

Fullerton School District

District Technology Plan

2011-2014



FULLERTON
SCHOOL
DISTRICT



Great Schools
Successful Kids

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Fullerton School District

Technology Plan

Introduction

District Description

The Fullerton School District serves 13,616 students in grades K-8 and provides preschool and special education classes for children younger than kindergarten. The District includes 15 elementary schools, two K-8 schools, and three junior high schools, grades 7 and 8. The ethnic distribution of the District is 20.4% Asian, 1.6% Black, 48.3% Hispanic, 23.7% White, 1.7% Filipino, and 4.3% other. Fullerton School District is located in Orange County in southern California.

Technology Definition

The Fullerton School District uses technology in both its instructional program and in the administration of the District. Technology is defined as the hardware tools, software applications, and virtual environments used to perform tasks more efficiently and provide the employees with ways to create things originally not possible. In education, the focus is on using the most appropriate technology and applications to support and supplement quality teaching and learning. Such equipment includes, but is not limited to:

- Computers (desktops and laptops)
- Mobile devices (iPod touch, iPad, and handheld data devices for science)
- Digital cameras (still, video, microscopic, and document)
- Interactive white boards and interactive projectors (like Promethean ActivBoards and Epson BrightLinks)
- Video technologies (video conferencing, video streaming, broadcast video)
- Audio recording tools (USB microphones and mobile recorders)
- Student response systems (ActivVote & Expressions, online response tools)
- Computer-based probeware (PASCO probes)
- Inter and intra-District network routers and servers
- Internet access and email servers
- Equipment to access telephone and voice services

The Fullerton School District is a member of the instructional television service at PBS SoCal (formerly KOCE), the Orange County-based Public Broadcasting Service (PBS) station in Southern California. The Telecommunications of Orange County (TOC) membership provides access to instructional programs, over 200 educational video series (including streaming video from the Discovery Education web site), retention rights, and many additional resources of a broadcast station. Student video work can be broadcast on the PBS channel and teachers may request specific instructional programs to air. Professional development is also available on copyright law & Fair Use

guidelines, instructional strategies for TOC resources, and integrating streaming video.

Scope of Plan

This updated three-year plan outlines needs, current resources, and goals for the following areas of technology use and support:

1. Plan Duration
2. Stakeholders
3. Curriculum
4. Professional Development
5. Infrastructure, Hardware, Technical Support and Software
6. Funding and Budget
7. Monitoring and Evaluation
8. Effective Collaborative Strategies with Adult Literacy Providers to Maximize the Use of Technology
9. Effective Research-Based Methods, Strategies, and Criteria

These areas of the plan are based on technology plan requirements in the document, *Appendix C – Criteria for EETT Technology Plans (California Department of Education)*.

Sources of Information

Information from various professional resources was used in developing this plan, including:

California Department of Education (2005). California State Standards. Available: <http://www.cde.ca.gov/be/st/ss/index.asp>

California Department of Education (2007). California 8th Grade Technology Literacy Analysis. *Compiled by the SETS Project*. Available: <http://www.cde.ca.gov/ls/et/rs/sets.asp>

Cyber Safety Links and Resources. Orange County Department of Education (OCDE), June, 2010. Available: <http://edtech.ocde.us/cybersafety.htm>

Framework for 21st Century Learning, Partnership for 21st Century Skills (P21), 2009. Available: <http://snurl.com/p21skills>

Horizon Report, 2010 K-12 Edition, The New Media Consortium, 2010. Available: www.nmc.org/pdf/2010-Horizon-Report-K12.pdf

National Educational Technology Standards for Administrators, 2009 Edition, International Society for Technology in Education (ISTE), 2009. Available: http://snurl.com/nets_a

National Educational Technology Standards for Students, 2007 Edition, International Society for Technology in Education (ISTE), 2007. Available: http://snurl.com/nets_s

National Educational Technology Standards for Teachers, 2008 Edition, International Society for Technology in Education (ISTE), 2008. Available: http://snurl.com/nets_t

Teachers' Use of Educational Technology in U.S. Public Schools: 2009. National Center for Education Statistics (NCES), 2009. Available: www.nces.ed.gov/pubs2010/2010040.pdf

Tough Choices for Tough Times. The report of the new commission on the skills of the American workforce. National Center on Education and the Economy, 2007. Available: www.skillscommission.org

Toward a New Golden Age in American Education: How the Internet, the Law, and Today's Students are Revolutionizing Expectations. U.S. Department of Education, 2004. Available: www2.ed.gov/about/offices/list/os/technology/plan/2004/plan.pdf

Transforming American Education Learning Powered by Technology (National Education Technology Plan). Office of Educational Technology, U.S. Department of Education, 2010. Available: www.ed.gov/sites/default/files/netp2010.pdf

Youth Safety on a Living Internet. Online Safety and Technology Working Group, 2010. Available: www.ntia.doc.gov/reports/2010/OSTWG_Final_Report_060410.pdf

Vision and Needs Assessment

Needs Assessment

In lieu of the California State Technology Survey, all FSD schools completed the Fullerton Technology Survey in May, 2010. These surveys, plus information from Site Technology Representatives at our regular meetings and information from the California Basic Educational Data System (CBEDS), provided us with the basis for a general needs assessment for the use of technology in the Fullerton School District.

These documents, as well as input during discussions at District Technology meetings, were used to help develop the Mission Statement. Every school has a Site Technology Representative. Each technology plan component has additional details in its needs section.

Mission Statement

The mission of the District Technology Plan is to ensure that students and staff are responsible digital citizens and effective users of technology in the teaching and learning process and are prepared for using technology in the pursuit of higher education and careers.

This mission includes:

- Providing access to technology to support District and State curriculum standards
- Providing instruction to foster competence in the use of technology and to deepen students' educational experience
- Providing learning opportunities using technology to meet individual student needs and to increase rich experiences in our globally competitive world
- Providing a digital environment for students, teachers, and staff to communicate, collaborate, and create

Students, teachers and administrators use technology to access current and relevant information. Students use technology to assist them in meeting State and District curriculum standards and to synthesize information and communicate ideas. Teachers use technology in the delivery of curriculum, assessing student progress made toward mastering standards, record keeping, for communications with the community, and for meeting the needs of diverse learners. Administrators use technology for school management (including record keeping), for communications with the community, and for the analysis of student data to assure that there is student progress towards meeting State and District standards. Teachers and administrators also use technology as tools for furthering their knowledge and abilities.

Three years ago, the District Technology Advisory Committee strongly recommended the formation of a Technology Leadership Team at each school site. This has happened

at the majority of our sites. The teams include teachers, the administrator, library/media personnel, parents, and District representatives. The purpose of these teams is to plan and monitor the use of technology to support curriculum and instruction at the school site and make learning relevant to all students. They also assist in the site implementation of new technologies and the District Technology Plan.

Review of 2008-2011 Technology Plan

1. Description of progress in meeting the goals and specific implementation plan for using technology to improve teaching and learning.

Some of the needs in the previous technology plan that have been accomplished:

- Sample lesson plans to support State and District curriculum standards were developed
- Alignment of the Scope and Sequence to the NETS document is progressing for the new plan
- All schools completed the California State Technology Survey or the Fullerton School District Technology Survey
- Teachers completed the EdTechProfile on an annual basis
- Teachers, staff, and students completed Project Tomorrow's Speak Up Survey on an annual basis
- Increased access to school personnel by parents and the community via email, websites, and *PowerSchool* was encouraged
- The Haiku Learning Management System was introduced as a pilot with 1500 students, teachers, and administrators
- Teachers continued using Data Director to access student test data
- Acceptable Use Agreements have been updated and distributed

There are still needs for:

- Additional technology resources (both hardware and software) that support the curriculum
- Additional lessons linking technology integration to specific content standards with an emphasis on creativity and innovation
- Gathering additional resources to update the cyber safety curriculum
- Continued training of parents in FSD's focus on 21st century skills, digital communication, and cyber safety

2. Description of progress in meeting the goals and specific implementation plan for providing professional development opportunities.

Some of the needs in the previous technology plan that have been accomplished:

- EdTechProfile assessments were used to provide staff development opportunities in the use of technology to support District curriculum goals and standards

- The Program Specialist, Technology continues to be funded as part of the District Technology Plan
- There is a process in place for sites to request specific technology trainings
- Technology trainings are a regular part of District in-service offerings for teachers and administrators
- Teachers in the 1:1 Laptop Program received ongoing training
- Technology & Media Services staff regularly contribute technology-focuses sessions during Principal and General Management Meetings

In the area of professional development there are needs for:

- Continued training on best practices for utilizing document cameras, interactive whiteboards, and interactive projectors in the student-centered classroom
- Continued training in instructional strategies to support 21st century learning environments that include laptops, mobile devices, and other high access settings
- Continued training in strategies to use technology effectively in the curriculum to promote communication, collaboration, and creativity
- Continued training in cyber safety and responsible celebration of student digital projects
- Continued training in differentiation through technology, especially mobile devices (iPod touch and iPad)
- Continued emphasis on digital storytelling to promote innovative communication of knowledge
- Continued specialized training for administrators, after merit-pay increases for technology competency portfolios were eliminated due to budget cuts

3. Description of progress in meeting the goals and specific implementation plan for infrastructure, technical support and hardware.

Some of the needs in the previous technology plan that have been accomplished:

- Changed the TMS clerical support positions to technical support positions to provide additional troubleshooting and technical help to District staff
- Increased number of teacher and student laptop computers – all classroom teachers and administrators still have laptops
- Strengthened the 1:1 Laptop Program through expanding successful sites and suspending programs that lacked clear vision
- Purchased and installed additional LCD projectors, interactive projectors, interactive whiteboards, and student response systems for classrooms
- Further developed self-service provider status so TMS Computer Repair Technicians are authorized to repair all Apple, Lexmark, and Epson products
- Purchased approximately 2000 mobile devices (iPod and iPad units) for student use

In this area there are continuing needs for:

- Replacement plan for out-of-date computers used by students and teachers
- Upgrade the District network to fiber lines to increase speed and reliability of connectivity
- Continued collection of \$180 fee for non-Apple computers to help pay for costs of repair and maintenance

4. Description of progress in meeting the goals and specific implementation plan for budget and funding.

Some of the needs in the previous technology plan have been accomplished:

- Continued receipt of E-Rate and California Teleconnect funding
- Receipt of funds from the EETT Formula and Competitive grants
- Continued support by local foundations for technology grants, including Wilson W. Phelps Foundation, Fullerton Education Foundation, Fullerton Technology Foundation, and All the Arts for All the Kids
- Support for teachers applying to other grants, including OCDE CTAP Grants, Schools First FCU, the SCRIBES Grant, and other third-party organizations

In this area there are continuing needs for:

- Applying for Microsoft Settlement Funds for approved purchases
- Continued technology funding by the District
- Funding for equipment obsolescence
- Continued research on available grants and funding sources to support District technology integration programs
- Partnering with foundations to support & supplement current programs

5. Description of progress in meeting the goals and specific implementation plan for monitoring and evaluation.

Some of the needs in the previous technology plan that have been accomplished:

- Continued use of *DataDirector*, a web-based student assessment system, to provide immediate access to student assessment data
- Sharing of student assessment data with the Board of Trustees, at least annually by Coordinator of Assessment and Accountability
- Use of EdTechProfile teacher and administrator survey system to monitor the use of technology and areas of need for staff development
- Use of Project Tomorrow Net Day Speak Up survey data to assess professional development needs and trends
- Sharing of OCDE Educational Technology professional development offerings to all principals and site technology teachers
- Monitoring of technology expenditures by sites

In this area there are still needs for:

- Continued dissemination of information to schools regarding available technology grant opportunities, and other technology assistance programs
 - Continued dissemination of information about the school technology programs and activities
6. Description of progress in meeting the goals and the specific implementation plan for effective collaboration with adult literacy providers to maximize the use of technology.

