Long Beach Unified

Technology Use Plan

July 1, 2013 - June 30, 2016

Background and Demographic Profile

The Long Beach Unified School District has earned a reputation as one of America's finest school systems, winning many awards as a national model of excellence. The school district was named a national winner of the Broad Prize for Urban Education, recognizing America's best urban school system for increasing student achievement. LBUSD also has been a five-time finalist for the prize.

Established in 1885 with fewer than a dozen students meeting in a borrowed tent, LBUSD now educates 81,000 students in 84 public schools in the cities of Long Beach, Lakewood, Signal Hill, and Avalon on Catalina Island. The third largest school district in California, it serves the most diverse large city in the United States, with dozens of languages spoken by local students. The district employs more than 8,000 people, making it the largest employer in Long Beach.

LBUSD is one of the world's top 20 school systems — and one of the top three in the U.S. — in terms of sustained and significant improvements, according to a report described as the most comprehensive analysis of global school system reform ever assembled. The study was conducted by McKinsey & Company, a trusted advisor and counselor to many of the most influential businesses and institutions in the world. McKinsey serves more than 70 percent of Fortune magazine's most admired companies.

Long before the strategy became common among U.S. schools, Long Beach developed clear expectations for what children should know and be able to do as a result of their schooling at each grade level. The district in the early 1990s looked to teachers, business leaders, university experts and parents to develop new, rigorous academic standards. Since then, attainment of those high standards has attracted the increased interest and involvement of civic leaders, community partners, parents and teachers. The school district's Academic and Career Success Initiative, approved by the Board of Education in 2008, builds upon nearly two decades of steady improvement. The initiative reaffirms LBUSD's commitment to serving every student, every day.

Key to the district's success is its work with business people, volunteers, colleges and universities. The Long Beach Unified School District, California State University Long Beach and Long Beach City College have worked in collaboration with local, regional and national partners to create seamless, pre-kindergarten to postgraduate-school education. This partnership aligns academic standards, teaching methods and student assessment from preschool through masters and doctoral degree. LBUSD has also established educational partnerships with more than 1,200 local businesses, which recognize the district's role in developing a well-educated, highly skilled work force. Thousands of Volunteers in Public Schools (VIPS) assist teachers and students in classrooms. The district has received many national honors. In recent years, Long Beach schools have been visited and praised by the nation's president, attorney general, two secretaries of education, former Secretary of State

Gen. Colin Powel and other high level officials seeking to replicate LBUSD's successes. Local schools have won numerous California Distinguished and National Blue Ribbon awards.

District Strategic Plan

The Academic Career Success Initiative is the mainstay of the LBUSD strategic plan. The overall goal is to provide ALL students with post-secondary options.

Goal 1:

All students will attain proficiency in the core content areas.

Objective 1.1: To increase the percentage of all students who are proficient/advanced proficient in English-Language Arts by 3% and in Math by 3% annually.

Objective 1.2: To close the achievement gap in the District's four lowest performing sub-groups by increasing the percentage of English Learner, African American, Hispanic and Special Education students who are proficient/advanced proficient in reading by 5% and in math by 5% annually.

Objective 1.3: To increase the percentage of 8th grade students who are enrolled in Algebra by 3% annually.

Objective 1.4: To increase the percentage of 8th grade students enrolled in Algebra who are proficient/advanced proficient by 1% and the percentage of 9th grade students enrolled in Algebra who are proficient/advanced proficient by 2% annually.

Goal 2:

All students will graduate from high school prepared for post-secondary and career options.

Objective 2.1: To increase the percentage of students meeting graduation requirements to at least 90%.

Objective 2.2: To increase the percentage of students completing A-G requirements for college entrance to at least 60%.

Objective 2.3: To increase the percentage of High School junior students having passed the English-Language Arts and Math components of the Early Assessment Program by 3% annually.

Objective 2.4: To increase the percentage of pathways that have Linked Learning certification to at least 90%.

Goal 3:

All departments and sites will provide a safe and secure environment for staff and students.

Objective 3.1: To maintain a positive and safe school and work environment.

Objective 3.2: To reduce bullying at schools as measured by staff, student and parent surveys.

Goal 4:

To improve communication throughout the District and Community.

Objective 4.1: To increase the knowledge of Strategic Planning Goals and Objectives among all stakeholders by highlighting specific practices that are aligned to the District Strategic Plan.

Objective 4.2: To improve communication among all employees within the district.

Objective 4.3: To increase parent knowledge and participation in their child's education.

Objective 4.4: To increase the knowledge and participation of the business community to support school programs.

Board Initiative

The goal of the Academic and Career Success for All Students initiative is to provide all students with as many post-secondary options as possible.

Mission:

To support the personal and intellectual success of every student, every day.

Vision:

Every student a responsible, productive citizen in a diverse and competitive world.

Shared Values & Beliefs:

- Success of All Students: All staff members are focused on student success. Students have many avenues and opportunities to learn, to achieve, and to celebrate intellectual, personal, and employment success. All students leave the LBUSD to pursue productive lives.
- High Expectations: Expectations for students, parents, and staff are clearly defined, understood, and shared. Students, parents, and employees are empowered, supported, and trained to meet expectations.
- Respect and Integrity: Communication and interaction among and between stakeholders* is defined by mutual respect, trust, and support.
- Teamwork: The organization works collaboratively and creatively to ensure student success in a supportive environment. Decisions are made with stakeholder* input and participation. Successes are recognized and celebrated.
- Safety: Schools and work sites are safe and secure for students, parents, and staff.
- Effectiveness and Efficiency: Financial and human resources are managed effectively, and prioritized to meet goals and expectations.
- Continuous Improvement: Staff, parents, and students collaboratively evaluate progress using multiple, reliable measures, and make changes when needed.

*Note: "Stakeholders" refers to students, parents, staff, and community partners.

LBUSD Technology Master Plan

Mission Statement

Technology at the LBUSD shall be used where possible and appropriate to enhance the teaching/learning process; provide efficient and effective administration in the classroom, school offices, and district offices; communicate with students and parents; and provide secure access to timely and accurate information. It shall be used to collect, organize, and analyze data; track our progress towards our goals; and be proliferated throughout the district. Technology shall be integrated into the curriculum both as a tool for teaching and learning and as the subject of instruction so that our students have the necessary and appropriate skills to compete and thrive in the world. Staff shall be trained to use district-supported technology as part of an ongoing program to keep competency and productivity at the highest possible levels.

Technology, as covered by this Plan, shall include, but is not limited to: computer hardware and software; electronic learning resources; network cabling and equipment; telephone cabling and equipment; printing and reprographics; video (both analog and digital) and audio cabling and equipment, as well as any electronic device that accesses or interacts with any databases or technologies defined above. The Technology Use Plan will be aligned with the District Strategic Plan, Technology Master Plan and School Building Plan.

Vision and Outcomes

The vision of the LBUSD Technology Use Plan is to improve and extend teaching and learning through the meaningful use of technology in our schools as well as leverage technology to enable the most efficient and effective administration of K-12 education.

The Long Beach Unified School District (LBUSD) has developed a Technology Master Plan to provide several key outcomes:

- Provide a road map to the future for technology within the district;
- Maintain focus on instructional needs;
- Ensure technology decisions are based on functional needs and consider the true cost of ownership; and
- Strengthen the culture of collaboration between departments, district leaders, instructional professionals, parents, students, and the community.

Objectives identified in this Plan have been extensively reviewed to ensure that they are: (i) financially and resource realistic; (ii) reflective of the district's vision; and (iii) aligned to student achievement. The district's strategic goals and objectives for technology are identified in this section of the Technology Master Plan. These goals and objectives are grouped into four "cornerstones":

- Teaching and Learning
- Security and Infrastructure
- Professional Development
- Administration and Support

The following technology tools and resources will continue to be maintained and supported across the district:

- Internet Access from all classrooms, Libraries, and Media Centers
- Email communication
- SchoolLoop for communication between students, teachers, parents and administrators
- District/School web pages
- Educational portals to access online resources/media content
- An instructional environment where Windows, MacOS, iOS, Android and other handheld devices work together seamlessly in one network for campus-wide resource sharing.
- Standardized library management system
- District Intranet for instructional and administrative business.
- Textbook tracking systems
- VoIP (Voice over IP)
- Broadband networks including TLS, MPLS, satellite, microwave, DSL and Frame-Relay.
- Microwave between sites
- Video streaming/conference
- Voice recognition systems

Private Schools

The district believes in supporting the students in the city of Long Beach, and as such has implemented an ongoing collaborative effort with the local private schools. Each of the non-profit, private schools within the district's boundaries is provided with resources from Federal funding. The Special Projects Office staff work with the departments in charge of the various federal programs to provide the private schools with their share of Federal funds. Consultation over site plans, and appropriate use of funds takes place throughout the year so that the private schools can make the most effective use of their funds.

Acceptable Use Policy/Internet Safety/Ethical use of technology

The district has an "opt-out" only Acceptable Use Agreement which is included in the Student Handbook. This handbook is distributed to the parents at the beginning of the year and has to be returned with signatures back to the school.

An Acceptable Use Policy is also in place for district staff and is posted on the Technology Standards website. In order to meet Federal and State guidelines, the district will be providing each staff member with professional development on safe and ethical use of technology.

July 1, 2013 - June 30, 2016

2. Stakeholders

Technology Plan Committee	
Vanitha Chandrasekhar	Educational Technology Coordinator
Matt Woods	Executive Director – Information and Technology Systems
Kathy Piscopo	Administrator - IS Tech and Research Evaluation Studies
Christine Dominguez	Deputy Superintendent Office of Curriculum Instruction and Professional Development
Technology Committees/Groups	
Common Core Tech Steering Committee Monthly Meetings	• Chris Dominguez • Vanitha Chandrasekhar • Matt Woods • Kathy Piscopo • Pamela Seki • Rosemary Perry • Kevin Shillito • Brian Jackson • Yumi Takahashi • Robert Williams • Barry Bartlett
Tablet Task Force Committee Weekly meetings	• Brian Jackson • Vanitha Chandrasekhar • Ray Irvine • Kevin Shillito • Kevin Young • James Avila • Carol Lubahn • Stacie Alexander
Elementary Technology Representatives Bi-annual meetings	Technology Teacher representatives for grades K-5
Middle/K-8 Tech Coordinators 6 meetings a year	Middle School Technology Teacher representatives for grades 6-8
High School CTE Department Heads 6 meetings a year	Career Technical Education Teacher representatives for grades 9-12

3. Curriculum

3a.	Description of teachers' and students' current access to technology tools both during the school day and outside of school hours.

