 Highlights

- Continued all of the above professional development support.
- Provided just-in-time collaboration, coaching and modeling of technology integration for students and teachers in accordance with the grade-level Iowa Core Standards and National Educational Technology Standards (NETS)
- Provided ongoing Technology in Practice (TIPs), both building-based and district-wide, to offer teachers flexible Professional Development and provide just-in-time coaching and collaboration.
- Deepen the use of Google Apps for Education for communication and collaboration by all students and staff.
- Had all employees review and sign-off on the renewed technology acceptable use policy.

Year 2014-2015

- Continue all of the above professional development support.
- Begin to develop and foster more personalized learning experiences, such as ePortfolios and Individual Learning Plans.
- All employees will become familiar with the district policy for Technology Acceptable Use.
- Continue to deepen the use of Google Apps for Education for communication and collaboration by all students and staff.
- Provide staff opportunities and guidance for using social media as a parent and student communication tool as well as a way to further their own knowledge..

- Promote online professional development resources to allow for staff to learn when they want to, not just during dedicated professional development times.
- Expand the use of tools, including social media, for communication with community stakeholders.

Year 2015-2016

- Continue to deepen the use of Google Apps for Education for communication and collaboration by all students and staff.
- Enhance online, blended, and informal professional development opportunities for staff.
- Prepare Titan Hill staff for teaching in a 1:1 elementary learning environment.
- Develop minimum expectations for students and teachers in regards to technology use.
- Develop a common language across all buildings related to classroom management and technology. Examples: "closed lids," "45" (have lid at 45 degrees)
- Expand offerings, both in person and online, for parents to learn about digital citizenship and technology use at home and at school.

Year 2016-2017

- Continue training and providing examples to Titan Hill staff of how to effectively teach in an elementary 1:1 learning environment.
- Continue implementation and revisions of a common language for classroom management and technology.
- Evaluate the minimum expectations for technology use as new resources become available.

Network Infrastructure & Hardware: Access and Enable

A robust network infrastructure, appropriate hardware, technical services and data management are components that are the foundation for teaching, learning, and leadership in the 21st century. The LC Information Technology Team is actively engaged in developing a strong infrastructure for learning that will unleash new ways of capturing and sharing knowledge based on multimedia that integrate text, still and moving images, audio, collaboration, and applications that are accessible from numerous kinds of devices. To organize this infrastructure of resources and collaboration for both professional activities and interaction with learners, will require the scalability of a sophisticated digital learning platform. This platform will enable seamless integration of in-school and out-of-school learning by providing access to the resources anytime and anywhere.

This infrastructure will require the upkeep of existing internal high speed networks, updating of our district-wide network, and expansion of our wireless access district-wide while we maintain the current access to desktop and laptop devices. The use of wireless devices, both school-owned and personal, is widespread and growing within our schools. In conjunction with our internal and external data resources, this infrastructure will require a robust and flexible pipe to the Internet, giving our learning community access to the ever-growing content available around the globe.

A main focus of our current work has been for each classroom to meet a new technology standard that includes being equipped with projection or display systems multimedia/sound field audio, and document projection/capture capabilities. These technologies will allow our teachers to enhance instruction in the classroom and enable teachers and students to use a digital learning platform and the multitude of educational web resources.

INFRASTRUCTURE AT SCHOOL REPORT LEWIS CENTRAL COMM SCHOOL DISTRICT	CLASSROOM
	ACCESS
	SKILLS
	ENVIRONMENT

SCHOOL SCORECARD

Schools	Date Range	Student Access at School	Teacher Access at School
Lewis Central Middle School	Apr 14, 2015 - Present	●	●
Lewis Central Senior High School	Apr 14, 2015 - Present	●	●
Titan Hill Intermediate School	Apr 14, 2015 - Present	●	●

*Text and data snapshot taken from Lewis Central's [Clarity BrightBytes](#) Infrastructure at School Report.

Year 2012-2013 Highlights

- Continued installation of projection systems in all buildings
- Equipped and opened new ERC building (networking, phones, fiber, AV, etc.)
- Upgraded IP phone system software
- Deployed 2 new physical servers and started virtualizing more services
- Began consolidation of GroupWise servers for eventual disposal or re-purposing
- Deployed 150 new teacher laptops at LCHS, LCMS and Kreft
- Deployed 5 additional laptop labs at LCMS and LCHS
- Changed Microsoft licensing to an “Enrollment for Education Solutions” plan
- Increased Internet bandwidth from 40MB to 100MB
- Deployed mobile device management for all district owned devices including iPads
- Purchased and deployed 162 iPads for student and staff use
- Upgraded all district smart phones
- Deployed an additional SAN storage device serving LCTH and LCHS
- Updated Destiny server to version 10.5

Year 2013-2014 Highlights

- Expanded the capacity of the school networks to support 10G connectivity to the district WAN (wide area network) and to support robust wireless access.
- Upgraded current wireless infrastructure to support a 1:1 initiative at the secondary level.
- Created a 1:1 model for students at the secondary level where each student has an assigned Chromebook for use in the classroom.
- Updated business lab computers at the High School and the GTT lab at the Middle School.
- Update modules in the Synergistics lab at the Middle School.
- Redeploy upgraded teacher/lab computers for student/classroom access at the elementary level.
- Evaluated security camera systems and added several cameras to the system. Ensured separation of camera IP traffic on the network by adding additional Milestone server platforms.
- Updated all application servers to latest software releases.
- Updated Servers with latest HP bios, firmware, drivers, service packs and windows updates.
- Placed a server at each location to perform AD, DNS, DHCP, print services, and host selected file shares.
- Replaced several aging 3COM switches.
- Increased Internet bandwidth from 100MB to 350MB in preparation for 1:1 implementation.