Some of the needs in the previous technology plan that have been accomplished:

- Continuation of CBET and Even Start Programs
- Addition of a Latino Family Literacy Program

In this area there are needs for:

- Collaboration with adult literacy programs to determine technology needs

Effective Research-Based Methods, Strategies and Criteria

Some of the needs in the previous technology plan that have been accomplished:

- Research has been reviewed on a regular basis
- Research results have been used to write grants to fund technology projects and programs
- Research was used to assist in the vision and direction of the 1:1 Laptop Program and integration of mobile devices

In this area there are needs for:

- Keeping up-to-date in current research on technology and curriculum integration
- Using current research in the design and implementation of staff development to support teachers and students in the use of technology to support State and District curriculum
- Continued use of current research in the selection of software, hardware, and web-based resources

These needs were woven into the District's revised technology plan. This plan is meant to be a living document; one that will be revised and updated as needs arise.

Goals and Implementation Plan

Note: Letters refer to the Criteria Item in Appendix C

1. Plan Duration

The Fullerton School District Technology Plan, beginning July 1, 2011 through June 30, 2014, replaces the previous plan that expires on June 30, 2011. This plan will guide the District's use and integration of technology for the next three years.

2. Stakeholders

The stakeholders of this technology plan include:

- Teachers
- Administrators
- Parents
- Students
- Community and Business Leaders
- District Office Staff Members

THE PLANNING PROCESS

The purpose of technology in schools is to support achievement and empower all students through transforming teaching and learning. The goal of technology planning is to provide technology resources to support District curriculum standards and create measurable objectives for technology integration. Technology is used to assist students in mastering their grade level standards and to prepare them for success in high school, higher education, and beyond as productive, digital citizens in the 21st century.

The process used in updating the District Technology Plan included studying current practices and recent research and forming and collaborating with a District Technology Advisory Committee. The Advisory Committee provided input from our stakeholders.

District Technology Plan Advisory Committee

The following are members of the District Technology Plan Advisory Committee. This committee gave input on technology use in the Fullerton School District. They also reviewed and made recommendations for the updating of the District Technology Plan.

Teachers

Stephanie Guppy, Teacher, Fourth Grade, Maple Elementary School
Nancy Henderson, Teacher, Second Grade, Robert C. Fisler School
Tricia Hyun, Teacher, Seventh/Eighth Grade, Parks Junior High School
Alice Cha, Teacher, Fourth Grade, Hermosa Drive Elementary School

Principals

Trang Lai, Principal, Robert C. Fisler School
Robin Gilligan, Principal, Hermosa Drive Elementary School

Randa Schmalfeld, Principal, Rolling Hills Elementary School
Susan Mercado, Principal, Maple Elementary School
Mathew Barnett, Ph.D., Principal, Nicolas Junior High School

Parents and Community & Business Members

Loretta Donovan, Ph.D., Assistant Professor, Elementary and Bilingual Education,
California State University, Fullerton
Judy Lieb, Ed.D., Education Consultant, Orange County Department of Education
Janine Jacobs, Children's Librarian, Fullerton Public Library
Cheryl Lee, Account Executive, Apple Computer
Hilda Sugarman, Member, Board of Trustees

District Office Staff

Ted Lai, Director, Technology & Media Services
Karen Green, Program Specialist, Technology & Media Services
Kathy Ikola, Assistant to the Superintendent
Julie Brandon, Program Specialist, English Language Development, Educational
Services
Sam Ricchio, Assistant Director, Technology & Media Services
Sung Chi, Coordinator, Assessment & Accountability, Educational Services
Lauralyn Eschner, Coordinator, Visual & Performing Arts

In addition to the above members, the plan was also presented for input to the students in the leadership classes at Robert C. Fidler School and Nicolas, Ladera Vista, and Parks Junior High Schools.

Writers

Several members of this committee contributed to the writing of the technology plan. The writing was based on the *Criteria for EETT Technology Plans (Appendix C)*. A consultant from the California Technology Assistance Project (CTAP) Region IX office provided information to assist our District in writing and revising our technology plan. Judy Lieb, Education Consultant, also reviewed the plan for compliance with State and county guidelines. Members of the writing committee are:

Ted Lai, Director, Technology & Media Services
Sam Ricchio, Assistant Director, Technology & Media Services
Karen Green, Program Specialist, Technology & Media Services
Loretta Donovan, Ph.D., Assistant Professor, Elementary and Bilingual Education,
California State University, Fullerton
Tim Green, Ph.D., Assistant Professor, Elementary and Bilingual Education,
California State University, Fullerton

3. Curriculum

This section reviews the current access to technology and how it is being used to support the District's core curriculum. It includes a review of current curriculum documents. Specific goals are outlined that will achieve the integration of technology as a teaching and learning tool in order to help students achieve District standards, make the curriculum relevant, and transform classroom education.

A. Current Access to Technology Resources

There are 20 schools in the District, three of which are junior high schools and two K-8 schools. All administrators and teachers have District email accounts and laptops. All schools have access to networked computers and/or mobile devices in every classroom. This also includes special education, resource specialists, EL specialists and GATE cluster classrooms. Computers are in classrooms, on mobile carts, and in labs. Fifteen schools have computer labs of varying age, but the focus is on increasing access to technology for each and every student through distributed learning and maximizing purchases. Rather than have one or two days in a stationary computer lab, schools are urged to purchase rolling carts of laptop computers and mobile devices (iPod touch and iPad units). The carts vary from site to site, but the number of mobile labs for use in classrooms range from two to fifteen carts per school. Each cart has between 10 and 32 laptops per cart or between 20 and 40 mobile devices. Laptop and mobile device use in each school varies depending on the content being addressed. School libraries have computers available for students to access the school and public library collections, to access digital and online resources. Student access is during school hours, 8-3:30 p.m. Additionally, Fullerton School District sites allow after-school access to students in intervention programs. Wireless access is available at all twenty school sites during school hours. The City of Fullerton provides free wireless access in the downtown area as well, and representatives from the Technology & Media Services department attend the City of Fullerton Technology Working Group (TWG). The TWG continues to explore the creation of a city-wide high-speed network.

The District's *All the Arts for All the Kids* Program has three buses equipped with laptop computers that go to schools for six days during a twelve-day arts lesson. Assisted by an Arts teacher, students learn how to create and edit video and audio projects during their time on the bus.

The 2010-11 school year is the seventh year of FSD's 1:1 Laptops for Learning Program. This program includes 24/7 schools where students have access to their laptop all day, everyday, as well as modified program schools where students are assigned a computer but do not take it home. There are 1,093 students in the 24/7 model, and these students are in:

- one junior high school for selected students participating in grades seven and eight

- one K-8 school in grades two through eight
- one elementary school in all fourth to sixth grade classes as well as GATE classes in grades three through six

In addition to the above programs, there are approximately 552 students in the modified program. These students do not take the computers home, but have access to the same laptop at school each day. These modified laptop programs are in place in:

- one elementary school in grades three through six
- one elementary school in grades five and six
- one elementary school in grade six

The 1,645 students in these 1:1 programs also have access to additional software and subscriptions to enrich their learning. *Explore Learning's Gizmos* provides access to math and science simulations. *Google SketchUp* provides a program for computer-based graphics, and *NoteTaker* provides an organizational tool and interactive journal for writing, notes, sharing projects, and assignments. Additionally, all students in the 1:1 program have access to blended learning through the *Haiku* Learning Management System.

All classroom teachers and administrators in the District have laptop computers.

Students use technology in a variety of ways. Students in the 1:1 Laptop Programs typically use the computer during at least half the school day, doing Internet research, preparing *Keynote* presentations, producing videos using digital and still footage with *iMovie*, using web-based resources such as *Discovery Education* or *Gizmos*, performing science experiments with digital tools, recording podcasts with *GarageBand*, using Web 2.0 tools, and completing assignments using *NoteTaker* or *Pages*. Students not in 1:1 Laptop Programs use many of the same technology tools, but the amount of time varies from daily to about once a week, depending on the number of computers available to them in their classrooms or during visits to a lab.

The District has a license for OS X 10.5 Leopard, and students in the 1:1 Laptop Program have OS X 10.6 Snow Leopard. *Comic Life* and the *iLife* Suite (*iMovie*, *iPhoto*, *Garageband*, *iWeb*, *iPhoto*, and *iDVD*) are standard software on all computers. Additionally, all District computers have access to the *iWork* Suite that includes *Pages*, *Keynote*, and *Numbers*. Schools purchase additional software resources recommended from California Learning Resources Network (CLRN) and District Recommendations.

B. Technology Use

The Spring 2011 Fullerton Technology Survey collected information about how administrators, teachers, and students use technology. Each of the 20 school sites in the District responded to the survey. The following charts show survey results reported in the number of responses from each school in each category.

Administrator Technology Use (One Response Per School)

How often is technology used in this way?	Never	Rarely	Sometimes	Often	Always
As a tool in school financial and/or personnel management				7	13
Analyze and monitor Student Achievement Data				5	15
Assist with instructional leadership and management strategies regarding the use of instructional technology to improve pupil performance		1	4	7	8
Monitor professional development needs of staff		1	7	8	4
Communicate with parents via email			6	7	7
Communicate with the District office or other sites via email				1	19
Collaborate online with colleagues or in online coursework		1	6	10	3
Videoconference	8	4	7	1	
Webcast	10	7	2	1	
Research using Internet or other media			1	5	14
Provide professional development online	5	4	8	3	
Provide streaming video	6	10	3	1	
Conduct virtual field trips	14	2	4		
Use online student assessment tools	3	5	5	4	3
Present materials electronically			7	9	4

Teacher Technology Use (One Response Per School)

How often is technology used in this way?	Never	Rarely	Sometimes	Often	Always
As a tool in school financial and/or personnel management	3	6	1	6	4
Access content specific software or web-based resources		1		13	6
Create reports or projects			4	9	7
Provide demonstrations or simulations		2	4	12	2
Correspond with experts, authors, students from other schools, and others, via email and/or Internet	2	5	3	8	2
Solve problems		1	6	10	3
Videoconference	3	8	9		
Webcast	2	9	9		
Research using Internet or other media			2	9	9
Provide professional development online	2	4	13	1	
Provide streaming video	3	1	7	7	2
Conduct virtual field trips	2	5	11	2	
Use online student assessment tools		1	9	6	4
Present materials electronically		1	5	9	5

Student Technology Use (One Response Per School)

How often is technology used in this way?	Never	Rarely	Sometimes	Often	Always
Word processing			2	6	12
Accessing content-specific software or web-based resources		1	5	11	3
Research, using the Internet or other media			2	8	10
Create reports or projects			7	7	6
Access demonstrations or simulations		3	9	7	1
Correspond with experts, authors, students from other schools via email and/or Internet	2	7	8	2	1
Solving problems and/or analyzing data		3	10	5	2
Present materials electronically		1	11	5	3

C. Summary of the District's Curricular Goals

Fullerton School District has curriculum guides for all core subjects. All are based on the California State Curriculum Standards. These guides include:

- English Language Arts Core Curriculum Guide, Grades K-8
- Mathematics Core Curriculum Guide, Grades K-8
- History/Social Science Core Curriculum Guide, Grades K-8
- Science Core Curriculum Guide, Grades K-8
- Visual and Performing Arts Core Curriculum Guide, Grades K-8
- Physical Education Core Curriculum Guide, Grades K-8

In addition to the above guides, the District also has Board Adopted Standards guides for each grade level.