The data in Table 1 is taken from the CBEDS survey from Fall of 2012. Most of these computers are either in the classrooms with some of them being in the lab.

Table 1

School Type	Instructional Computers less than 48 months old	Computers in Instructional Settings	Computers with Internet Access	Student to Computer Ratio
Elementary	2540	1764	1611	15:1
Middle School	1540	563	554	12:1
High School (Includes labs used for electives)	4864	1136	1070	5:1

Classroom technology:

- Classroom teachers have been provided with updated computers
- Several classrooms have LCD projectors and document cameras
- Some classrooms have interactive whiteboards
- Some classrooms have Student Response Systems

Computer Labs:

- Several schools have computer labs which are used during the school day for instruction and electives.
- Some of these labs are also available for afterschool programs like WRAP(Winners Reaching Amazing Potential)

Library/Media Centers

- Library/Media Assistants provide students with resources and lessons on information literacy, plagiarism and online safety.

Use of Technology:

Teachers use technology for teaching and learning in a variety of ways.

- Creating digital presentations including PowerPoint, iMovie, Podcasting, Final Cut Pro
- Using instructional web resources
- Using adopted textbook electronic resources
- Using SchoolLoop to post assignments and grades as well as communicate with students and parents
- Accessing district curriculum resources posted on the Intranet

- Email
- Professional development videos
- LBUSD's student data system

Students use technology in the following ways:

- Word processing
- Creating digital presentations including PowerPoint, iMovie, Final Cut Pro, Podcasting
- Conducting online research
- Using SchoolLoop to communicate with teachers
- Revolution Prep - math intervention
- MIND – STMath
- iXL math program
- PLTW Project Lead The way
- Web 2.0 tools

Mobile Devices:

Mobile devices are also being used in the district by students, teachers and administrators.

- Currently one of the middle schools has a 1:1 iPad program where the students have access to iPads 24/7. Students and teachers use it to access online resources to enhance the classroom instruction and teachers use it to share resources and presentations.
- Students with special needs use it for a variety of assistive technology support
- Teachers at some sites use it for presentations and developing classroom lessons
- All administrators in the district have an iPad that they use for the "Learning Walks" as they conduct classroom observations and provide feedback to the teachers.

3b.	**Description of the district's current use of hardware and software to support teaching and learning.**

Classroom Use: Teachers have been provided with updated computers for them to be able to use it to access district resources for data collection, instruction and communicating with the school and district community. Several classrooms have projection devices and document cameras that are used by the teachers for daily instruction. Some of the schools have computer labs that are used by the teachers to teach the students use of digital and electronic learning resources to support instruction.

Instructional Intervention: In order to meet the needs of the students, several instructional programs are being used. The MIND STMath, Revolution Prep and iXL are some of the math intervention programs being used. Accelerated Reader is another program used for reading intervention. The after-school WRAP (Winners Reaching Amazing Potential) program also provides students with academic enrichment and assistance.

Curriculum Resources: The Office of Curriculum, Instruction and Professional Development (OCIPD) has an Internet and Intranet web page. Each of the Curriculum offices post instructional resources for teaching on these pages for teachers to access and use. The Intranet pages are available to teachers from home through the MyLBUSD portal.

Cybersafety and Digital Citizenship: K-12 teachers, librarians and technology teachers collaborated with the assistance of Tech Ed Services on developing lessons to be used by all teachers to teach cybersafety to all students. These lessons are aligned to the Common Core State Standards (CCSS) English Language Arts, National Educational Technology Standards for Students (NETS-S), and the Model School Library Standards for California Schools. These resources are posted on the LBUSD Intranet page.

Data Systems: LROIX is a district developed student data system which allows teachers to access student performance data on district and State assessments. Teachers and administrators have access to historical student data through the Academic Data Browser. District assessments data are also uploaded into the system through the Lexmark Assessment scanner which is provided to each school site. Elementary teachers utilize this system to input benchmark data for reading and math facts.

Communication Systems: There are two main systems used in the district for communication.

- SchoolLoop is a web-based communication system that allows teachers to post assignments and grades and students/parents to access them. School administrators can also access student grades and provide required intervention for students. Teachers have access to their own website on which they can to post resources and information for parents and students.
- Blackboard Connect is a voice communication system that allows the district, school administrators and teachers to send voice messages to the parents and employees regarding their students and schools. This is also used in case of emergencies at the school or district level.

Textbook/Library Tracking: The Follett Destiny system is used by the district for distribution and inventories of library books and textbooks. Each school has a scanning device and access to the software to be able to check out textbooks as well as library books.

Professional Development: The district uses the eSchool Solution Electronic Registrar Online system. This system allows teachers to select and enroll in professional development courses offered by the district, track their attendance and print transcripts and records.

Mobile Devices: iPads are currently being deployed at one middle school where students have access to district provided devices for 24/7 use. These devices are being used by the students at school for research, curriculum projects and accessing digital resources. Administrators use it for observation and communication. Several devices are being used as Assistive Technology devices for students with special needs.

3c.	Summary of the district's curricular goals that are supported by this tech plan.

Common Core State Standards

A new set of expectations that will help ensure college and career readiness.

California has joined a national movement to adopt common standards and assessments for English and mathematics. Currently, standards for what students should know and be able to do vary among states, as does the difficulty of the assessments used to determine whether students are meeting those standards. Common standards allow for collaboration among states on best practices and professional development. Common learning goals provide a clear vision of what educators and parents in all states should aim for. These learning goals help ensure that students meet college and work expectations, and that students are provided rigorous, challenging coursework. The standards are clear, consistent and research-based.

The Timeline for Implementation

Implementation of the Common Core in California's schools will occur in stages beginning this year, with full implementation scheduled for the 2014-15 school year. For now, existing state standards still apply, and student progress will continue to be monitored through the California Standards Tests, or CSTs. By 2014-15, however, the goal is to replace the CSTs with assessments that measure student attainment of the Common Core. The Long Beach Unified School District has been one of the most progressive school districts statewide when it comes to preparing for the new standards.

This school year, LBUSD teachers will begin to shift some of their instruction practices in anticipation of full implementation by 2014. Along with the implementation of the CCSS, LBUSD is also preparing for the computer adaptive assessments being led by the Smarter Balanced Assessment Consortium (SBAC).

Linked Learning

Vision: Engaging Every Student, Every Day in a Linked Learning Experience

Whether they aspire to become doctors or medical technicians, professors or scientists, architects or carpenters, ALL students hunger for the answer to a simple question: "Why do I need to learn this?" Students want a **Linked Learning** experience that gives relevance to rigor.

- Challenging Academics for college preparation are studied through a real world profession.
- Technical Skills that link academics with a professional career are taught through hands-on classroom work.
- Work-based Learning focused on a continuum of experiences ranging from career awareness and exploration to actual career preparation.
- Student Support provided through mentoring, tutoring, career counseling and family support services.

Academic and Career Success Initiative

The Academic and Career Success For All Initiative was unanimously approved by the Board of Education in September 2007 to increase the college and career readiness of all students. It is part of the district's larger strategic plan and will help ensure that students graduate from high school with as many options as possible.

At the heart of the initiative is the district's Seamless Education partnership with Long Beach City College (LBCC), and California State University Long Beach (CSULB). This partnership was developed in the 1990's to improve student achievement and teacher quality by aligning academic standards, teaching methods and student assessments from preschool through graduate school. Enhancements to this effort include:

- Educating students and parents about the "A-G" college entrance requirements and career options beginning in sixth grade.
- Collaborating with LBCC and CSULB to establish criteria for guaranteed college admission, helping students meet those criteria, identifying various college pathways for students, and providing support to students during college.
- Aligning the higher education initiatives with career technical education to make certain that students have as many options as possible after they graduate from high school.
  - Advanced Placement (AP) Course Enrollment and Passage
  - College Early Assessment Program (EAP) Participation and Performance
  - College Admissions

National Educational Technology Standards for Students

- Creativity and Innovation: Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.
- Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, both locally and distant, to support individual learning and contribute to the learning of others.
- Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
- Critical Thinking, Problem Solving, and Decision Making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
- Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
- Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems, and operations.

Model School Library Standards for California Public Schools

- Students access information: The student will access information by applying knowledge of the organization of libraries, print materials, digital media, and other sources.
- Students evaluate information: The student will evaluate and analyze information to determine what is appropriate to address the scope of inquiry.
- Students use information: The student will organize, synthesize, create, and communicate information.
- Students integrate information literacy skills into all areas of learning: The student will independently pursue information to become a lifelong learner

3d.	**List of clear goals, measurable objectives, annual benchmarks, and an implementation plan for using technology to improve teaching and learning by supporting the district curricular goals.**

The Technology Use Plan will be aligned to support the following LBUSD curricular goals:

- Common Core State Standards.
- Linked Learning
- Academic Success Initiatives
- National Educational Technology Standards for Students
- Model School Library Standards for California Public Schools

Goal 3d.1 **Teachers will use lessons and units integrating technology aligned to the Common Core State Standards to enhance classroom instruction.**		
Objective 3d.1.1 *By June 2016, 75% of the teachers will use lessons and units integrating technology into lessons aligned to the Common Core State Standards to enhance classroom instruction.*		
Benchmark Year 1	Benchmark Year 2	Benchmark Year 3
By June 2014, 25% of the teachers will use lessons and units integrating technology into lessons aligned to the Common Core State Standard to enhance classroom instruction.	By June 2015, 50% of the teachers will use lessons and units integrating technology into lessons aligned to the Common Core State Standard to enhance classroom instruction.	By June 2016, 75% of the teachers will use lessons and units integrating technology into lessons aligned to the Common Core State Standard to enhance classroom instruction.