Year 2014-2015

- Investigate the use of iPads/tablets for use by teachers to collect formative assessment data.
- Create a full-scale disaster recovery/business continuity plan.
- Continue server virtualization efforts reducing the overall number of servers making support and management easier (as well as reducing costs).
- Update all application servers to latest software releases
- Update Servers with latest HP bios, firmware, drivers, service packs and windows updates.
- Continue to replace aging 3COM switches.
- Complete a network audit to plan for further network modifications and expansion.
- Continue monitoring bandwidth to accommodate the dramatic growth in both web based and digital content.
- Introduce Chromebooks and tablets to students and staff at Titan Hill.

Year 2015-2016

- Move towards a 1:1 computing environment at Titan Hill.
- Explore the possibility of a 1:1 computing environment at Kreft.
- Explore options for maintaining a 1:1 computing environment at LCMS and LCHS.
- Continue to monitor bandwidth across the district as more devices are added to the network.
- Implement appropriate suggestions from the 2015 technology audit.
- Increase the number of access points at Titan Hill.
- Develop a standard for technology in the classrooms at each building.
- Enhance the guest wireless network to make it easily usable by non-LC devices

Year 2016-2017

- Complete a 1:1 computing environment at Titan Hill.
- Continue to monitor bandwidth across the district as more devices are added to the network.
- Complete a refresh of 1:1 devices at the secondary level.
- Begin implementing a classroom standard for technology.

Technical Services and Data Management

“Our education system at all levels will redesign processes and structures to take advantage of the power of technology to improve learning outcomes while making more efficient use of time, money, and staff. “

-National Education Tech Plan

The LC Information Technology Department is committed to supporting the efforts of each school to streamline the use of data collected from the numerous silos built over the last fifteen or more years. Important data is continuously collected in various data silos or products that we use within the district. Furthermore, much of the curriculum, assessment, collaboration and communication occurs in additional individual data silos. In order to centralize much of this data, and provide access to elements when needed, we have initiated projects and practices that will facilitate alignment of data district-wide.

TECHNOLOGY SUPPORT REPORT LEWIS CENTRAL COMM SCHOOL DISTRICT	CLASSROOM ACCESS SKILLS ENVIRONMENT
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SCHOOL SCORECARD

Schools	Date Range	Speed of Support	Quality of Support	Computer Quality
Lewis Central Middle School	Apr 14, 2015 - Present	●	●	●
Lewis Central Senior High School	Apr 14, 2015 - Present	●	●	●
Titan Hill Intermediate School	Apr 14, 2015 - Present	●	●	●

*Data snapshot taken from Lewis Central’s [Clarity BrightBytes](#) Technology Support Report.

Year 2012-2013 Highlights

- Implemented new Financial, Human Resources and Food Service software platforms
- Implemented on-line Registration software
- Implemented SIF (Schools Inter-operability Framework) to automate the generation of State ID fields in PowerSchool
- Integrated PowerSchool fees and eFund fee payment software platforms
- Reorganized and added IT staff (now staffed with one Helpdesk support person per building and one network administrator district-wide)
- Migrated all directory services from eDirectory (Novell) to Active Directory (Microsoft)
- Implemented Print Services and Home Directories in Active Directory
- Continued the renovation of the district websites

Year 2013-2014 Highlights

- Increased teacher understanding of Inform to support use of student data in the classroom. Training is needed for teaching staff on how to access, manipulate and use data from the system.

- Implemented student accounts in Google Apps for Education in grades 2-12.
- Purchased BarrierOne Firewall/Proxy/Intrusion Protection appliance for 1:1 implementation.

Year 2014-2015

- Migrate to a hosted environment for Inform
- Explore the use of Learning Management Systems (like Google Classroom, Edmodo or Schoology) by all staff and students towards online and/or blended instruction in all grades and curricular areas, including increasing the amount of instruction available outside of the classroom and tailored to the individual learner.
- Investigate additional cloud-based tools for communication and collaboration by all students and staff and for remote management of systems.
- Investigate more reliable systems to support content filtering/management for 1:1 devices.
- Complete a refresh of the district website
- Define the process for adding educational applications to tablet devices.
- Define the process for requesting that websites be black or whitelisted within our network.
- Upgrade phone VOIP services in the district.
- Clarify procedures for staff on how to create a ticket in the help desk system.

Year 2015-2016

- Continue providing staff with appropriate tools for teaching in an online and/or blended learning environment.
- As more mobile devices are introduced, explore options for allowing teachers to do some content managing on the devices.
- Keep staff abreast of changes made to structure or support from the 2015 technology audit.
- Develop a list of tech-related things that all staff should know to be shared on a regular basis.

Year 2016-2017

- Continued monitoring of suggestions made due to 2015 technology audit and make adjustments as technology advances.
- Review the list of tech-related things that all staff should know for items that can be removed or should be added.

Budget Overview

The LC Information Technology Department FY15 budget totals approximately \$1,363,608.17. The budget is allocated in the 8 categories listed below. The largest allocations are for Tech Equipment (37%), Software/Services (22%), Salaries/Benefits(20%), and Repair and Maintenance (4%). This year Professional Development for IT staff is less than 1%.

Information Technology Department and Instructional Support line items for technology

Salaries/Benefits	\$280,858.17
Staff development	\$3,000.00
Software/Services	\$302,000.00
Postage/telephone	\$8,000.00
Supplies	\$3,000.00
Maintenance-Technology	\$56,000.00
Tech Equipment	\$510,000.00
Travel	\$750.00

An additional \$200,000 has been committed from the Physical Plant and Equipment levee by the Board to support technology improvements that qualify as PPEL purchases..