Appendix II presents a summary of the current District core curriculum documents content by subject area. It is the intention of the technology plan to integrate technology into all strands of the District core curriculum.

D. Technology Use to Improve Teaching and Learning in Support of District Curricular Goals

The Technology & Media Services Department (TMS) will continue to work with school site staff to effectively integrate technology into the curriculum. Aligned with the National Educational Technology Standards for Students (NETS•S), Fullerton School District will provide instructional strategies to assist teachers with integrating a variety of technology tools (laptops, desktops, mobile devices, document cameras, interactive whiteboards, scientific probeware, digital cameras, microphones, etc.) in the curriculum to help students meet academic content standards through innovative project-based learning. Educators will be supported through ongoing professional development that spirals learning and integrates technology tools, model lessons, and correlations with adopted curriculum.

Model Lessons and Ongoing Professional Development

The Director and Program Specialist of Technology & Media Services are available to present or prepare model academic technology lessons within the classroom of each of the twenty school sites. Additionally, successful technology integration strategies and lessons will be posted on the District website or a *Haiku* class to provide further focused professional development and samples of best practices for all teachers.

Goal 1: Integrate technology use into all curricular areas to assist students in meeting District and State academic content standards and enhance teaching and learning.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
1.1	By June 30, 2014, 50% of all teacher trainings will emphasize instructional strategies that integrate technology into classroom teaching and learning.	By June 30, 2012, 40% of all teacher trainings will emphasize instructional strategies that integrate technology into classroom teaching and learning.	By June 30, 2013, 45% of all teacher trainings will emphasize instructional strategies that integrate technology into classroom teaching and learning.	By June 30, 2014, 50% of all teacher trainings will emphasize instructional strategies that integrate technology into classroom teaching and learning.

1.2	By June 30, 2014, technology resources will be correlated with 80% of all State adopted curriculum.	By June 30, 2012, technology resources and strategies will be correlated with 70% of all State adopted curriculum.	By June 30, 2013, technology integration strategies will be correlated with 75% of all State adopted curriculum.	By June 30, 2014, Technology integration strategies will be correlated with 80% of all State adopted curriculum.
1.3	By June 30, 2014, sixty successful technology integration strategies will be shared by teachers and posted to the District website.	By June 30, 2012, forty successful technology integration strategies will be shared by teachers and posted to the District website.	By June 30, 2013, fifty successful technology integration strategies will be shared by teachers and posted to the District website.	By June 30, 2014, Sixty successful technology integration strategies will be shared by teachers and posted to the District website.
1.4	By June 30, 2014, at least 75 student projects, that provide additional integrated technology strategies in practice, will be published on classroom and District websites to provide evidence of technology integration in the District core curriculum and content standards.	By June 30, 2012, at least 50 student projects, that provide additional integrated technology strategies in practice, will be published on classroom and District websites to provide evidence of technology integration in the District core curriculum and content standards.	By June 30, 2013, at least 60 student projects, that provide additional integrated technology strategies in practice, will be published on classroom and District websites to provide evidence of technology integration in the District core curriculum and content standards.	By June 30, 2014, at least 75 student projects, that provide additional integrated technology strategies in practice, will be published on classroom and District websites to provide evidence of technology integration in the District core curriculum and content standards.

Implementation

Objective 1.1 Many District teachers are already successfully integrating technology tools into their curriculum. However, to produce systemic change, it is essential that the District build capacity in all teachers. Through monthly Ed Services team meetings, Technology & Media Services (TMS) will work with all curricular Program Specialists, Coordinators, and Directors on various strategies and technology tools they can use in their work. Additionally, the District will continue to offer “District Wednesday” trainings (approximately twenty per year) focused on technology hardware, software, and subscription services available to all classroom teachers. During the 2011/12 school year, TMS trainers will meet with curricular Program Specialists from Educational Services to discuss trainings that highlight strategies on integrating technology into curriculum, so that they can incorporate more technology into their professional development opportunities.

Objective 1.2 Most of the State adopted textbooks have digital components. However, a stronger correlation to the District hardware, software, and subscriptions is an ongoing process. With the help of Tech Reps, the TMS team will establish a list of software, hardware, and online resources available for use in textbook-based lessons by January 30, 2012. This list will be updated annually by June 30. A *Haiku LMS* page will be created as a technology integration resource by June 30, 2012. The technology resources correlating to textbooks will be posted here by the TMS Team and reviewed annually during each summer. Bi-monthly Tech Rep meetings will be an opportunity for sites to share additional correlations they are utilizing.

Objective 1.3 To support educators who are hesitant to integrate technology, a collaborative area through *Haiku* will be created on the District website to feature successful technology integration strategies and lessons by January 30, 2012. Classroom teachers and site administrators will be able to login and access these strategies and resources for use in lessons and site-based trainings. During monthly Ed Services meetings and bi-monthly Tech Rep meetings, one successful strategy will be shared and discussed. At least once per year, during monthly Principals Meetings, the site administrators will be given an opportunity to share a technology integration strategy that they have observed at their site. These will be collected by TMS to add to the *Haiku* technology integration resource page annually by June 30.

Objective 1.4 Furthermore, the TMS Department, with the help of teachers who are utilizing technology in the classroom, will review existing lesson plans on the web and from other districts. Through this work, Tech Reps, Educational Services trainers, and the TMS Department will also annually modify and create K-8 grade lessons to support District core curriculum, technology standards and integration of multiple technologies. Lessons will be posted as developed, and they will be evaluated by June 30 of each year.

Evaluation Instruments, Procedures, and Responsibility

1.1	Agendas of District trainings will be kept and annually analyzed for technology integration strategies. Responsibility: TMS Department, Tech Reps, and Ed Services.
1.2	Correlations of adopted textbooks will be posted on the District Web Page and updated as adoptions change. The number of correlations completed will be tracked on an annual basis. Responsibility: TMS Department, Tech Reps, and Ed Services.
1.3	Successful technology strategies posted on iWeb, District blogs, and other locations (for example, the <i>Haiku Learning Management System</i>), will be highlighted during staff development sessions, site technology Program Specialist meetings, Tech Rep meetings, and principal meetings. A poll in Haiku will be created so that teachers can provide comments and reflections on a strategy if they utilize it. This data will be used to evaluate the success of a strategy and determine other strategies to include. Responsibility: TMS Department, Tech Reps, Teachers.

1.4	Lesson plans from the web or other resources that integrate technology into the curriculum will be evaluated by June 30 of each year and posted on the District website. The staff listed above will track the number of lessons posted while the Assistant Director, Technology & Media services will work on ways to track the number of lessons downloaded and viewed. A poll in Haiku will be created so that teachers can provide comments and reflections on lessons that they download and utilize in their classroom. This information will be used to evaluate the appropriateness of a lesson. Responsibility: TMS Department, Tech Reps, Teachers.
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E. Student Acquisition of Technology and Information Literacy Skills

Fullerton School District will focus on providing opportunities for students to practice 21st century learning skills. Based on the International Society for Technology in Education's (ISTE) National Educational Technology Standards for Students (NETS•S) skills and the California Academic Content Standards, students will be engaged in a variety of activities that help promote these skills in an academic setting. The NETS•S focuses on six specific areas that include creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem-solving and decision-making; digital citizenship; and technology operations and concepts. Students will be provided a variety of opportunities to engage in educational technology using Apple's Mac OS X, the *iLife* suite, the *iWork* suite, and other software to organize, express, and present their findings, learn and reinforce curricular skills, collaborate and communicate in an authentic setting, and take an active part in the learning process. Educators will teach lessons that promote technology, information literacy and are based on the District Technology Standards for Students (Appendix III).

Goal 2 Students will acquire technology and information literacy skills.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
2.1	By June 30, 2014, 100% of students will receive regular instruction aligned with NETS•S in either classroom or lab settings to promote technology and information literacy skills.	By June 30, 2012, 80% of students will receive regular instruction aligned with NETS•S in either classroom or lab settings to promote technology and information literacy skills.	By June 30, 2013, 90% of students will receive regular instruction aligned with NETS•S in either classroom or lab settings to promote technology and information literacy skills.	By June 30, 2014, 100% of students will receive regular instruction aligned with NETS•S in either classroom or lab settings to promote technology and information literacy skills.

2.2	By June 30, 2014, at least six sample lesson plans will be recommended by teachers or the TMS Department to specifically support research and information literacy skills.	By June 30, 2012, at least two sample lesson plans will be recommended by teachers or the TMS Department to specifically support research and information literacy skills.	By June 30, 2013, at least four sample lesson plans will be recommended by teachers or the TMS Department to specifically support research and information literacy skills.	By June 30, 2014, at least six sample lesson plans will be recommended by teachers or the TMS Department to specifically support research and information literacy skills.
2.3	By June 30, 2014, 95% of students in grades K-8 will use developmentally appropriate software and hardware (e.g., productivity tools, web research and applications, presentation and multimedia software, interactive white boards, scientific probeware etc.) to research, organize, and creatively present final products that exemplify proficiency in information literacy and NETS for students.	By June 30, 2012, 75% of students in grades K-8 will use developmentally appropriate software and hardware (e.g., productivity tools, web research and applications, presentation and multimedia software, interactive white boards, scientific probeware etc.) to research, organize, and creatively present final products that exemplify proficiency in information literacy and NETS for students.	By June 30, 2013, 85% of students in grades K-8 will use developmentally appropriate software and hardware (e.g., productivity tools, web research and applications, presentation and multimedia software, interactive white boards, scientific probeware etc.) to research, organize, and creatively present final products that exemplify proficiency in information literacy and NETS for students.	By June 30, 2014, 95% of students in grades K-8 will use developmentally appropriate software and hardware (e.g., productivity tools, web research and applications, presentation and multimedia software, interactive white boards, scientific probeware etc.) to research, organize, and creatively present final products that exemplify proficiency in information literacy and NETS for students.

Implementation

Objective 2.1 Each year, the TMS Department will ensure that the District Technology Standards for Students is aligned to the National Educational Technology Standards for Students (NETS•S). Updates to the District Technology Standards for Students will be reviewed annually by the Director and Program Specialist of TMS and posted to the District web site by June 30 of each year of this plan. Training and lessons will be based on data from the Ed Tech Profile as well as Project Tomorrow’s Speak Up Survey. These two surveys will be taken each Fall and data will be evaluated by the TMS team to help guide professional development in educational technology. Additionally, information on 21st century learning skills will be provided to all teachers and administrators in the District on an annual basis. By June 30 of each year, principals will review the District Tech Standards and NETS•S at least once during a site staff meeting. Principals will use these standards in working with teachers to select at least one ICT skill that he/she will focus on in his/her Individual Conference Agreement (ICA) throughout the school year.

Objective 2.2 Over the three-year duration of this plan, the TMS Department, in collaboration with Education Services, will develop lessons that focus specifically on technology resources and information literacy to help our students meet and surpass the District Technology Standards for Students in ICT skills. These model lessons will be ones that the Program Specialist, Technology or Tech Reps have taught in classrooms. The lessons will be uploaded to the District web site on an annual basis by June 30. Teachers and administrators will receive training on how to access the lessons and guidelines once per year to refresh memory and provide feedback on the lessons.