Objective 3d.1.2 *The Office of Curriculum, Instruction and Professional Development (OCIPD) will provide teachers with model lessons, resources and digital tools in integrating technology lessons to support the LBUSD curricular goals related to NETS-S, Linked Learning, Academic Career Success Initiative and Model School Library Standards.*		
Benchmark Year 1	Benchmark Year 2	Benchmark Year 3
OCIPD will provide teachers with model lessons, resources and digital tools in integrating technology lessons to support the LBUSD curricular goals related to NETS-S, Linked Learning, Academic Career Success Initiative and Model School Library Standards		

Implementation Plan			
Activities	**Timeline**	**Person(s) Responsible**	**Monitoring & Evaluation**
Develop a matrix of technology skills aligned to the Common Core State Standards, Linked Learning and district initiatives.	2013 and ongoing	• Educational Technology Coordinator (Ed Tech Coordinator) • Curriculum Leaders	• Documents and resources posted online for use by teachers and administrators
Make technology curriculum an ongoing agenda item at curriculum and department head meetings	2013 and ongoing	• Ed Tech Coordinator • Curriculum Leaders • Department heads	• Agendas and minutes
Develop lessons aligned to Common Core State Standards for each grade level	2013 and ongoing	• Ed Tech Coordinator • Curriculum Leaders	• Lessons and units of study for each grade level
Support teachers in the use of technology to align with Linked Learning Initiatives	2013 and ongoing	• Ed Tech Coordinator • Academic Career Technical Education Curriculum Leader	• Linked Learning surveys
Compile list of electronic tools for communication and collaboration to enhance teaching and learning	2013 and ongoing	• Ed Tech Coordinator • Curriculum Leaders • Technology Information Services	• Usage reports of Portal access tools
Provide students with anytime/anywhere access to electronic content to support classroom instruction	2013 and ongoing	• Ed Tech Coordinator Curriculum Office • Technology and Information Systems Office	•

Evaluation Instrument(s) — Data To Be Collected:

- Usage reports of digital and electronic tools and resources
- List of resources posted on curriculum web page
- Agendas and minutes
- Lessons and units posted on curriculum web page
- Linked Learning Survey
- Reports on usage of electronic resources and communication/collaboration tools

3e.	**List of clear goals, measurable objectives, annual benchmarks, and an implementation plan detailing how and when students will acquire the technology skills and information literacy skills needed to succeed in the classroom and the workplace.**

As we continue to prepare students for the global workplace of the 21st century, we need to ensure that they are proficient in the use of technology and information literacy skills. These include the following NETS-S standards:

- Research and information literacy skills focusing on evaluating and assessing online information and resources for accuracy, authenticity and reliability
- Use of Web 2.0 tools for communication and collaboration
- Use of digital and online tools for creativity and innovation
- Use of digital and online tools for problem solving and critical thinking

3e.1 **Students will be proficient in using digital tools and resources aligned to the NETS-S standards for technology and information literacy.**		
Objective 3e.1: *By June 2016, 80% of students will be proficient in using digital tools for research, information literacy, communication, collaboration, creativity, innovation, problem solving and critical thinking.*		
Benchmark Year 1	Benchmark Year 2	Benchmark Year 3
By June 2014, 40% of students will be proficient in using digital tools for research, information literacy, communication, collaboration, creativity, innovation, problem solving and critical thinking	By June 2015, 60% of students will be proficient in using digital tools for research, information literacy, communication, collaboration, creativity, innovation, problem solving and critical thinking	By June 2016, 80% of students will be proficient in using digital tools for research, information literacy, communication, collaboration, creativity, innovation, problem solving and critical thinking

Implementation Plan			
Activities	**Timeline**	**Person(s) Responsible**	**Monitoring & Evaluation**
Identify digital tools and resources for research, information literacy, communication, collaboration, creativity, innovation, problem solving and critical thinking.	2013-2014	• Ed Tech Coordinator • ELA Curriculum Leader • Library/Information Literacy Curriculum Leader	• Database of approved digital tools and resources
Develop lessons incorporating digital tools and resources for use by teachers and post on curriculum website	2014 Spring	• Ed Tech Coordinator • ELA Curriculum Leader • Library/Information Literacy Curriculum Leader	• Database of lessons and units of instruction incorporating digital tools and resources
Provide professional development for teachers and administrators on	2014 and ongoing	• Ed Tech Coordinator • ELA Curriculum Leader • Library/Information Literacy Curriculum Leader	• Professional development plan and attendance reports
Evaluation Instrument(s) — Data To Be Collected: • Database of tools and resources • Lesson plans and units posted on webpage • Professional Development attendance reports			

3f.	**List of goals and an implementation plan that describe how the district will address the appropriate and ethical use of information technology in the classroom so that students can distinguish lawful from unlawful uses of copyrighted works, including the following topics: the concept and purpose of both copyright and fair use**

As the Internet and emerging technologies become ubiquitous among students in schools today, it is important for educational institutions to educate not only the students, but also the educational community including, but not limited to students, teachers, administrators and parents.

Units of Instruction:
A team of LBUSD K-12 classroom and technology teachers as well as librarians developed lessons and units around cyberbullying, cybersecurity, personal safety, social networking, intellectual property and cyber-community. These lessons and units are posted on the curriculum Intranet page.

In order to meet Federal and State guidelines, professional development will continue to be provided to the teachers and administrators on the use of these lessons to educate the students on safe, ethical and appropriate online behaviors.

LBUSD will ensure that all of the stakeholders in the Long Beach educational community are provided with resources and awareness of these issues and safe practices related to them. Resource such as Common Sense Media and NetSmartz are available for use by teachers, librarians and administrators with potential for more resources being added in the future.

The Long Beach Unified School District's Acceptable Use Policy (AUP) and Anti-Cyberbullying programs have been implemented at all grade levels.

The entire AUP can be found at:

http://www.lbschools.net/Main_Offices/Business_Services/Information_Services/Technology_Standards/acceptable_use.cfm

Which reads, in part:

All access to Internet sites are routed through a "technology protection measure" designed to filter out material that is in violation of the district Internet policies. This filter will block most objectionable material, but users must be aware that some objectionable material may be missed by the filter and these sites should be reported immediately for review. A review process is available to block sites with objectionable material. There is also a review process to request the unblocking of sites that users believe contain material that has educational benefit. An adult filter override is available with specific administrative approval.

Students and staff are responsible for following generally accepted social standards for use of a publicly owned and operated communication tool. Students and staff will maintain high standards of ethical conduct while using the system. Examples of unethical, unacceptable use of District technology equipment includes the following:

- Sending, displaying, or accessing pornographic, abusive, obscene, or other objectionable language, graphics, or other media
- Unauthorized disclosure, use, and dissemination of personal information about students or employees
- "Hacking" or otherwise engaging in unlawful activities while online
- Using obscene language
- Harassing, insulting, or attacking others
- Intentionally damaging computers, computer systems, data, files, information or computer networks
- Violating copyright laws
- Using or distributing another's password
- Trespassing in another's folders, work, or files

- Intentionally wasting limited resources
- Employing the network for outside business or commercial purposes
- Sending or receiving of unethical, illegal, immoral, inappropriate, or unacceptable information of any type
- Engaging in activities that cause disruption to the network or its systems
- Attempting to bypass the system security measures
- Reposting or forwarding a message that was sent to you privately without permission of the person who sent you the message
- Posting chain letters or engaging in "spamming" - i.e. sending an annoying or otherwise unnecessary message to a large number of people
- Any other activities not appropriate in an educational forum

The network is provided for staff and students to conduct research and communicate with others on academic topics and to engage in legitimate District business. Individual users of the district computer networks are responsible for their behavior and communications on those networks. It is presumed that users will comply with district standards and will abide by the policies specified herein. Violations of the district policy described will result in access privileges suspended or revoked as well as other disciplinary action as warranted. Any commercial, political, or unauthorized use of those materials or services, in any form, is forbidden. All copyright laws must be observed.

Network storage areas will be treated like student lockers or ***employee work areas***. Under the direction of the school administration or senior management, the Technology & Information Services Branch will review files and communications to ***assure use is appropriate***, maintain system integrity and insure that requirements of the Child Internet Protection Act are being observed. Students and staff should not expect that email or files stored on district servers would always be private.

Any type of information stored on district computers becomes the property of Long Beach Unified School District, and as such Long Beach Unified School District will periodically review and monitor all computer files and data stored on district computers. Long Beach Unified School District will edit or remove any material which the administrators, at their sole discretion, believe to be inappropriate. Access to and review of computer files is not limited to probable cause. Privacy ***on the use of district computers*** is neither implied nor granted, nor should it be expected.

Use of the computer network may be revoked at any time for inappropriate use. The system administrators of the LBUSD computer network, in conjunction with school administration and senior management, will be the sole determiners of what constitutes inappropriate behavior. The violation of any item contained in this policy may result in the loss of computer access and/or other disciplinary action as well as possible punitive action as provided for by local, state, and federal law.

Security on any computer system is a high priority, especially any system that has many users and/or Internet access. Neither students nor staff shall let others use his or her account or password as he or she is responsible for all actions related to his or her account.

Students and staff must notify school administrators immediately if their password is lost or stolen of if they think someone has access to their account. Students and staff are to use only the network directories and resources that have been assigned for their use. Unauthorized access to any other level of the system, or other system resource, is strictly prohibited. Users will make no attempt to bypass the district anti-virus software, firewall, filtering and safeguards. When finished with a computer, the student and staff are expected to logout where appropriate.

Students and staff are not allowed to install software onto the computers or the computer network without a valid purchase order and permission from the network administrator.

Programs and/or data stored on local hard drives of district computers are subject to removal at any time without prior notice. Long Beach Unified School District shall not be held responsible for the security, integrity, or longevity of data and/or programs stored locally on staff computers.