Objective 2.3 Because the site administrator and classroom teacher will select an ICT skill to focus on throughout the year in the ICA, it is expected that students will be demonstrating a higher proficiency level in the NETS for Students and Information Literacy. To provide more focus, at least twice per year, teachers will discuss the integration of the tech standards, specifically ones that address ICT, in at least two Professional Learning Communities (PLC) meetings by June 30 of each year. Increased student proficiency is also expected to be demonstrated in student projects. Teachers will also discuss the quality of students’ technology-infused projects in at least two PLC meetings by June 30 of each year.

Evaluation Instruments, Procedures, and Responsibility

2.1	The TMS Department and site administrators will present the Student Standards, and schools will keep the attendance logs from annual meetings focused on the technology standards. Principals will keep an attendance sheet of staff meetings where the Student Standards are reviewed. Student proficiency will be assessed based on responses from the California Technology Survey or the Fullerton District Technology Survey. Responsibility: TMS Department, site administrators.
2.2	By January 2012, model lessons and guidelines for teaching technology and information literacy in the context of the curriculum, will be posted to the District website or <i>Haiku LMS</i> page. A poll will be established for teachers to submit to evaluate the lessons posted. Responsibility: PS, site administrators, TMS Department.

2.3	Through the Fullerton District Technology Survey and Project Tomorrow survey taken annually by all students, technology use by students will be tracked and compared for growth. Logs of PLC meetings will be kept by teachers and used to help review and analyze the quality of student products over the years of this technology plan. Teachers will share successful student projects to be included on the school site and District web pages. Responsibility: PS, site administrators, TMS Department, teachers.
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F. Ethical Use of Information Technology

Intellectual Property Rights

All staff in Fullerton School District receive professional development on the importance of understanding Fair Use, respecting intellectual property rights, and obeying Copyright Law. Through real-world use of multimedia in lessons and projects, students are also taught about the importance of intellectual property rights. The District uses online resources on copyright issues for educators that are posted on both a wiki and within the Haiku Learning Management System. This information is presented yearly during at least two management meetings. The resources are revised to reflect current copyright issues and emerging technologies.

Education on Copyright and Fair Use is ongoing and supported throughout each school year. The Director and Program Specialist of Technology and Media Services have had extensive training in copyright and have also done presentations to management and teacher groups.

Schools have policies on academic dishonesty and deterring plagiarism, but many students still don't understand why it's improper to utilize the work of others; this is especially true of using commercial music and images in multimedia projects. A renewed effort to educate students on citing sources, doing their own work and on general copyright laws will help with this situation. Emphasis will be placed on peer-to-peer sharing of music and videos. The TMS Department will continue to develop the Copyright and Fair Use Haiku class as a resource for teachers and students.

During District Staff Development Wednesdays, sessions will be created to help teachers create multimedia projects through with copyright-friendly resources.

Goal 3: Students, teachers and administrators know and follow U.S. copyright laws and can distinguish lawful from unlawful uses of copyrighted works. Students, teachers and administrators can distinguish lawful from unlawful downloading and peer-to-peer file sharing. Students and teachers understand plagiarism, Fair Use, and the need for respecting intellectual property.

Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
3.1	By June 30, 2014, 100% of all K-8 th grade students will receive age-appropriate information and resources on lawful and unlawful uses of copyrighted works, Fair Use Guidelines, and respecting intellectual property.	By June 30, 2012, 100% of all 6-8 th grade students will receive age-appropriate information and resources on lawful and unlawful uses of copyrighted works, Fair Use Guidelines, and respecting intellectual property.	By June 30, 2013, 100% of all 4-8 th grade students will receive age-appropriate information and resources on lawful and unlawful uses of copyrighted works, Fair Use Guidelines, and respecting intellectual property.	By June 30, 2014, 100% of all K-8 th grade students will receive age-appropriate information and resources on lawful and unlawful uses of copyrighted works, Fair Use Guidelines, and respecting intellectual property.
3.2	By June 30, 2014, 100% of students and staff will utilize copyright-friendly media from a variety of websites and learn how to correctly cite multimedia sources as measured by project bibliographies.	By June 30, 2012, 50% of students and staff will utilize copyright-friendly media from a variety of websites and learn how to correctly cite multimedia sources as measured by project bibliographies.	By June 30, 2013, 75% of students and staff will utilize copyright-friendly media from a variety of websites and learn how to correctly cite multimedia sources as measured by project bibliographies.	By June 30, 2014, 100% of students and staff will utilize copyright-friendly media from a variety of websites and learn how to correctly cite multimedia sources as measured by project bibliographies.

Implementation

Objective 3.1 By Fall 2011, the Technology & Media Services Department will create a Copyright & Fair Use Keynote presentation for teachers of 6th-8th grade students to use in their classrooms and labs. Additionally, the TMS team will compile resources and information in a *Haiku LMS* class to help train and inform teachers, administrators, and students on the various issues that surround lawful use of media and copyrighted works. The Keynote and digital resources will cover topics that include: the concept and purpose of both copyright and Fair Use; distinguishing lawful from unlawful downloading and peer-to-peer file sharing; and issues of intellectual property and plagiarism. Each year of the plan will include a broader range of student grade levels who will receive lessons on copyright and Fair Use. During the 2011-12 school year, the focus will be on 6th-8th grade students. This will be expanded to 4th-8th grade in 2012-13 and K-8th grade in 2013-14. The TMS Department will provide a modified Keynote presentation with each annual expansion of target grades. Each year, the TMS Department and PS will create age-appropriate model lessons and activities for the targeted students that help teach the issues of copyright and Fair Use. These lessons will be posted on a Haiku page that addresses Copyright and Fair Use Guidelines. At least once per year, the PS will meet with the Technology Reps and review the resources on copyright and Fair Use. Information from the these bi-monthly meetings will be used to revise the online resources available to teachers and administrators.

Objective 3.2 Students will be expected to utilize copyright-friendly media in their projects and cite their sources when it's age-appropriate (4th grade and higher). To help facilitate the use of copyright-friendly material, the TMS Department will create a *Haiku LMS* Copyright Class with a list of copyright-friendly multimedia resources for finding images and audio for curricular projects. These resources and links will be updated annually by June 30. Student progress on citing sources will be measured by a random sample of bibliographies from student projects posted on classroom, school, and District websites.

Evaluation Instruments, Procedures, and Responsibility

3.1	By June 30, 2013, the TMS Department will develop and distribute a Keynote presentation and accompanying digital material for teachers to use with their students. Site administrators will make sure that teachers distribute and teach a lesson on copyright and Fair Use. A survey or poll will be created in the Haiku LMS for teachers and students to answer before and after they have completed the Keynote presentation. Responsibility: TMS Department, PS, Site Administrators, and teachers.
3.2	By June 30, 2014, all students and staff will receive instruction on how to properly cite multimedia resources. Teachers will ensure that, when appropriate, students will cite their sources properly in their bibliography. Evidence will be apparent in the bibliographies of student work and the increase in the use of copyright-friendly resources. A random sample of bibliographies from student projects will be used to determine the compliance with being a responsible digital citizen. These will be collected by the TMS Department annually by June 30. Responsibility: TMS Department, PS, and teachers.

G. Internet Safety

The Technology & Media Services Department and District Office will continue to raise awareness about Internet safety, online privacy, and online predators. Information, resources, and lessons will be presented to parents, teachers, and students. All students and parents will sign the Acceptable Use Policy (AUP) to reinforce the importance of Internet safety both at home and school.

Goal 4: The District will address Internet safety, including how to protect online privacy and avoid online predators by providing parents with Cybersafety information and sharing Internet safety lessons for teacher and students.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
4.1	By June 30, 2014, all K-8 th grade students will receive age-appropriate information and resources on Cybersafety, including how to protect online privacy and avoid predators.	By June 30, 2012, all 6 th -8 th grade students will receive age-appropriate information and resources on Cybersafety, including how to protect online privacy and avoid predators.	By June 30, 2013, all 4 th -8 th grade students will receive age-appropriate information and resources on Cybersafety, including how to protect online privacy and avoid predators.	By June 30, 2014, all K-8 th grade students will receive age-appropriate information and resources on Cybersafety, including how to protect online privacy and avoid predators.
4.2	By June 30, 2014, at least five resources on Cybersafety will be provided to teachers and parents and will be posted on the District website.	By June 30, 2012, at least two resources on Cybersafety will be provided to teachers and parents and will be posted on the District website.	By June 30, 2013, at least three resources on Cybersafety will be provided to teachers and parents and will be posted on the District website.	By June 30, 2014, at least five resources on Cybersafety will be provided to teachers and parents and will be posted on the District website.
4.3	By June 30, 2014, at least one District-wide parent meeting on Cybersafety will be conducted.	By June 30, 2012, at least one District-wide parent meeting on Cybersafety will be conducted.	By June 30, 2013, at least one District-wide parent meeting on Cybersafety will be conducted.	By June 30, 2014, at least one District-wide parent meeting on Cybersafety will be conducted.

Implementation

Objective 4.1 The Technology & Media Services Department will utilize and adapt videos and online resources from Orange County Department of Education, Laguna Beach Unified, Fullerton Public Library, and Fullerton Police Department, and other sources to use with teachers, parents, and students. By December 2011, the TMS Department and Program Specialist, Technology will create age-level appropriate lessons on Internet safety and awareness for students that can be implemented by classroom teachers. Each year, the lessons will be broadened to include more grade levels. In the 2011-12 school year, these resources and lessons will focus on students in 6th-8th grades. In 2012-13, the program will expand down to 4th grade. By 2013-14, the program will include all student K-8th grade. At least twice per year, the TMS Department will provide professional development to teachers on using these lessons with students.

Objective 4.2 The TMS Department and PS will also collect and create digital resources for students, teachers, and parents that can be accessed by all users at home or school. The emphasis will be on helping teachers and parents learn about Internet safety so that they can help students. By December 2011, the TMS Department will evaluate digital resources on Cybersafety. By June 30, 2011, the TMS Department will create and post at least two resources on Cybersafety to help parents and teachers understand these issues. By June 30, 2012, two additional resources will be created. By June 30, 2013, at least five total resources will be made available to parents and teachers. These resources will be posted on the District website and/or *Haiku LMS* page on Cybersafety.

Objective 4.3 On an ongoing basis, the TMS Department and District will work with site administrators, PTAs, and local agencies to provide information for Internet safety awareness meetings for parents. By June 30 each year of the technology plan, at least one District-wide parent meeting on Cybersafety will be offered. Each year, appropriate resources and information will be added to the District web site, and TMS staff with the help of Tech Reps will review the existing resources for relevancy. Additionally, each year, the TMS Department will actively seek partnerships with community organizations to help deepen the scope of learning during the parent meeting.

Evaluation Instruments, Procedures, and Responsibility:

4.1	Site administrator observations and the analysis of PLC notes will be used to track the teaching of Internet safety lessons, including online privacy and avoiding cyber predators. These PLC notes are provided by teachers to principals at each site and will be shared with TMS staff at least once per year. Polls and surveys in <i>Google Docs</i> or the <i>Haiku LMS</i> will be utilized to assess knowledge and level of student awareness of Cybersafety issues both before and after the lessons. Poll and survey results will be collected and analyzed by the TMS team members at least once a year. These results will be used to make any needed revisions to the lessons or professional development utilized to meet the goals of this plan. Responsibility: Site Administrators, TMS Department, teachers.
4.2	Resources will be created by TMS Department and made available to parents and teachers. To evaluate the appropriateness and usefulness of these resources, a yearly survey will be conducted through <i>Google Forms</i> and given to parents and teachers. Results of the survey will determine if any additional modifications need to be made to the current resources and they will help guide the acquisition of additional resources in future years. Responsibility: TMS Department.