Students and staff acknowledge that they are completely responsible for any and all use of the district's computer network, and that misuse could lead to liability and/or consequences that extend beyond the district's authority. The Long Beach Unified School District shall be held harmless from any use or misuse of the computer network by students. Long Beach Unified School District makes no warranty of any kind, whether expressed nor implied, for the service that it is providing. Long Beach Unified School District will not be responsible for any damage users may suffer, including but not limited to, loss of data or interruptions of service. Long Beach Unified School District is not responsible for the accuracy or quality of the information obtained through or stored on the system.

<table>
<tr><th colspan="3">Goal 3f.1:
Provide students with education on digital citizenship, cybersafety and safe/ethical use of digital and online resources.</th></tr>
<tr><td colspan="3">Objective 3f.1:
By June 2016, students, teachers, administrators and educational community will be provided with resources and tools to support legal and ethical use of technology as related to copyright and plagiarism.</td></tr>
<tr><td>Benchmark
Year 1</td><td>Benchmark
Year 2</td><td>Benchmark
Year 3</td></tr>
<tr><td colspan="3">• Units of instruction, online resources and tools related to ethical and legal use of digital and online resources as related to copyright and plagiarism will be collated and posted on the district Intranet for teachers and administrators to access
• Ongoing training and instruction on the appropriate and ethical use of information technology will be provided to administrators, teachers to teach students ethical and legal uses of digital and online resources
• Parents and community members will be provided with resources and information on current issues related to ethical and legal uses of digital and online resources.</td></tr>
</table>

Implementation Plan			
Activities	**Timeline**	**Person(s) Responsible**	**Monitoring & Evaluation**
Assemble online resources (e.g. Common Sense Media, NetSmartz) and lessons (created by LBUSD teachers and librarians) to teach students appropriate, safe and ethical uses of technology	2013 and ongoing	• Ed Tech Coordinator • Curriculum leaders	• Resources posted online for teachers
Provide resources and professional development to teachers, librarians and administrators on appropriate, safe and ethical use of technology	2013 and ongoing	• Ed Tech Coordinator • Curriculum leaders	• Professional development records
Provide students with lessons on safe and ethical use of technology	2013 and ongoing	• Classroom teachers • Librarians	• Survey of teachers/students
Evaluation Instrument(s) — Data To Be Collected: • Postings of online resources • Surveys teachers and librarians on use of resources			

3g.	**List of goals and an implementation plan that describe how the district will address Internet safety, including how to protect online privacy and avoid online predators. (AB 307)**

Goal 3g.1 **All students will be provided instruction on Internet safety, online privacy and avoidance of online predators.**		
Objective 3g.1 *By 2016, students, teachers, administrators and educational community will be provided with resources and tools on Internet safety, online privacy and avoidance of online predators.*		
Benchmark Year 1	Benchmark Year 2	Benchmark Year 3
• Units of instruction, online resources and tools related to Internet safety, online privacy and avoidance of online predators will be collated and posted on the district Intranet for teachers and administrators to access. • Ongoing training and instruction on Internet safety, online privacy and avoidance of online predators will be provided to administrators, teachers to teach students to be safe and cautious users when using the Internet. • Parents and community members will be provided with resources and information on current issues related to Internet safety, online privacy and avoidance of online predators.		

Implementation Plan			
Activities	**Timeline**	**Person(s) Responsible**	**Monitoring & Evaluation**
Review and update Acceptable Use Policy	2013 Fall	• Technology Information Services • Ed Tech Coordinator	•
Assemble online resources (e.g. Common Sense Media) and lessons (created by LBUSD teachers and librarians) to teach students Internet safety, online privacy and avoidance of online predators	2013 and ongoing	• Ed Tech Coordinator • Curriculum leaders	• Resources posted online for teachers
Provide resources and professional development to teachers, librarians and administrators on Internet safety, online privacy and avoidance of online predators	2013 and ongoing	• Ed Tech Coordinator • Curriculum leaders	• Professional development reports
Provide students with lessons on Internet safety, online privacy and avoidance of online predators	2013 and ongoing	• Classroom teachers • Librarians	• Survey of teachers/students
Evaluation Instrument(s) — Data To Be Collected: • Postings of online resources • Professional development offerings and attendance reports • Surveys teachers and librarians on use of resources			

3h.	**Description of the district policy or practices that ensure equitable technology access for all students.**

In order to prepare for the rollout of Common Core State Standards (CCSS) and the implementation of the Smarter Balanced Assessment Consortium's (SBAC) computer adaptive testing, LBUSD needs to ensure that all schools have the appropriate infrastructure and resources. This includes:

- Wireless across the school
- High bandwidth to support concurrent computer based testing of large groups of students
- Updated devices at each site for students to access CCSS content as well as SBAC testing specifications

Lack of funding may be an impediment to this goal but the district leadership is committed to finding available resources to fund these needs.

Goal 3h.1 **Given available resources, all schools will be provided with access to common core technology to support the full implementation of Common Core State Standards.**		
Objective 3h.1.1 *By June 2016, given available resources, all schools will be provided with digital devices for teachers and students to be able to access resources and tools to support full implementation of Common Core State Standards.*		
Benchmark Year 1	Benchmark Year 2	Benchmark Year 3
By June 2014, given available resources, 50% of schools will be provided with digital devices to support the Common Core State Standards.	By June 2015, given available resources. 75% of schools will be provided with digital devices to support the Common Core State Standards.	By June 2016, given available resources. 100% of schools will be provided with digital devices to support the Common Core State Standards.
Goal 3h.1.2 **LBUSD will provide differentiated technology-based learning options to meet individual needs of students.**		
Objective 3h.1.2 *By June 2016, students will be provided with differentiated technology-based learning options to meet individual needs by having the appropriate infrastructure, policies and protocols for anytime/anywhere access to instructional content.*		
Benchmark Year 1	Benchmark Year 2	Benchmark Year 3
• Ensuring that all schools have updated technology and required infrastructure to support the ongoing needs of the Common Core State Standards. • Providing students with anytime/anywhere access to electronic content to support classroom instruction. • Incorporating Web 2.0 tools such as blogs, wikis, course management systems, and educational social networks. • Establishing identification and adoption protocols to implement distance learning options. • Exploring policies and protocols for BYOD implementation		

Implementation Plan			
Activities	**Timeline**	**Person(s) Responsible**	**Monitoring & Evaluation**
Rollout of wireless infrastructure at all schools	2013 – 2014	• Facilities department through bond funding • Technology and Information Services	Survey of schools and report from Facilities

Conduct the Technology Readiness Tool Survey (TRT) for Smarter Balanced Assessment Consortium's (SBAC) testing	2013 and ongoing	• Technology and Information Services	Technology Readiness Tool Survey results
Identify technology needs of schools	2013 and ongoing	• Technology and Information Services • Ed Tech Coordinator	Technology Readiness Tool Survey results
Given available resources, provide schools with devices to support Common Core computer adaptive assessments	2013 and ongoing	• Technology and Information Services • Ed Tech Coordinator	Technology Readiness Tool Survey results
Evaluation Instrument(s) — Data To Be Collected: • Facilities and Technology Information Services report on infrastructure updates • Technology Readiness Tool survey results			

3i.	**List of clear goals, measurable objectives, annual benchmarks, and an implementation plan to use technology to make student record keeping and assessment more efficient and supportive of teachers' efforts to meet individual student academic needs.**

LROIX
LBUSD is committed to the use of data to support academic achievement of all students. To this extent, LBUSD has developed its own homegrown assessment data system called LROIX, which provides all teachers and administrators with information on student performance on district assessments as well as CST scores and is being improved on a continuous basis.

Currently this system provides teachers and administrators with the following data:
- District assessment scores
- State standardized scores
- Student academic history
- Benchmark data

SchoolLoop
This is a web-based application for communication between teachers, students, parents and administrators. SchoolLoop also provides for the following student data:
- Grades for students
- Assignments and homework posted by teachers
- Communication between instructional staff working with students

Goal 3i.1 **LBUSD will provide administrators, teachers, students and parents with student progress data in a timely manner.**		
Objective 3i.1 *LBUSD will continue to provide all teachers, students, parents and administrators with technology-based resources to communicate student progress effectively on an ongoing basis.*		
Benchmark Year 1	Benchmark Year 2	Benchmark Year 3
• Teachers will have access to a multi-function printer/scanner system (MFP) that will scan student answer sheets and transfer to the district's web-based research data system. • Teachers will have access to SchoolLoop to post assignments, homework, grades and communication to provide ongoing information on student progress and expectations. • Data will be available to administrators and teachers in a timely manner so that they can use the data to inform classroom instruction. • Communication tools will be provided to parents, teachers and students to monitor student progress and achievement.		

Implementation Plan			
Activities	**Timeline**	**Person(s) Responsible**	**Monitoring & Evaluation**
Continue to develop functionality of LROIX to provide more data resource to teachers and administrators	2013 and ongoing	• Research, Evaluation and Assessment office	• Reports on usage of LROIX by various stakeholders
Continue to support the use of SchoolLoop by teachers, parents, students and administrators to communicate student progress	2013 and ongoing	• Ed Tech Coordinator • Administrators • Technology Information Services • Research, Evaluation and Assessment Office	• SchoolLoop usage reports
Continue professional development and support on use of scanner systems to teachers and administrators	2013 and ongoing	• Research, Evaluation and Assessment office	• Reports on usage by various stakeholders
Evaluation Instrument(s) — Data To Be Collected: • Usage reports			

3j.	**List of clear goals, measurable objectives, annual benchmarks, and an implementation plan to use technology to improve two-way communication between home and school.**

Goal 3j.1
Use technology to support communication, collaboration, and effective sharing of resources.

Objective 3j.1
LBUSD will continue to provide teachers, students, parents and administrators and the community with technology-based resources to communicate effectively on an ongoing basis to support student learning.

Benchmark Year 1	Benchmark Year 2	Benchmark Year 3

Currently LBUSD has various communication tools that are used for communication across the educational community:

- SchoolLoop - a web based two-way communication tool for teachers, parents, students and administrators to communicate regarding assignments, grades, attendance and related activities
- Attendance calling - a voice messaging system that calls parents on a daily basis regarding student absences, truancies and tardies. This system is also used by teachers to send messages to parents.
- Emergency calling - a voice notification system used by schools and district offices to communicate with parents during emergencies or for public announcements.
- Web pages - LBUSD has a dynamic district web page with latest news and updates which is also pushed out to the school web pages in order to keep the parents informed of district activities and news.

Implementation Plan

Activities	Timeline	Person(s) Responsible	Monitoring & Evaluation
Continue to monitor and evaluate usage of SchoolLoop by teachers, parents, students and administrators and update current functionalities	2013 and ongoing	• Educational Technology Coordinator • Technology and Information Services • Research, Evaluation and Assessment office	• Usage reports
Evaluate attendance calling system to update current system functionalities	2013 Summer	• Research, Evaluation and Assessment office	• Usage reports
Continue to enhance district and school site web presence	2013 and ongoing	• Communications office	• Google analytics reports

Evaluation Instrument(s) — Data To Be Collected:

- Usage reports on use of SchoolLoop
- Usage reports on use of calling system
- Google analytics reports on web page visits

3k.	**Describe the process that will be used to monitor the Curricular Component (Section 3d-3j) goals, objectives, benchmarks and planned implementation activities including roles and responsibilities.**

Data from the various reports stated in the evaluation sections will be gathered by the Technology Information Systems, Educational Technology Coordinator and Research and Assessments offices. This data will be shared with the following groups who will identify areas of need and implementation plans.

- Technology Steering Committee: The Technology Master Plan provides for a Technology Steering Committee whose responsibility is to oversee all technology related projects in the district. Members of the Technology Steering Committee include representatives from the Superintendent's office; Curriculum, Instruction, and Professional Development office; Ed Tech Office; Technology Information Services office; and the Research, Evaluation and Assessment office. The district's technology goals will be directed by these members who will be the liaison between the Technology Steering Committee and involved stakeholders. The Technology Steering Committee will meet on a monthly basis to review evaluation reports and determine areas of need and implementation of technology projects in the district.

- The Office of Curriculum, Instruction and Professional Development: The Deputy Superintendent and Director of Curriculum will be the liaison between the Technology Steering Committee and curriculum department heads on upcoming technology projects and related professional development.

- Site Technology Representatives: The Educational Technology Coordinator will be the liaison between the Superintendent and Director of Curriculum, site administrators and site technology representatives to inform them of upcoming technology projects, related professional development and complete state and district technology surveys.

4. Professional Development

4a.	Summary of teachers' and administrators' current technology skills and needs for professional development.

The following data was gathered through a survey sent to all K-12 teachers in January 2013 through the Office of Curriculum, Instruction and Professional Development (OCIPD). The data presented here represents the percentage of teachers at each of the grade level spans and their needs related to professional development opportunities.
‘

Table 2

In which of the following areas would you like to receive additional opportunities for professional development? Choose all that apply

	Elementary	K-8	Middle School	High School
Common Core Math shifts	58.4%	60.0%	27.6%	22.2%
Common Core English shifts	60.8%	65.0%	45.7%	28.2%
Common Core Literacy for Social Science	48.8%	45.0%	25.7%	16.9%
Common Core Literacy for Science	48.8%	45.0%	21.9%	19.2%
Common Core Literacy for Career and Technical Education	12.0%	20.0%	10.5%	23.7%
Interdisciplinary Teaching and Learning	24.0%	20.0%	32.4%	39.1%
Integrated Project Design	16.8%	35.0%	31.4%	42.9%
Formative Assessments	23.2%	35.0%	25.7%	27.1%

Table 3

In which ways would you like to experience professional development in LBUSD? Please select all that apply

	Elementary	K-8	Middle School	High School
In person seminars, classes, lectures, workshops	80.2%	94.1%	79.0%	78.8%
Peer-to-peer collaboration	81.0%	82.4%	65.0%	70.0%
In-person coaching or mentoring	52.1%	58.8%	46.0%	42.0%
Collaborative or networked communities of practice	55.4%	76.5%	63.0%	54.0%
Technology-delivered content, courses, or exercises	51.2%	64.7%	56.0%	56.0%
Video observation of teaching	45.5%	52.9%	42.0%	28.4%
Use of video in coaching (i.e. 3-minute clips of best practices)	43.0%	52.9%	34.0%	30.8%

The overall data indicates the need for professional development related to the rollout of the Common Core State Standards with the focus on a hybrid system that incorporates online, self-selected, and face to face sessions. Teachers indicated a strong need to be able to network, collaborate and communicate with their peers.

Currently LBUSD offers mainly face-to-face professional development sessions with some instructional videos being posted on the Intranet for teachers to access. Moving forward, the intent is to provide an online electronic professional development system that will allow teachers to access content anytime/anywhere, based on their individual needs. The district also uses various outside entities for professional development. One of the main sources for technology based professional development is the CTAP 11 Instructional Technology Outreach Services as they support the integration of technology into the Common Core State Standards.

4b.	**List of clear goals, measurable objectives, annual benchmarks, and an implementation plan for providing professional development opportunities based on your district needs assessment data (4a) and the Curriculum Component objectives (sections 3d through 3j) of the plan.**

Based on the data from the surveys, it is apparent that teachers are seeking individualized, self-selected, hybrid professional development opportunities. LBUSD is in the process of exploring solutions to allow teachers to have access to professional development that is relevant to their classroom instruction, aligned to the implementation of Common Core State Standards and other LBUSD curricular goals. Teachers and administrators would be able to choose a format/media that would best serve their needs as well as allow them to monitor their own growth.

Goal 4b.1 **Given available resources, professional development will be provided to all teachers and administrators to assist them in preparing their students with appropriate skills aligned to the district's curricular goals.**		
Objective 4b.1 *By June 2016, given available resources, 80% of teachers and administrators will access professional development on using digital tools and online resources for teaching and learning aligned to the district's curricular goals with emphasis on the Common Core State Standards.*		
Benchmark Year 1	Benchmark Year 2	Benchmark Year 3
By June 2014, given available resources, 40 % of the teachers and administrators will access professional development on using digital tools and online resources for teaching and learning aligned to the district's curricular goals with emphasis on the CCSS.	By June 2015, given available resources, 60 % of the teachers and administrators will access professional development on using digital tools and online resources for teaching and learning aligned to the district's curricular goals with emphasis on the CCSS	By June 2016, given available resources, 80% of the teachers and administrators will access professional development on digital tools and online resources for teaching and learning aligned to the district's curricular goals with emphasis on the CCSS

Implementation Plan			
Activities	**Timeline**	**Person(s) Responsible**	**Monitoring & Evaluation**
Identify online professional development management systems to provide teachers with anytime/anywhere access based on self-evaluation	2013 Summer and Fall	• Office of Curriculum, Instruction and Professional Development	• List of professional development management systems and their offerings
Develop professional development units aligned to teacher and administrator needs and Common Core State Standards and LBUSD curricular goals	2013 and ongoing	• Office of Curriculum, Instruction and Professional Development	• Reports of professional development offerings
Provide professional development to teachers and administrators aligned to needs and Common Core State Standards and LBUSD curricular goals	2013 and ongoing	• Office of Curriculum, Instruction and Professional Development	• Reports of professional development attendance
Evaluation Instrument(s) — Data To Be Collected: • List of professional development management systems • Reports of professional development offerings • Reports of professional development attendance			

4c.	**Describe the process that will be used to monitor the Professional Development (Section 4b) goals, objectives, benchmarks, and planned activities including roles and responsibilities.**

- **Electronic Registrar Online – ERO:**
  {tc \f C \l 2 "4c. Professional Development Monitoring"**}**LBUSD uses an Electronic Registration Online application for personnel to register for a course and complete evaluations of the professional development. The system also enables users to create and print transcripts that are customizable. System administrators can access and collate data on professional developments offered, number of successful participants, as well as reports on individual teacher participation in professional development.
- **Reports:**
  The Office of Curriculum, Instruction and Professional Development will create and use these reports to identify needs, develop appropriate professional development, identify and train a cadre of teachers, coordinate the district calendar, and monitor teacher/administrator participation in technology related professional development.

5. Infrastructure, Hardware, Technical Support and Software

5a.	**Describe the existing hardware, Internet access, electronic learning resources, and technical support already in the district that will be used to support the Curriculum and Professional Development Components of the plan.**

Existing Hardware

Long Beach Unified School District currently supports a technology environment that consists of approximately 200 administrative and instructional servers running Novell NetWare 6.5/OES at over 120 sites. These sites are connected to the District Data Center through a Wide Area Network

The District believes strongly in standardization of hardware and software. By creating and enforcing standards, it permits the District to maintain spare parts inventories, to train support staff to effectively support these limited platforms, and to provide a higher level of user support.

The District is standardized on Novel NetWare as its primary network operating system. There are a number of application servers running other operating systems, including Windows Server (2000. 2003, 2008), zOS and SuSE Linux. There are also a number of Apple servers providing District level authentication to classrooms and computer lab.

All networking equipment is Cisco, including all routers and switches. The District is standardized on Ethernet, providing 100Mb/Gigabit backbone services and at least 10Mb to the desktop. Current installation standards require a minimum Gigabit Ethernet backbone service and 100Mb to the desktop.

The District is also standardized on HP Proliant Servers. Specific applications may reside on different platforms, primarily where those applications were delivered from the vendor as a “turn-key” solution. In those cases where the vendor is not continuing to maintain the hardware, and where the choice of hardware is not integral to the functioning of the software, these servers are being replaced by HP servers.

The District uses both Windows-based PC and Apple Macintosh computers. The District is standardized on HP Professional series computers and laptops. All PC and Apple users are required to log into the network in order to use their computers. Network policies are enforced that prevent access to certain servers, prevent users from installing software, update virus protection files, and perform other tasks automatically.

The District currently supports Windows XP, Windows 7, Mac OS 9.2 and OS 10. The District also supports mobile, tablet systems based android and Apple iOS (iPad) operating systems. OfficeXP/2002/2003/2007/2010 is the supported office productivity suite. Internet Explorer 6/7, Firefox v3/4 and Safari are the supported browsers. GroupWise is the e-Mail platform used across the district.