4.3	Sign-in sheets from parent and community meetings on Cybersafety will be kept by site administrators and the TMS Department. Additionally, the TMS Department will utilize <i>Google Analytics</i> at least annually to determine the number of visitors to the site with the various Cybersafety resources. Responsibility: Site administrators, TMS Department.
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H. Equitable Technology Access for All Students

Equitable access to technology is important to the Fullerton School District. Throughout the year, the Technology & Media Services, Educational Services, and Student Support Services Departments will assess the opportunity for all students to have access to technology regardless of achievement level, language ability, or special needs. Every school site has at least one laptop cart for student use, and most sites have multiple carts. Additionally, twelve sites have begun integrating mobile devices (iPod and iPad devices) in classrooms. However, although there are many different technology resources available to all teachers and students at each site, there are still many teachers who are hesitant to integrate technology in the curriculum. As a result, the most important factor in providing equitable access to technology for all students is often in the hands of the teacher. The need for further technology integration training is essential for providing equitable access to technology for all students in the District.

Goal 5: The District will provide equitable access to technology for all students in every classroom to enhance teaching and learning.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
5.1	By June 30, 2014, at least 30% of all intervention activities for systematic ELD and Gateways will include some kind of technology enrichment.	By June 30, 2012, at least 20% of all intervention activities for systematic ELD and Gateways will include some kind of technology enrichment.	By June 30, 2013, at least 25% of all intervention activities for systematic ELD and Gateways will include some kind of technology enrichment.	By June 30, 2014, at least 30% of all intervention activities for systematic ELD and Gateways will include some kind of technology enrichment.

5.2	By June 30, 2014, teacher knowledge and use of technology will increase by 10% from baselines established in 2011 through the annual EdTechProfile and Partnership for 21 st Century Learning Site Assessment tool.	By June 30, 2012, teacher knowledge and use of technology will increase by 5% from baselines established in 2011 through the annual EdTechProfile and Partnership for 21 st Century Learning Site Assessment tool.	By June 30, 2013, teacher knowledge and use of technology will increase by 8% from baselines established in 2011 through the annual EdTechProfile and Partnership for 21 st Century Learning Site Assessment tool.	By June 30, 2014, teacher knowledge and use of technology will increase by 10% from baselines established in 2011 through the annual EdTechProfile and Partnership for 21 st Century Learning Site Assessment tool.
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Implementation

Objective 5.1 Working with Ed Services and Student Support Services, the TMS Department will assess the amount of technology utilized in intervention programs in Fall 2011 through a district-created tech integration survey. Additionally, Program Specialists and Coordinators will assess the online resources provided by current textbook adoptions, including intervention adoptions. The Program Specialist, Technology and other department Administrators will provide ongoing professional development on the various technology tools that are available for classroom instruction and student projects as needed. By June 30 each year, the TMS Department will meet at least once with Student Support Services and Education Services to insure that technology enrichment in intervention classes and IEPs will be met. The TMS Department will collaborate with Student Support Services and the school psychologists to track the use of technology to differentiate learning for students with IEPs.

Objective 5.2 By Fall 2011, EdTechProfile data, California Technology Survey information, and the Partnership for 21st Century Learning (P21) Site Assessment will be utilized to set a benchmark for the amount of technology integrated in the classrooms throughout the District. Each year of the technology plan, teachers will be expected to take the EdTechProfile, the site administrator or Tech Rep will complete the California Technology Survey and P21 Site Assessment.

Evaluation Instruments, Procedures, and Responsibility

5.1	A district tech integration survey will be created by the TMS Department to assess the amount of technology used in the Systematic ELD and Gateways Intervention programs in Fall 2011. Through these annual district surveys, observations by the site administrator, and random samples of teacher websites, the TMS Department will be able to track the amount of technology integrated into classrooms, interventions, and student work. Schedules and evaluations of all professional development that focuses on technology integration will be collected and reviewed by the providers and shared with the TMS Department by June 30 for each year of the plan. Responsibility: PS and Director, TMS, administrators from Educational Services and Student Support Services.
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5.2	Baseline data and future growth of teacher technology integration will be tracked through annual EdTechProfile data, CA School Tech Surveys, and P21 Site Assessments. Additional information on student technology use will also be gathered through Project Tomorrow and other agencies. The TMS Department will coordinate the annual collection and review of this data to be used for planning the following year's professional development to help meet the goals of this plan. Each year of the plan, teachers will take the EdTechProfile in May, however baseline data will be established through the EdTechProfile in Fall 2011. Responsibility: PS and Director, TMS, classroom teachers, and site Tech Reps.
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I. Technology Support for Student Record Keeping and Assessment

The District currently uses *DataDirector* and *PowerSchool* to keep track of student records, benchmarks, and statewide assessment data. All seventh and eighth grade, and several kindergarten through sixth grade teachers, use *PowerTeacher Gradebook* as their grading program. Parents have online access to completed grade data through *PowerTeacher Gradebook*. The use of technology has helped site and district administrators, teachers, and other district personnel easily access and obtain data to track student achievement and growth. Currently the Technology & Media Services Department, Site Tech Reps, Student Information System Technology Support Specialist (TSS), and the Coordinator of Assessment and Accountability collaborate on training and teacher use of the different data and assessment tools available to District employees.

The District puts an emphasis on the use of data-driven decision-making. Principals and teachers will continue to spend time analyzing results of benchmarks and statewide testing to ensure that students are exhibiting growth, and instruction is focused on what students need to increase achievement. In Professional Learning Community (PLC) meetings, teachers will be able to analyze test results and determine specific students who may need modification, re-teaching, and reinforcement. Additionally, teachers will be given time to determine if there are any specific areas to re-teach the entire class. The use of *PowerSchool* and *DataDirector* helps facilitate the easy analysis of trends in student achievement, benchmarks, and state testing.

Goal 6: Use technology to make record keeping, assessment and access to student information more efficient and supportive of efforts to meet students' academic needs.

Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
6.1	By June 30, 2014, 90% of teachers and site administrators will be using data and assessment to guide curricular decision-making as measured by PLC notes collected by the site administrator.	By June 30, 2012, 70% of teachers and site administrators will be using data and assessment to guide curricular decision-making as measured by PLC notes collected by the site administrator.	By June 30, 2013, 80% of teachers and site administrators will be using data and assessment to guide curricular decision-making as measured by PLC notes collected by the site administrator.	By June 30, 2014, 90% of teachers and site administrators will be using data and assessment to guide curricular decision-making as measured by PLC notes collected by the site administrator.
6.2	By June 30, 2014, 30% of elementary grade teachers will use an online grade book to record student progress as measured by the district tech integration survey.	By June 30, 2012, 20% of elementary grade teachers will use an online grade book to record student progress as measured by the district tech integration survey.	By June 30, 2013, 25% of elementary grade teachers will use an online grade book to record student progress as measured by the district tech integration survey.	By June 30, 2014, 30% of elementary grade teachers will use an online grade book to record student progress as measured by the district tech integration survey.

Implementation

Objective 6.1 The Coordinator of Assessment and Accountability in the Educational Services Department will collaborate with the Program Specialist and Technology Rep teachers at least annually to continue to provide support for the use of *DataDirector* and the student information system to track multiple assessments and plan instruction in the classroom. Principals will continue to support the use of weekly PLC meetings to provide teachers time to utilize data-driven decision-making in the instruction of students. Improvement will be measured annually through PLC notes collected by the site administrators. Additionally, teachers who are new to the District or need re-training in either *DataDirector* or *PowerSchool* will have an opportunity for training at the beginning of each school year. The Coordinator of Assessment and Accountability and the Program Specialist in TMS will also be available for additional training opportunities in *DataDirector* or *PowerSchool* throughout the year as needed.

Objective 6.2 In Fall 2011, the TMS Department will create a technology integration survey that will be utilized to measure the use of digital grade books in the classroom. The TMS Department will also work with the teachers and site administrators to train personnel on using an online grade book like *PowerTeacher Gradebook* if they are not currently utilizing one. This training will be ongoing and on an as-needed basis. Once each school year of this plan, a District Wednesday opportunity will be utilized to provide hands-on training in the *PowerTeacher Gradebook*.

Evaluation Instruments, Procedures, and Responsibility	
6.1	<p>The TMS Department, the Coordinator of Assessment and Accountability, and site administrators will utilize weekly PLC notes to ensure that information from <i>DataDirector</i> is being analyzed to help guide instruction and keep track of student growth and trends. Measurements for growth in the amount of teachers utilizing <i>DataDirector</i> to help guide instruction will be taken twice each year of the tech plan using <i>DataDirector</i> reports.</p> <p>Responsibility: Teachers, Technology Reps, Coordinator of Assessment and Accountability, and TMS Department.</p>
6.2	<p>The TMS Department will analyze information from the district technology integration survey on an annual basis by June 30 of each year. Additionally, TMS will support any office managers, teachers, or site administrators if they have questions on <i>PowerSchool</i> reports or usage on an as-needed basis. The District will use sign-in sheets for <i>PowerSchool</i> and <i>PowerTeacher Gradebook</i> training to track support. Additionally, the TMS Department will also keep track of the number of requests for support by office staff, teachers, and administrators. Responsibility: Site administrators and TMS Department.</p>

J. Technology to Improve Communications Between Home and School

Fullerton School District has a vision to develop new ways and refine traditional methods of improving the communications between home and school. It is through timely and relevant communication that the Home-School Connection is strengthened. In recent years, the District has posted PDFs of the Board Agenda on the District Website, provided server space for individual teacher Websites, trained site administrators on how to create informational podcasts for school site staff and families, and subscribed to the *Haiku Learning Management System* for creating hybrid face-to-face and online learning environments. The District strives to provide communication to parents in a variety of ways to give families personal choice in how they receive important and essential information. In addition to podcasts, school and classroom Websites, and traditional newsletters sent home, every teacher and school has access to *PowerSchool* to share information about data and achievement with all parents and students. Additionally, school sites utilize the *BlackBoard ConnectEd* voice calling solution to provide families with information via mobile or home phone quickly and efficiently.

Goal 7: A variety of technologies will be used to enhance two-way communication between teachers, administrators, and parents.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
7.1	By June 30, 2014, increase the number of parent accesses in the student information system (via Web access and email subscription) from baselines set in June 2011 by 15%.	By June 30, 2012, a 5% increase in the number of times parents access <i>PowerSchool</i> (via Web access and email subscription) from baselines set in June 2011.	By June 30, 2013, a 10% increase in the number of times parents access the student information system (via Web access and email subscription) from baselines set in June 2011.	By June 30, 2014, a 15% increase in the number times parents access the student information system (via Web access and email subscription) from baselines set in June 2011.