The District continues to evaluate new operating systems such as SuSE Desktop as well as thin client solutions including Virtual Desktop, handheld and mobile computers. This is an

effort to reduce the cost, complexity and support requirements of the instructional and administrative environments.

Wide Area Network
All schools and administrative offices are connected to the District Data Center via a Wide Area Network. All school sites deployed using MetroEthernet TLS services at 10Mbps and 100Mbps. Some remaining Non-Instructional Facilities (NIF's) are currently Frame Relay over T1 service; however, the District is in the process of converting all sites to TLS. Frame Relay services from our primary provider (Verizon) will no longer be supported as of December 2015.

The school site TLS circuits are fully meshed and converge in to a 1Gbps circuit at the Data Center's Cisco Catalyst 6500 series switch. The administrative Frame Relay circuits are accumulated into a channelized T3 frame relay circuit terminating in the Data Center processed by a Cisco 7513 router.

All routers and switches in the Wide Area Network and in school Local Area Networks are Cisco equipment. This standardization permits the implementation of advanced communications strategies, such as traffic shaping, virtual LANS (VLANs), virtual private networks and access control.

Local Area Networks
Local Area Networks have been installed in all schools through a combination of E-Rate, local bond funds intended for the reconstruction of aging schools and general funds. Each school currently has a Gigabit Ethernet backbone, with 10/100Mbps switched connections to the desktop. All classrooms have a minimum of six network drops and the District is considering a new standard requiring 10 drops per instructional area. This change is being weighed against the increased use of wireless systems. The District has an initiative to deploy wireless access to all classrooms by the Spring of 2014. Most schools have at least one computer lab connected to the District network.

All libraries are wired to serve as research centers, including the implementation of the Follett Destiny library management software. In addition to managing the books and magazines in the library, this software also allows for the reservation of video from the District Office of Multimedia Services. Students are also permitted to check the catalog from their classroom as well as request books from the libraries of other schools. The District is currently piloting the use eBooks or "electronic books" to be made available to students on District owned tablet devices.

These Local Area Networks connect to the Internet through the District's Wide Area Network. Internet filtering and CIPA are discussed in the Internet section of this plan. With the completion of the MetroEthernet network to all school sites, the District has retired its proxy/caching servers in 2013.

As described above, all Local Area Networks are being powered with Cisco switches.

Electrical upgrades are being provided through the local bond funds for the reconstruction of aging schools and general funds.

Data Center

The District's Data Center is currently located at the main Administration Building. This Data Center contains the primary administrative servers and mainframe, the primary router, Internet connectivity, Web servers, and a variety of other servers and services. It is manned 24X5 by trained computer operators. This center serves as the hub for all data communications. It also houses the District's main telephone switch.

The Network Operations Center is also housed in this building. It includes monitors for all critical network operations, including switches, routers and circuits, as well as monitoring equipment for the firewall.

Power is provided by two Mitsubishi 20KVA UPS systems. One of these systems is backed up by an emergency power generator which starts automatically in case of a power failure. The Data Center is cooled by 4, 5 ton HVAC units offering N+1 redundancy.

The District maintains its own financial and payroll systems. Both were developed in-house. The financial system (FINSYS) is built on Oracle Forms and Reports while the payroll system (LYNX) is based on CICS and COBOL running on an IBM mainframe.

Email Services

E-Mail services are provided to administrators, teachers and students and use is governed by the District Internet and Electronic Mail Guidelines and Procedures (APPENDIX G). Employee e-Mail is Novell GroupWise v8.0.2 while students are provided Novell NetMail v3. In addition, students have access to a "closed" e-Mail system provided by School Loop. This system only permits limited communications between teachers, parents and teachers. All e-Mail is filtered via a Sophos SEA content filter with Sophos Antivirus and GWAVA filter.

The SMTP mail server is currently a Novell GroupWise server, running the 8.0 version of the GroupWise Internet Agent (GWIA). Administrative e-Mail is managed through several District Post Offices. Schools that have more than one hundred e-Mail accounts are provided their own post office on their administrative server. E-Mail for smaller sites is housed centrally on servers in the District office.

Telecommunications

The District uses Northern Telecom phones systems. Each site has a standalone phone system which is tied to the District's main Meridian system via channelized voice T-1 services and OPX services. The District has deployed 1 VoIP (Voice Over IP) at a new school (Jessie Nelson Middles School) and has upgraded to a VoIP based voicemail system in the main District offices and our Purchasing Branch. There are plans to expand the backend phone systems to support VoIP CIPS trunking and to deploy VoIP based systems as part of remodeling and reconstruction through our Measure-K bond program.

Existing Internet Access
All Internet traffic in the District is centralized. LACOE provides ISP services to the District. The District currently has a 1Gbps MetroEthernet TLS circuit to the K12HSN backbone through LACOE. Daily peak utilization of this circuit averages about 30% of capacity. Intrusion protection is provided by a Cisco PIX firewall, which is monitored by network management staff. The District will replace its PIX firewall with dual-redundant Cisco ASA firewalls in 2013. These new firewalls will also provide IDS/IPS (Intrusion Detection Services/Intrusion Prevention System) services to the LBUSD network.

Virus protection is provided by Sophos Antivirus. All new virus patterns are downloaded automatically from the Sophos web site and installed on the primary servers. All other servers automatically update themselves hourly. User machines are updated regularly from distributed, internal District servers using Sophos' built in, auto update mechanism.

All Internet traffic is routed through the TrustWave/8e6 Technologies R3000 filtering system provided by LACOE as part of the Internet Service bundle. The District runs two R3000 filters for load balancing.

Existing Electronic Learning Resources (ELR)
Currently most of the ELR used in the District are purchased by sites through grants and categorical funds. One of the goals of the Technology Use Plan is to provide all schools with web-based electronic learning resources through the myLBUSD portal for anytime/anywhere access for teachers and students. Examples of ELR distribution via our portal include MIND Institute ST-Math and Safari Montage. District licenses include Office Suites for Macs and PCs, Anti-virus software and e-Mail solutions. ELRs accompanying the District adopted textbooks are also some of the resources available to teachers and students.

Existing Technical Support:
The District is divided in to a multi-tiered support structure:

Tier1 (Help Desk) is the initial point of contact for customers. Requests are received by phone, serviced by 4 full-time operators, fax, e-Mail and voicemail. Tier 1 has a 30% "first call resolution" rate. Either over the phone, via e-Mail or by remote controlling the user devices, the Help Desk is able to resolve 30% of all service requests without the need to escalate an issue or to dispatch a technician.

Tier 2 (Computer Support) is the field support arm of the organization. 15 Computer Support Technicians and 1 Printer Technician perform onsite service, support and training to customers on all technology related issues.

Tier 3 (Network Support) maintains the District's infrastructures. 4 Network Support Technicians install, maintain and service all of the District's routers, switches, wireless and servers. Servers include web servers, file servers, application servers providing services including e-Mail, Internet access, Internet filtering, the myLBUSD portal and centralized instruction systems.

- The District currently has a Help Desk where operators take calls and either offer over the phone troubleshooting tips, remote assistance or route it to the appropriate department/service area. The six large, comprehensive high schools each have a full time Computer Support Technician (CST) who is responsible for maintenance of all the equipment at the sites. This support mechanism will continue to be offered to sites as well as additional training for teachers and other site support personnel.

- Sites without a dedicated CST are serviced directly by Technology & Information Systems. In additional, all comprehensive High Schools also are provided a Technology College Aide, out of General Funds, to assist with technology in the classroom. Sites will be encouraged to assign technology coordinators to assist in enhancing the use of technology at the sites, as well as provide a link between the school and the District.

- The District has a standard for supportable equipment at the sites. As equipment becomes obsolete, they will be placed on the non-supported lists and schools will be encouraged to upgrade the hardware or purchase updated equipment.

5b.	**Describe the technology hardware, electronic learning resources, networking and telecommunications infrastructure, physical plant modifications, and technical support needed by the District's teachers, students, and administrators to support the activities in the Curriculum and Professional Development Components of the plan.**

Hardware Needed: Instructional

As described in the Tables 1, 2, and 3, the much of the current equipment in many of the schools is outdated and unable to run some of the newer web-based electronic resources. The District will seek a variety of funding sources to increase the amount of instructional technology available to school sites. An initiative was begun in 2009 to replace all teacher computers using a combination of Microsoft Voucher and Microsoft Government Entities funds. This replacement is scheduled to be completed in 2013. An integral part of meeting the goals of the District Technology Use Plan is to have functional workstations and presentation devices in each of the classrooms as well as Internet access for each station.

- Large screen televisions – for displaying from the computer as well as video streaming
- Interactive whiteboards – for interactive use for teaching and learning
- Document cameras – to display instructional materials and documents
- Student response systems – for checking for student understanding, and monitoring student learning
- Projectors – for use with computers, interactive whiteboards and document cameras
- Classroom Management Systems to allow teachers to manage and control student technology.

Funding for student computers continues to be a site based decision; however, the District is constantly looking for funding sources to provide student based computing resources in support of Common Core and SBAC assessments. Thousands of student computing devices will be needed to support these mandates.

Non-Instructional
Computers for administrative and business functions are also in need of replacement. General funds or grants will need to be identified to replace these devices, many of which or more than a decade old.

General
The District has no stated or committed "Technology Refresh" practice to address these ongoing needs. A refresh plan will be developed.

Replacement and consolidation of legacy file servers will be required to support the latest network and computer management systems, desktop operating systems and to provide anywhere, anytime access to information.

High speed WANs, wireless, VoIP and a higher density of computer devices will also call for the upgrade or replacement of central and site level routers and switches to meet increased demands and the latest technology standards.

The Oracle based financial system (FINSYS) and CICS/COBOL based payroll system (LYNX) are both nearing the end of their useful life. Significant investments will be needed to modernize these systems.

Electronic Learning Resources Needed:
- Concept mapping applications
- Multi-media/movie/podcasting creation software
- Adobe Suite
- Blog application
- Wiki application
- Web 2.0 tools
- Online communication and collaboration tools
- Learning and Professional Management Systems
- Research database
- Educational portals to access online resources/media content
- Computer Assisted Instruction programs using central servers.
- Standardized library management system
- School/home communications system
- Textbook tracking systems
- Handheld device Apps

One of the goals of the Technology Master Plan is to provide students with access to electronic learning resources for anytime/anywhere access. Having a database of grade level and content specific educational software will assist in creating consistency in instruction and training across the District. Schools will be able to use this database in purchasing the software that would meet their needs. The CLRN site will also be used to support site purchases. The District Purchasing Office, Technology and Information Systems and Technology Curriculum Office will work towards competitive pricing for instructional software.

Networking and Telecommunications Infrastructure Needed: Networking
Much of the networking equipment in the District is over 13 years old. There is an urgent and immediate need to replace much of this equipment. Bond funding can be used in certain instances for this; however, general fund or grant dollars will be needed in many instances. Equipment replacement is not only due to age but also capabilities. The greater number of devices being deployed at schools, in part due to wireless and tablet devices, higher bandwidth requirements, Common Core, SBAC assessments and VoIP are all generating new requirements for the networking infrastructure.
Increased bandwidth is required to support the emerging technologies for teaching and learning in the classrooms. School-wide wireless access will be required to support mobile and handheld technologies.

- Internet Access from all classrooms, Libraries, and Media Centers
- Integrated Data System
- Educational portals to access online resources/media content
- An instructional environment where WIntel and Apple computers work together seamlessly in one network for campus-wide resource sharing.

Multimedia content distribution and video conferencing are needed to provide content rich, standardized instruction and professional development.

Telecommunications
The District needs and has plans to replace its aging, legacy phone systems. A multi-year, multi-tiered approach will be needed to replace phone equipment at schools and offices to support VoIP, voicemail and CIPS trunking. VoIP will require the addition or replacement of network switching equipment to support PoE (Power Over Ethernet) to power the telephone handsets. In addition, UPS systems will now be needed in all IDF wiring closets to provide emergency phone services in the event of a power outage.

Broadband networks including TLS, MPLS, satellite, microwave, private wireless and dark fiber are all considerations to provide services for our evolving needs.

Physical Plant Modifications Needed
The District outgrew its Data Center many years ago. There is a need, with greater reliance on networking services to provide instructional and business services, for a hardened, independent and reliable data center. Such a facility would have adequate space, power and cooling to provide for the needs of the District in to the future.
The District plans to build and open at least one new school facility per year through 2016. All schools will be state of the art in terms of technology and will include:

- Wireless throughout all instructional areas supporting district owned and BYOD devices
- High speed networking and WAN services
- A file server for local storage
- VoIP phone systems
- Networked energy management and environmental control
- Networked clocks/bells and PA systems
- Video surveillance

- Classroom A/V systems including voice amplification, projectors, TVs and document cameras

Other
Additional services needed by the District to increase its operational efficiency at existing sites are: video surveillance, energy management, environmental controls, network based clocks/bell/PA systems, network based physical security systems (card key access, etc.) and centralized fire/intrusion alarm management.
Cabling, network switching equipment and router upgrades will all be necessary to accommodate these needs.

Technical Support Needed: All of this new technology and growth of the District's install base of devices will drive the need for additional technical support resource both centrally and at school sites. The District will need to increase the number of resources available to provide:

- Help Desk support
- Onsite, field technicians
- Network Support
- Application support
- Project management
- Technical assistance to teachers on classroom technology
- Development of lesson plans and supplemental materials leveraging technology
- Local school technology coordinators

5c.	**List of clear annual benchmarks and a timeline for obtaining the hardware, infrastructure, learning resources and technical support required to support the other plan components as identified in Section 5b.**

The District will implement wireless technology in all instructional areas through a multi-year, multi-phased implementation project. This change will also lead to the need for additional bandwidth at sites to accommodate the influx of wireless devices.

Increased WAN bandwidth will permit E-Mail systems to be centralized and consolidated. This will increase efficiencies of the e-Mail system and reduce the resources needed to maintain accounts. The District will also replace its remaining, legacy NetWare 6.5 file servers with Linux based, NetWare OES systems to better handle emerging technologies and desktop O/S systems.

The District will also embark on a strategic, coordinated approach to Professional Development. This will include standardized content and delivery through a PDMS (Professional Development Management System). LBUSD will create a database of approved instructional electronic learning resources.

By 2014, all instructional workstations at the school sites will be functional 90% of the time and service delay will be less than 1 week.

By 2016, all sites will increase the number of classroom presentation devices such as projection devices, document cameras, student response systems, classroom management systems and interactive devices.

Hardware: By 2015, all District classrooms will have wireless network access allowing up to 40 students to, simultaneously accessing the Internet and other instructional content.

- Benchmark 1: By 2013, the District pilot sites consisting of Wilson High School, Marshall Middle School, Washington Middle School and Lowell Elementary School will have wireless fully deployed in all classrooms.
- Benchmark 2: By 2013, all remaining High Schools will have wireless fully deployed in all classrooms.
- Benchmark 3: Beginning in 2013, all new school construction will include wireless in every classroom.
- Benchmark 4: Beginning in 2013, all school remodeling and reconstruction will include wireless in every classroom.
- Benchmark 5: By 2014, all Middle Schools will have wireless fully deployed in all classrooms.
- Benchmark 6: By 2015, all Elementary Schools will have wireless fully deployed in all classrooms.

Implementation Plan			
Activities	**Timeline**	**Person(s) Responsible**	**Monitoring & Evaluation**
Wireless to all middle schools	2014	• Technology and Information Services/Facilities	• Technology Survey
Develop a plan for providing schools with digital and electronic devices.	2013 and ongoing	• Educational Technology Coordinator • Technology Information Services • Office of Curriculum, Instruction and Professional Development • Grade level Superintendent's Offices • Special Projects	• Rollout of devices to schools • Information from annual CBEDs surveys • Data from site technology surveys
Increase WAN speed (bandwidth) at secondary school sites	2014	• Technology & Information Services	• Technology Survey
Consolidate e-Mail servers centrally	2014	• Technology & Information Services	• Technology Survey
Upgrade legacy NetWare 6.5 servers to NetWare OES	2014	• Technology & Information Services	• Technology Survey

Implement PDMS (Professional Development Management System)	2014	• Technology & Information Services • Curriculum, Instruction and Professional Development office	• Technology Survey
Wireless to all Elementary Schools	2015	• Technology & Information Services • Facilities	• Technology Survey
Increase WAN speed (bandwidth) at elementary school sites	2015	• Technology & Information Services	• Technology Survey
District-wide rollout of the PDMS system	2015	• Technology & Information Services • Curriculum, Instruction and Professional Development office	• Technology Survey
Evaluation Instrument(s) — Data To Be Collected: • Technology Survey			

5d.	**Describe the process that will be used to monitor Section 5b and the annual benchmarks and timeline of activities including roles and responsibilities.**

Benchmark progress reports will be gathered by the Executive Director of the Technology and Information Services, Educational Technology Coordinator and the Administrator for Research and Assessments.

- These reports will be provided to the Technology Steering Committee on an ongoing basis
- Progress reports will also be provided to various groups representing administrators, District staff, teachers and parents.
- The Technology Use Plan will also be reviewed on an annual basis.

6. Funding and Budget

6a.	List of established and potential funding sources.

Established Funding Sources:

Due to reductions in Title II-D, ARAA and EETT funds, the technology program for the Long Beach Unified School District is currently funded out of our of General Funds and the Federal e-Rate program (administered by USAC and the FCC).

Funding for technology in the District is provided from a number of sources.

- The primary source of funding for network development and other district-wide initiatives has been the General Fund.
- Construction and modernization funds, both from the state and from bond revenues, have funded infrastructure development and network completion at new and reconstructed schools.
- E-Rate funds have funded infrastructure development and network completion at eligible schools.

Potential Funding Sources:

The District will continue to pursue additional funding sources. These include special funding made available for Common Core implementation, Professional Development funds through various grant programs and other one-time monies through various opportunities and partners.

6b.	Estimate annual implementation costs for the term of the plan.

The district's annual investment in technology support is $12,001,920 per year. This amount includes classified and certificated personnel (salary and benefits), hardware and software costs including annual licenses and maintenance, communications, contract services and hardware repair/maintenance. With the current economic climate, we do not anticipate this funding to change over the term of this plan.

Item Description	Year 1	Year 2	Year 3	Funding Source Including E-Rate
1000-1999 Certificated Salaries	$85,000	$85,000	$85,000	• General Funds • Title II A
2000-2999 Classified Salaries	$3,505,123	$3,505,123	$3,505,123	• General Funds
3000-3999 Employee Benefits	$1,587,578	$1,587,578	$1,587,578	• General Funds
4000-4999 Materials and Supplies	$415, 934	$415, 934	$415, 934	• General Funds • E-rate
5000-5999 Operating Expenses	$2,298,394	$2,298,394	$2,298,394	• General Funds • E-rate
6000-6999 Equipment	$50,000	$50,000	$50,000	• General Funds • E-rate
Totals	$7,941,029	$7,941,029	$7,941,029	

6c.	Describe the district's replacement policy for obsolete equipment.

The LBUSD is working on a Capital Refresh Plan to address the ongoing technology support needs of the District. This plan will include computers, laptops, tablets, file servers, infrastructure and wireless at instructional and non-instructional sites. The average estimate cost to maintain a reasonable replacement schedule for equipment is approximately $2.9 million per year.

The district's Technology Master Plan and Technology Steering Committee focus on identifying funding sources to keep our technology services relevant.

6d.	Describe the process that will be used to monitor educational technology funding, implementation costs and new funding opportunities and to adjust budgets as necessary.