7.2	By June 30, 2014, 100% of the schools will provide a digital option for distributing newsletters and information to the parents and community, as determined by links and information on school websites.	By June 30, 2012, 50% of the schools will provide a digital option for distributing newsletters and information to the parents and community, as determined by links and information on school websites.	By June 30, 2013, 75% of the schools will provide a digital option for distributing newsletters and information to the parents and community, as determined by links and information on school websites.	By June 30, 2014, 100% of the schools will provide a digital option for distributing newsletters and information to the parents and community, as determined by links and information on school websites.
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Implementation

Objective 7.1 The Technology & Media Services Department will collaborate annually with site administrators and teachers to ensure that training is provided on a variety of means for communicating digitally with parents (blogs, websites, podcasts, *PowerSchool* announcements, etc.). Special emphasis will be placed on additional training in *PowerSchool* so that parents will understand how to access the *PowerSchool* site to read school updates or track student progress. This information will be communicated twice per year during Parent-Teacher Conferences and during Parent Tech Nights at each site as needed. By June 2011, TMS will establish a baseline for the amount of parent accesses in *PowerSchool* (via Web access and email subscription). Twice a year, during Parent/Teacher Conferences, teachers will provide information on how to login to *PowerSchool* to check on student grades and/or subscribe to email updates and alerts, a convenient way for parents to receive daily or weekly information of their student’s progress. Additionally, at least once per year during District Wednesdays, TMS will provide hands-on workshops to teachers on using *PowerTeacher GradeBook*. Every year, by June 30, TMS will check on the amount of parent accesses to calculate the increase from the baselines established in June 2011.

Objective 7.2 At least once per year, during the monthly Principals’ Meetings, TMS will provide training on publishing newsletters in a digital format (PDF or ePUB) on the school website or the principal’s webpage. The TMS Department will train all teachers and site administrators in utilizing iWeb, *PowerSchool*, and other digital tools (*Haiku*, blogs, podcasts, etc.) to develop the home-school connection and provide information to parents on their student’s achievement. Training sessions will be offered at least annually as part of District Wednesday professional development and at school sites by request. Tips on using Really Simple Syndication (RSS) feeds for easy subscription will also be provided. as part of this training.

Evaluation Instruments, Procedures, and Responsibility

7.1	Each year, by June 30, the TMS Department will log on to <i>PowerSchool</i> and record how many parent accesses per year are made (via email or website visits) to evaluate the increase. A preliminary amount will be taken in June 2011 that will serve as the baseline for all future years of this plan. At least once per year during the tech plan, the TMS Department will check the accesses to determine increases and decide if more training is required. All professional development opportunities for <i>PowerSchool</i> and <i>PowerTeacher GradeBook</i> will be evaluated through a Google Form as is the practice for technology-focused trainings. Responsibility: TMS Department and Tech Reps.
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7.2	By June 30 of each year, the TMS Department will survey the site administrators with the district-created tech integration survey. The information found will determine how many sites are digitally publishing their newsletter for parents and community. Site administrators will also keep track of the different digital means for contacting and informing parents of upcoming events. This information will be communicated with the TMS Department through the tech integration survey. Results of this data will be used to determine staff development needs for the following year. Responsibility: Site administrators and TMS Department.
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K. The Monitoring Process

The Technology & Media Services Department will be responsible for monitoring implementation of the goals that are in the curriculum component. Site principals and assistant principals will be involved in the monitoring of technology integration into the teaching process by the teacher observation process. Technology use information gathered during classroom visits for the evaluation of grants, such as the Enhancing Education Through Technology (EETT) competitive grants, will also be used. The Coordinator of Assessment and Accountability and the Program Specialist of Technology and Media Services will review student achievement data collected by the District and the State for technology integration impact. This is especially critical in school sites with high access learning (1:1 laptop implementations or mobile device use) as well as schools receiving technology grants like the CTAP technology, EETT, Phelps Foundation, Fullerton Technology Foundation, and other grants.

Data from the EdTechProfile teacher technology surveys and the annual California School Technology Survey or Fullerton Technology Survey will be reviewed and compared from year to year by the Director and Program Specialist of Technology and Media Services. Additionally, the use of the Project Tomorrow Speak Up survey will be used to gauge the interest in innovative technology tools by students and teachers. These surveys will assist in assessing the frequency and types of technology used in instruction. The Digital Learning Team will also use the above data to determine progress in meeting the goals of the technology plan and assist the District in planning staff development needed to achieve those goals. The Digital Learning Team consists of:

- Assistant Superintendent, Education Services
- Director, Technology & Media Services
- Director, Education Services
- Program Specialist, Technology & Media Services
- Assistant to the Superintendent
- Coordinator, Visual & Performing Arts
- Coordinator of Assessment and Accountability
- Coordinator, Education Services
- Program Specialist, English Learners

- Program Specialist, Rtl, BTSA, PAR
- Program Specialist, GATE
- Site-based Technology Reps

The Technology & Media Services Department and the Educational Services Department will collaborate during Curriculum and Instruction Meetings to review data on progress towards educational technology curriculum goals. In these meetings, they will assess what further professional development may be required across the District. Through the Assistant Superintendent of Education Services and the Assistant to the Superintendent, the findings of the Digital Learning Team will be communicated to the Superintendent so that he is informed of the progress towards the District technology vision and plan.

Requests for technology-integration professional development will be made to Technology & Media Services to provide training support through the Program Specialist and Director of Technology & Media Services. These two educators also provide mentoring and coaching in strategies to infuse technology into the standards-based curriculum. Teachers and principals request assistance for large group professional development, small group Professional Learning Communities, and individual classroom model lessons.

The Director of Technology & Media Services monitors the ongoing implementation of the District student information system. With the help of the Technical Support Specialist in charge of the student information system, the Technology & Media Services Department provides and monitors ongoing training in the use of the system by schools and parents. The data for the amount of parent accesses to the SIS will be utilized to determine if further training is necessary.

Several departments and individual schools will be involved in evaluating ways that technology can be used to extend the school day to enhance the home-school connection. The wireless access available in downtown Fullerton and at city libraries will enhance home-school communications as parents can access *PowerSchool* or *Haiku* from these locations. The public library has *PowerSchool* bookmarked on their public computers, and several sites have Family Technology Nights.

At least once per year the TMS Director will report on the progress of plan goals to the Technology Advisory Committee, the Cabinet and the Superintendent. At the request of the Cabinet and Superintendent, the TMS Director will also provide a Board presentation on the progress with technology integration within the District.

4. Professional Development

A. Summary of Current Proficiency and Needs

The EdTechProfile online technology proficiency assessment is used to assess technology proficiency and needs for teachers and administrators. This instrument was created by State CTAP regions specifically to help individuals, schools, and districts plan technology staff development based on identified needs.

Respondents answer questions in nine major categories. The results of those answers are used to present an individual profile (accessible by the individual only), a school profile and a District profile. Some teachers taking the survey may have chosen not to answer every question. In addition, analyses of the sub-categories are available to Technology & Media Services for the planning of professional development workshops and training that focuses on technology integration.

Computer Knowledge and Skills

The following chart show how teachers rated their level of competence in several skill areas on the EdTechProfile survey as of March 2011.

Responses for Category: Computer Knowledge and Skills		
General computer knowledge and skills		
Question 1: General computer knowledge and skills. Rate your skill level in this area	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	0	0%
Beginning user: I have the majority of the skills listed below in column 1.	18	8%
Intermediate user: I have the majority of the skills listed below in column 1 and 2.	108	50%
Proficient user: I have the majority of the skills listed here below in column 1, 2 and 3.	92	42%
Internet skills		
Question 1: Internet skills. Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	1	0%
Beginning user: I have the majority of the skills listed below in column 1.	37	17%
Intermediate user: I have the majority of the skills listed below in column 1 and 2.	93	43%
Proficient user: I have the majority of the skills listed below in column 1, 2 and 3.	86	40%

Responses for Category: Computer Knowledge and Skills		
Email Skills		
Question 1: E-Mail skills: Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	0	0%
Beginning user: I have the majority of the skills listed below in column 1.	24	11%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	79	37%
Proficient user: I have the majority of the skills listed below in columns 1, 2 and 3.	112	52%
Word processing skills		
Question 1: Word processing skills. Rate your skill levels in this area.	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	1	0%
Beginning user: I have the majority of the skills listed below in column 1.	10	5%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	61	28%
Proficient user: I have the majority of the skills listed below in columns 1, 2 and 3.	143	67%
Presentation software skills		
Question 1: Presentation software skills. Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	12	6%
Beginning user: I have the majority of the skills listed below in column 1.	41	19%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	65	31%
Proficient user: I have the majority of the skills listed below in columns 1, 2 and 3.	95	45%
Spreadsheet software skills		
Question 1: Spreadsheet software skills. Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have the skills in this area.	16	8%
Beginning user: I have the majority of the skills listed below in column 1.	74	35%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	81	38%
Proficient user: I have the majority of the skills listed below in columns 1, 2, and 3.	42	20%
Database software skills		
Question 1: Database software skills. Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have the skills in this area.	30	14%

Responses for Category: Computer Knowledge and Skills		
Beginning user: I have the majority of the skills listed below in column 1.	69	32%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	77	36%
Proficient user: I have the majority of the skills listed below in columns 1, 2, and 3.	37	17%

The assessments above show that the majority of teachers are comfortable with what are considered basic computer knowledge and skills (intermediate to proficient). The areas of General Knowledge and Word Processing are the highest, with Email also considered an area of strength. Activities that are not utilized as much, namely Presentations, Spreadsheets, and Database applications, showcase much lower levels of proficiency.

The following chart shows how administrators rated their level of competence in the same Computer Knowledge and Skills areas on the EdTechProfile survey as of March 2011.

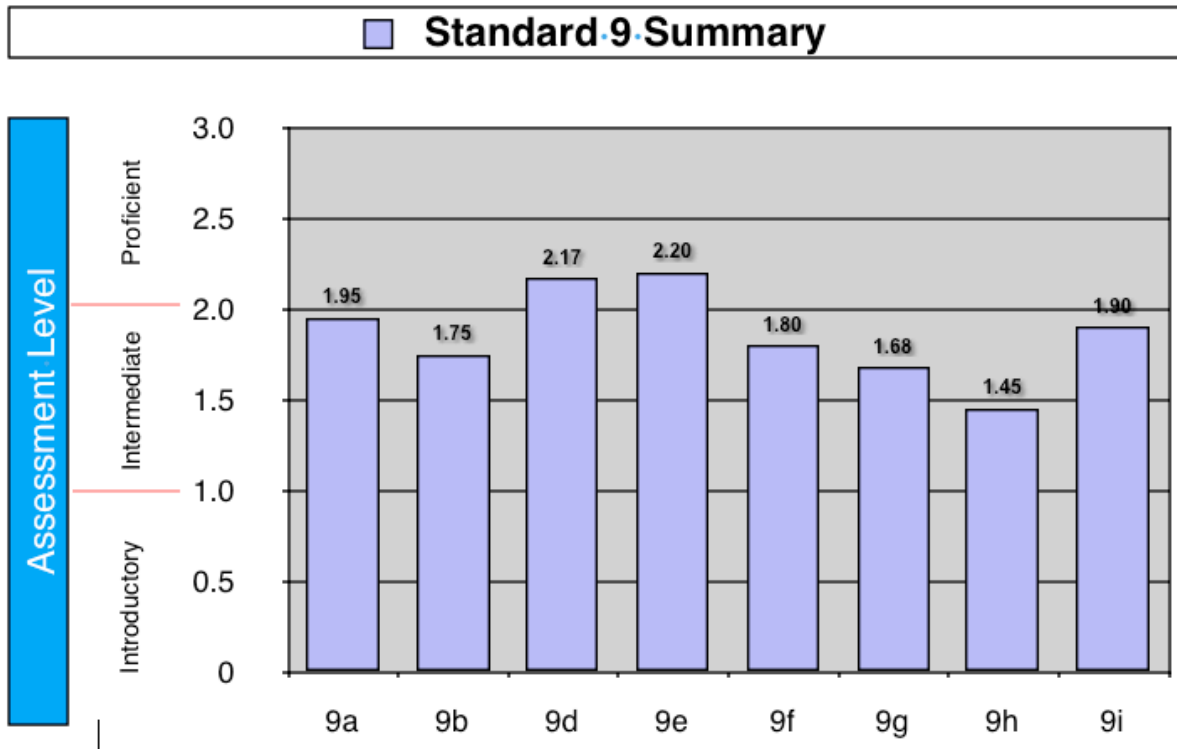
Responses for Category: Computer Knowledge and Skills		
General computer knowledge and skills		
Question 1: General computer knowledge and skills. Rate your skill level in	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	0	0%
Beginning user: I have the majority of the skills listed below in column 1.	0	0%
Intermediate user: I have the majority of the skills listed below in column 1 and 2.	1	8%
Proficient user: I have the majority of the skills listed here below in column 1, 2 and 3	11	92%
Internet skills		
Question 1: Internet skills. Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	0	0%
Beginning user: I have the majority of the skills listed below in column 1.	0	0%
Intermediate user: I have the majority of the skills listed below in column 1 and 2.	2	17%
Proficient user: I have the majority of the skills listed below in column 1, 2 and 3.	10	83%
Email skills		
Question 1: E-Mail skills: Rate your skill level in this area.	# of Respondents	%