Student learning and achievement is the highest priority for the Long Beach Unified School District. Data from district benchmarks and State assessments are made readily available to all stakeholders through an online system. This data is also reviewed regularly at leadership meetings, staff meetings, curriculum groups and the at the site level. Feedback

from these groups is used to identify and prioritize technology needs, including staff development. These needs are then reviewed and funded in accordance with our Technology Master Plan by the Technology Steering Committee, curriculum groups and the Ed Tech Committee. Funding opportunities and budget monitoring is a **{**tc \f C \l 2 "6d. Budget monitoring"**}** collaborative effort between all groups facilitated by continuous and open communication.

7. Monitoring and Evaluation

7a.	Describe the process for evaluating the plan's overall progress and impact on teaching and learning.

Goal: The District will use various assessments and surveys to monitor and evaluate the effectiveness of the plan and the impact of technology on students' learning.

- The Technology Readiness Tool survey will be conducted on a regular basis to assess alignment to SBAC readiness
- Professional Development surveys will be conducted on a regular basis to identify needs of teachers and administrators related to the use of technology aligned to the Common Core State Standards
- By 2014, all principals will be provided with resources and training to use digital tools for instructional leadership.
- By 2016, the district will evaluate student technology proficiency and implementation levels aligned to Common Core Standards.
- By 2016, the District will use a variety of tools to determine the proficiency and implementation levels of administrators in the use of technology.

7b.	Schedule for evaluating the effect of plan implementation.

Goal: The District will conduct ongoing evaluations of activities related to the implementation of the Technology Use Plan in the following ways:

Curriculum	
Online posting of lesson, units of instruction	Annual check of websites
Teacher use of technology observed by site administrators	Ongoing
Feedback from department heads and technology coordinators	Annually
Professional Development	
Professional Development needs survey	Annually
Professional development catalog of offerings	Twice a year
Professional development attendance reports	Annually
Infrastructure , Hardware, Technical Support & Software	
Technology Readiness Tool	Twice a year
Infrastructure	Annually

7c.	Describe the process and frequency of communicating evaluation results to tech plan stakeholders.

Goal: The District will communicate with the various educational stakeholders on a regular basis using the following forums:

- Technology Newsletter - Quarterly
- Office of Research, Planning and Evaluation newsletter http://www.lbschools.net/Main_Offices/Research/newsletter.cfm
- Principal's Meetings
- Long Beach City Newspaper – www.presstelegram.com
- Teacher Council Forums
- Technology Representative meetings
- Curriculum Leader's meetings
- District Website – www.lbschools.net
- Curriculum Department Head Meetings
- Parent Forums
- Long Beach Educational Partnership
- Parent Communication Tools

Benefits of Monitoring and Evaluation:
Long Beach will continue to monitor the various components of the Technology Use Plan throughout the three years of implementation to ensure that the stated goals are being met. Assessments of technology use and proficiencies will determine the professional development offerings.

At the end of the three years, the Technology Steering Committee will assess the overall success of the Technology Use Plan and focus the plan for the next three years. Research will be conducted at this time to determine the effect of technology on student achievement as well as teacher and administrator productivity.

8. Collaborative Strategies with Adult Literacy Providers

Long Beach School for Adults
Founded in 1913 as part of the Long Beach Unified School District, the Long Beach School for Adults (LBSA) is fully accredited by the Western Association of Schools and Colleges. Each year at LBSA, over one thousand students earn either their high school diploma or their GED certificates through LBSA programs.

The Long Beach School for Adults also offers a full complement of services and courses:

- **Computer Classes** have offerings on current productivity applications.
- **Counseling** - The Long Beach School for Adults Counseling Office offers a wide range of professional counseling services for current and prospective students. Special Education services are also available to students with special needs. School for Adults counselors are professional, credentialed school counselors who utilize a variety of skills to assist students in reaching their goals.
- **English as a Second Language** (ESL) provides students with the opportunity to develop communication skills in speaking, listening, reading and writing. English as a Second Language (ESL) courses provide instruction for non-native students who are not proficient in English.
- **Family Literacy** program offers adult education, early childhood education, parent education, as well as parent and child interactive literacy activities.
- **GED Testing and Prep** provides adults who did not complete a normal high school program the opportunity to certify their attainment of high school level academic knowledge and skills.
- **High School Diploma -** offers an accredited high school diploma program, GED instruction, pre-GED instruction, and other programs to assist adults in completion of their secondary education. In addition, students may improve their skills for college entrance or career preparation.
- **Job Training Classes** assist in developing new job skills to develop and strengthen current workplace skills.
- **Literacy Programs** offer courses to improve proficiency in reading, writing, listening, and math.
- **Special Education Classes** program offers a wide range of professional counseling services for current and prospective students
- **Special Interest Classes** offers a variety of courses designed to meet community needs and various special interests of students within our community. Courses offered may vary from term to term, and we are always developing new courses in response to changing needs and interests within the Long Beach community

Collaboration

Currently there is collaboration between the School for Adults, High School Office, and the Curriculum, Instruction & Professional Department, which includes the Educational Technology Office.

- The School for Adults uses several school sites in the district. The school offers after-school programs, like PLATO, at high schools for either credit recovery or intervention.
- Community-Based English Tutoring (CBET) trainers use the Mobile Laptop Lab at three elementary schools twice a week for two hours each. CBET students, usually parents, check out Keyboard Instructors or Brainchild instruments to practice their skills at home with their children.
- Career Education at the Long Beach School For Adults and the high schools collaborate to offer courses that meet the needs of students in the community, e.g. Mechatronics Automation Robotics Systems, CISCO, etc.

The Long Beach School for Adults is an integral part of the Long Beach Unified School District's educational system. Efforts to collaborate with the two to increase access to technology within the community will be increased and sustained.

9. Effective Research-based Methods and Strategies

9a.	Summarize the relevant research and describe how it supports the plan's curricular and professional development goals.

The goals identified in the Technology Use Plan include students acquiring technology literacy skills, using appropriate technology skills to collect, analyze, and present information as well as to understand the various applications of technology in society. Staff outcomes involve teachers, administrators, and paraprofessionals gaining proficiency in the use of technology. This includes understanding of the various applications of technology in the educational setting, using appropriate technology tools to enhance standards-based education, and support student use of technology in the classroom. All of this is based on effective, sustained professional development.

The following research-based strategies will be implemented to meet the goals and objectives stated in the district technology use plan.

Article	Summary	Alignment
Friedman, T. (2005). *The world is flat: A brief history of the twenty-first century*. N.Y.: Farrar, Strauss and Giroux	Friedman indicates that students in our schools today are going to be competing in a global economy where traditional workplace skills will no longer suffice. He believes that as educational institutions, we need to ensure that we prepare our students to communicate and collaborate using digital tools and resources so that they can be successful in this technology-rich environment.	The Common Core State Standards, NETS-S and Model School Library standards are all focused on preparing our students for post-secondary college and career readiness and eventually a global workplace.
Mishra, Punya, and Matthew Koehler. "Technological pedagogical content knowledge: A framework for teacher knowledge." *The Teachers College Record* 108.6 (2006): 1017-1054.	The authors introduce Technological Pedagogical Content Knowledge (TPACK), a concept that incorporates teacher knowledge and skills with the use of technology to enhance teaching and learning.	This builds on the premise that professional development that is based on teacher knowledge and their needs is more effective in bringing about change in the use of technology for teaching and learning.
Carlson, Sam. *The Missing Link in Educational*	Teacher training is a key component of any	Professional development is a key component of any

Technology: Trained Teachers. TechKnowLogia, Oct-Dec 2002	educational technology implementation. The author claims that educational technology in and of itself is not transformative, it is the teachers who are willing to integrate the technology into their classroom who make the difference, and this can be achieved through teacher training.	effective educational technology transformation. Providing teachers with opportunities to seek out resources that meet their needs and their requirements are the most effective.
Krathwohl, D. (2002). A revision of Bloom's *Taxonomy: An overview.* Theory Into Practice, 41 (4).	Bloom's revised taxonomy addresses skills essential to 21st century skills which are creativity, innovation, critical thinking, and problem solving. The revised skills are from the lowest level to the highest level: Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating.	Bloom's revised taxonomy addresses the areas of creativity and innovation, which are included in 21st century skills. Teachers will be trained on addressing these taxonomies as they infuse technology into classroom instruction.
Ringstaff, C., & Kelley, L. (2002). *The learning return on our educational technology investment: A review of findings from research* .California: Office of Educational Research and Improvement (ED), Washington, DC.	The authors of this paper start with the premise that schools have invested large sums of money into technology and have seen very little gains in return. Their article indicates that there are several variables that govern the effective use of technology in the educational setting. Using technology as one of the instructional components, training of teachers, change in beliefs about teaching and learning, sufficient access to technology and resources, long-term planning and support, and the integration of technology into the instructional framework are some of these variables.	Professional development for teachers will focus on not teaching the technology skills in isolation, but on infusing them seamlessly into instructional units. Emphasis will be placed on providing teachers support on the use of technology to enhance instruction.

Solvie, P. & Kloek, (2007) M. *Using Technology Tools to Engage Students with Multiple Learning Styles in a Constructivist Learning Environment.* Contemporary Issues in Technology and Teacher Education 7(2)	This study promotes the use of technology inside and outside of the classroom to support understanding of course content through the use of communication, collaboration, and scaffolding and clarifying.	This aligns with the Common Core State Standards and the NETS- S standards which promote communication and collaboration using technology tools as critical skills to support students career and college readiness,

9b.	**Describe the district's plans to use technology to extend or supplement the district's curriculum with rigorous academic courses and curricula, including distance-learning technologies.**

Goal: The district focus is to ensure that students are prepared for post secondary options that include participating in a global workplace with 21st century skills. In order to do so, LBUSD plans to introduce the following technologies for teachers, students, administrators and parents:

- Handheld devices
- Bring Your Own Device
- Blogs – to conduct discussions in an educational and academic setting
- Web 2.0 tools and applications
- Wikis – to collaborate on projects, reports and other academic items
- Podcasting – for and by students, teachers and administrators to provide for anytime/anywhere access to content and discussions
- Course Management Systems
- Student access to online courses based on their individual needs
- Access for teachers and administrators to discussion forums based on professional development needs
- Professional Management System
- Educational social networking sites – allow the educational stakeholders to communicate and collaborate on common education related topics.