Responses for Category: Computer Knowledge and Skills		
Not Applicable: I do not have any of the skills listed below.	0	0%
Beginning user: I have the majority of the skills listed below in column 1.	0	0%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	0	0%
Proficient user: I have the majority of the skills listed below in columns 1, 2 and 3.	12	100%
Word processing skills		
Question 1: Word processing skills. Rate your skill levels in this area.	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	0	0%
Beginning user: I have the majority of the skills listed below in column 1.	0	0%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	0	0%
Proficient user: I have the majority of the skills listed below in columns 1, 2 and 3.	12	100%
Presentation software skills		
Question 1: Presentation software skills. Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have any of the skills listed below.	0	0%
Beginning user: I have the majority of the skills listed below in column 1.	0	0%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	2	17%
Proficient user: I have the majority of the skills listed below in columns 1, 2 and 3.	10	83%
Spreadsheet software skills		
Question 1: Spreadsheet software skills. Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have the skills in this area.	0	0%
Beginning user: I have the majority of the skills listed below in column 1.	1	8%
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	5	42%
Proficient user: I have the majority of the skills listed below in columns 1, 2, and 3.	6	50%
Database software skills		
Question 1: Database software skills. Rate your skill level in this area.	# of Respondents	%
Not Applicable: I do not have the skills in this area.	1	8%
Beginning user: I have the majority of the skills listed below in column 1.	4	33%

Responses for Category: Computer Knowledge and Skills		
Intermediate user: I have the majority of the skills listed below in columns 1 and 2.	2	17%
Proficient user: I have the majority of the skills listed below in columns 1, 2, and 3.	5	42%

Similar to the teachers' results, administrators who completed the EdTechProfile assessment selected intermediate or proficient in the majority of skills. Database skills were the main weakness once again. One interesting trend is that 100% of the administrators completing the assessment felt that they were either intermediate or proficient in General Computer Knowledge and Skills, Internet, Email, Word Processing, and Presentations. These results are most likely due to the District Administrator Technology Proficiency Program that was eliminated due to budget cuts. Prior to the elimination of the technology proficiency requirements, 49% of all District administrators completed both level one and level two proficiencies, which included proficiency in the use of educational technology tools and application of that use to teaching and learning. Administrators are still encouraged to complete the items in the administrator competencies through site-based professional development with their staff or individual training through the Technology & Media Services Department.

Standard 9



The chart above shows District results for Program Elements for Teaching Standard 9: Using Technology in the Classroom. The March 2011 Data is for 213 teachers, or 35% of credentialed teachers in the District. It includes fully and partially completed assessments. The data shows that teachers are in the high intermediate or proficient categories in most areas, except demonstrating competence in the use of electronic research tools and the ability to assess the authenticity, reliability and bias of the data gathered. The elements include the following:

- 9(a) Each candidate considers the content to be taught and selects appropriate technological resources to support, manage, and enhance student learning in relation to prior experiences and level of academic accomplishment..
- 9(b) Each candidate analyzes best practices and research findings on the use of technology and designs lessons accordingly.
- 9(d) Each candidate uses computer applications to manage records and to communicate through printed media.
- 9(e) Each candidate interacts with others using e-mail and is familiar with a variety of computer-based collaborative.

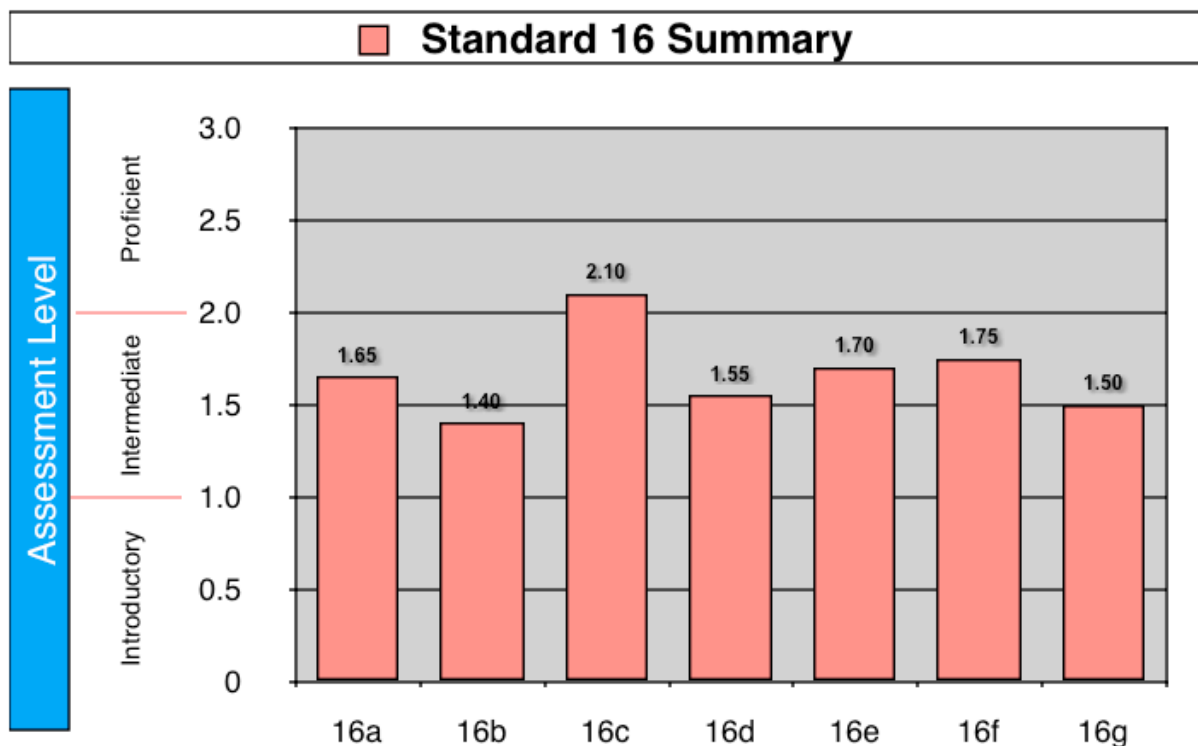
9(f) Each candidate examines a variety of current educational technologies and uses established selection criteria to evaluate materials, for example, multimedia, Internet resources, telecommunications, computer-assisted instruction, and productivity and presentation tools.

9(g) Each candidate chooses software for its relevance, effectiveness, alignment with content standards, and value added to student learning.

9(h) Each candidate demonstrates competence in the use of electronic research tools and the ability to assess the authenticity, reliability, and bias of the data gathered.

9(g) Each candidate demonstrates knowledge of copyright issues and of privacy, security, safety issues and Acceptable Use Policies

Standard 16



The chart above shows the District results from EdTechProfile as of March 2011. The data is for 209 teachers or 35% of the credentialed teachers in the District. It includes fully and partially completed assessments. This data focuses on the Program Elements for Teaching Standard 16: Using Technology to Support Student Learning. The

elements include the following:

16(a) Each Participating teacher communicates through a variety of electronic media.

16(b) Each participating teacher interacts and communicates with other professionals through a variety of methods, including the use of computer-based collaborative tools to support technology-enhanced curriculum.

16(c) Each participating teacher uses technological resources available inside the classroom or in library media centers, computer labs, local and county facilities, and other locations to create technology-enhanced lessons aligned with the adopted curriculum.

16(d) Each participating teacher designs, adapts, and uses lessons which address the students' needs to develop information literacy and problem solving skills as tools for lifelong learning.

16(e) Each participating teacher uses technology in lessons to increase students' ability to plan, locate, evaluate, select, and use information to solve problems and draw conclusions. He/she creates or makes use of learning environments that promote effective use of technology aligned with the curriculum inside the classroom, in library media centers or in computer labs.

16(f) Each participating teacher uses computer applications to manipulate and analyze data as a tool for assessing student learning and for providing feedback to students and their parents.

16(g) Each participating teacher demonstrates competence in evaluating the authenticity, reliability and bias of the data gathered, determines outcomes, and evaluates the success or effectiveness of the process used. He/she frequently monitors and reflects upon the results of using technology in instruction and adapts lessons accordingly.

In the EdTechProfile Standard 16 assessment for Fullerton, most teachers assessed themselves as intermediate in the various Program Elements of Teaching Standard 16. Teachers were most proficient in using technological resources available inside the classroom or in library media centers, computer labs, local and county facilities, and other locations to create technology-enhanced lessons aligned with the adopted curriculum. Teachers were least proficient in interactions and communications with other professionals through a variety of methods, including the use of computer-based collaborative tools to support technology-enhanced curriculum. The summary of this data indicates that teachers feel more proficient in technology but still have specific

needs with integrating technology into the classroom to benefit student learning. For this reason, the District goals have been focused on integration of technology.

Based on analysis of the above data, specific skills for which teachers and administrators needed further training on include:

- Use of collaborative tools
- Redesign of lessons to include technology
- Use of technology resources to solve real-life problems
- Evaluation methods that substantiate the impact of technology on content learning
- Copyright laws and technology use
- Internet safety and network use
- Creating effective learning environments using technology
- Matching student learning styles to appropriate technology resources

These results were used to develop the goals for technology professional development throughout the school year.

In addition to the EdTechProfile assessment, several administrators, teachers, and students completed the Project Tomorrow Speak Up Survey that assesses respondent's attitude towards technology and its integration into the curriculum. Almost 1500 Fullerton students, 169 parents, and over 200 teachers and administrators completed the survey. The information from Project Tomorrow is used to compare and contrast the various attitudes of respondents towards technology integration and the future of technology tools. The summary of this data indicates that there is some disparity between how students, parents, and educators view technology and its integration.

For the last two years, teachers participated in site Professional Learning Communities or PLCs. During this time, teachers discuss best practices and strategies for helping all students meet grade level standards. Technology tools to assist in this process are often discussed. PLCs meet twice per week, and principals are making data-driven decision-making and educational technology priorities in the discussions.

Several District teachers and administrators attend and present at local, regional, statewide, and national conferences. These include the Computer-Using Educators (CUE) and International Society for Technology in Education (ISTE) conferences. In the past two years, teachers and administrators presented on the 1:1 Laptop Program, multimedia in education, and mobile devices in the classroom. Additionally, one fifth grade classroom was invited to participate in the Student Technology Showcase at CUE 2011.

B. Professional Development Opportunities

Fullerton School District recognizes the need for ongoing professional development for teachers, administrators, and staff. The training needs to be integrated with the curriculum as well as the day-to-day duties of all staff. Additionally, the professional development must spiral concepts to provide multiple exposures to technology tools and increase mastery. The following professional development goals and benchmarks provide information on how the District will increase capacity in utilizing technology in areas that include teaching, learning, productivity, and communication.

The following goal and benchmarks are focused on professional development opportunities for teachers and administrators to help support technology integration into the curriculum.

Goal 8: Provide staff development opportunities to assist teachers and administrators in using technology to support State and District curriculum standards and to meet the goals of this plan.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
8.1	By June 30, 2014, 40% of teachers will score proficient on the Program Elements for Teaching Standard 16: Using Technology to Support Student Learning as measured by the EdTechProfile.	By June 30, 2012, 25% of teachers will score proficient on the Program Elements for Teaching Standard 16: Using Technology to Support Student Learning as measured by the EdTechProfile.	By June 30, 2013, 30% of teachers will score proficient on the Program Elements for Teaching Standard 16: Using Technology to Support Student Learning as measured by the EdTechProfile.	By June 30, 2014, 40% of teachers will score proficient on the Program Elements for Teaching Standard 16: Using Technology to Support Student Learning as measured by the EdTechProfile.
8.2	By June 30, 2014, 90% of administrators will score proficient on Computer Knowledge and skills as measured by the EdTechProfile.	By June 30, 2012, 70% of administrators will score proficient on Computer Knowledge and skills as measured by the EdTechProfile.	By June 30, 2013, 80% of administrators will score proficient on Computer Knowledge and skills as measured by the EdTechProfile.	By June 30, 2014, 90% of administrators will score proficient on Computer Knowledge and skills as measured by the EdTechProfile.

Implementation

Objective 8.1 The Director, TMS will continue to maintain the Program Specialist position to assist in technology training. Teachers will take the EdTechProfile online technology proficiency survey by June 30 of each year. The TMS department will use the results of EdTechProfile survey to plan staff development opportunities, including instructional strategies using technology, to meet the needs of beginning, intermediate and advanced users. At least quarterly for the duration of this plan, TMS will work with the Ed Services department to use components and benchmarks of EdTechProfile teacher proficiencies, especially Standard 16, in planning and implementation of the District staff development program, including “District Wednesdays.” The Program Specialist, TMS will plan and schedule school site-specific technology trainings by request throughout the duration of this plan. The Program Specialist, TMS will integrate all trainings with specific curriculum goals and standards to demonstrate how technology can be used to support student learning and meeting content standards, including multimedia projects. Trainings will explore use of the resources on CLRN and other web sites to assist teachers in the integration of technology into the curriculum. Ed Services and TMS teams will review technology components of any potential textbook adoptions for correlation with the District Technology Standards for Students. The TMS department will provide at least monthly technical training to Site Technology Reps. The TMS team will set up a collaborative area on the District web site using *Haiku* that will feature successful technology integration strategies and be accessible to all teachers and administrators. The TMS department will continue to post all District technology trainings on the District web site; staff members can register to attend on the web site. The TMS department will also post schedules of any technology training offered by the County or other entities available to teachers in summer. The TMS department will work with CSU Fullerton and other universities to continue to offer college credit for training participants when applicable.

Objective 8.2 Administrators will take the EdTechProfile online technology proficiency survey by June 30 of each year. The TMS Department will notify all administrators of technology staff development opportunities posted on the District web site via email, at least quarterly and encourage administrators to attend sessions that meet their needs. Administrators are encouraged to attend any teacher technology trainings on “District Wednesdays” and other professional development planned by the Ed Services and TMS departments. At least quarterly, the TMS Director will schedule administrative tech trainings at the monthly District general management team and principal meetings. The TMS Director will plan and schedule school site or principal-specific technology trainings by request throughout the duration of this plan.

Evaluation Instruments, Procedures, and Responsibility	
8.1	Each year, by June 30, the TMS and Ed Services departments will hold quarterly meetings to plan for technology integration trainings in all subject areas. Agendas, meeting notes and training schedules will be analyzed for objective compliance. By June 30th of each year of the plan, TMS and Ed Services will provide at least 20 staff development opportunities for teachers and administrators in the integration of technology, including instructional strategies and the use of specific technology tools to support students' understanding of District content standards to help students meet the curriculum goals of this plan. Agendas, training sign-in sheets, and evaluations collected on <i>Google</i> will be analyzed by the TMS department to monitor and make any adjustments to future trainings. Teacher EdTechProfile results will be collected and analyzed by June 30 of each year to assess the success of the trainings as well as help determine focus of training for the next year. The number of lesson plans and collaborations posted using <i>Haiku</i> on the District web site will be tracked and analyzed quarterly by the TMS Department for information to be shared with all staff. Responsibility: TMS Department, TMS Director, TMS PS and the Ed Services Department
8.2	By June 30 of each year, administrators will take the EdTechProfile and results will be analyzed by the TMS Department to help determine needed trainings for the next year. Administrator notification of trainings by email will be tracked by log in the TMS Department. Agendas and sign-in sheets of management and principal meetings will be collected and analyzed quarterly by the TMS Department to determine the type of training offered and number of participants. Sign-in sheets and evaluations on <i>Google</i> will be analyzed at least twice a year by the TMS Department for administrator participation in all District trainings and to gauge the success of the trainings in planning for the next year. Responsibility: TMS Department and the TMS Director.

The following goal and benchmarks focus on information literacy, an area that will be emphasized for students as well throughout the years of this tech plan.

Goal 9: Provide staff development opportunities in technology and information literacy for teachers to assist their students in meeting the goals of this plan.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
9.1	By June 30, 2014, 90% of teachers will participate in at least one technology professional development on the District Technology Standards for students (DTSS) and NETS•S.	By June 30, 2012, 70% of teachers will participate in at least one technology professional development on the District Technology Standards for students (DTSS) and NETS•S.	By June 30, 2013, 80% of teachers will participate in at least one technology professional development on the District Technology Standards for students (DTSS) and NETS•S.	By June 30, 2014, 90% of teachers will participate in at least one technology professional development on the District Technology Standards for students (DTSS) and NETS•S.

Implementation	
<p>Objective 9.1 By October of each year of this plan, The TMS Director will ensure that the DTSS are aligned with the National Educational Technology Standards for Students (NET*S). The TMS Department, with assistance from Ed Services, will plan at least one technology training session that addresses the DTSS during each year of this plan. Needs will be based on data from the EdTechProfile online technology proficiency survey of each year. Use the results of EdTechProfile survey The TMS PS will plan and schedule school site-specific technology trainings related to the DTSS and NET*S, by request throughout the duration of this plan. The TMS department will provide at least one training per school year on the DTSS to Site Technology Reps. Successful strategies and lesson plans to support the DTSS will be posted on the collaborative area of the District website using <i>Haiku</i> by the TMS Department and the TMS PS. The TMS department will continue to post all District technology trainings on the District web site; staff members can register to attend on the website. The TMS department will also post schedules of any technology training offered by the County or other entities available to teachers in summer. TMS department will work with CSU Fullerton and other universities to continue to offer college credit for training participants when applicable.</p>	
Evaluation Instruments, Procedures, and Responsibility	
9.1	<p>The TMS Department will collect and analyze teacher EdTechProfile results by June 30 of each year to assess the success of the trainings as well as to determine focus of training for the next year. Following each training, for the duration of this plan, the TMS Department and Ed Services will collect and analyze training agendas, sign-in sheets, and evaluations collected on <i>Google</i> to monitor and make any adjustments to future trainings. The number of lesson plans and collaborations posted using <i>Haiku</i> on the District web site will be tracked quarterly and analyzed by the TMS Department for information to be shared will all staff and highlighted at future trainings. Responsibility: TMS Department, TMS Director, TMS PS and the Ed Services Department.</p>

The following goal and benchmarks focus on ethical and appropriate use of technology. Respecting intellectual property and understand copyright laws and Fair Use guidelines are all extremely important components of becoming responsible digital citizens. With the increase and emphasis on digital projects published to the Internet, it is imperative that students understand lawful use and distribution of files and multimedia. Teachers must also be well aware so that they may provide the guidance and parameters to students throughout the process of creating multimedia projects.

Goal 10: Provide staff development opportunities in the ethical and appropriate use of information technology, including U.S. copyright laws and Fair Use guidelines, plagiarism, distinguishing lawful from unlawful downloading and peer-to-peer file sharing to teachers to assist their students in meeting the goals of this plan.

Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
10.1	By June 30, 2014, 100% of teachers will participate in at least two technology professional development trainings on the ethical and appropriate use of information technology.	By June 30, 2012, 70% of teachers will participate in at least two technology professional development trainings on the ethical and appropriate use of information technology.	By June 30, 2013, 85% of teachers will participate in at least two technology professional development trainings on the ethical and appropriate use of information technology.	By June 30, 2014, 100% of teachers will participate in at least two technology professional development trainings on the ethical and appropriate use of information technology.

Implementation

Objective 10.1 By October of each year of this plan, the TMS Department, with assistance from Ed Services, will plan at least two technology training sessions that address ethical and appropriate use of technology during each year of this plan. Topics to be covered include: the concept and purpose of both copyright and Fair Use; distinguishing lawful from unlawful downloading and peer-to-peer file sharing; and issues of intellectual property and plagiarism. The TMS Department will also create a *Keynote* presentation by Fall, 2011 on these topics that will be used in the training and modified so that teachers can use the grade-appropriate presentation with their students. The TMS department will provide at least one training per school year on the ethical and appropriate use of technology to Site Technology Reps and to principals at a scheduled meeting. Successful strategies, lesson plans and the *Keynote presentation* to support the DTSS will be posted on the collaborative area of the District website using *Haiku* by the TMS Department and the TMS PS. The TMS department will continue to post all District technology trainings on the District web site; staff members can register to attend on the website. The TMS department will also post schedules of any technology training offered by the County or other entities available to teachers in summer. TMS department will work with CSU Fullerton and other universities to continue to offer college credit for training participants when applicable.

Evaluation Instruments, Procedures, and Responsibility	
10.1	The TMS Department and Ed Services training schedules will be reviewed quarterly for evidence of trainings on appropriate and ethical use of technology. After each training, for the duration of this plan, the TMS Department and Ed Services will collect and analyze training agendas, sign-in sheets, and evaluations collected on <i>Google</i> to monitor and make any adjustments to the trainings and the <i>Keynote</i> presentation. The number of lesson plans and collaborations posted using <i>Haiku</i> on the District web site will be tracked quarterly and analyzed by the TMS Department for information to be shared with all staff and highlighted at future trainings. Responsibility: TMS Department, TMS Director, TMS PS and the Ed Services Department.

The following professional development goal focuses on Internet safety procedures. As more teachers and students access the Internet, it is important that a solid foundation rooted in safe online procedures is followed. Especially with plans to celebrate more student work online, it is important to understand how to protect online privacy while still promoting classroom success.

Goal 11: Provide staff development opportunities on Internet safety, protection of online privacy and avoid online predators to teachers to assist their students in meeting the goals of this plan.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
11.1	By June 30, 2014, 100% of teachers will participate in at least two technology professional development trainings on Internet safety, including protection of online privacy, avoidance of online predators.	By June 30, 2012, 70% of teachers will participate in at least two technology professional development trainings on Internet safety, including protection of online privacy, avoidance of online predators.	By June 30, 2013, 85% of teachers will participate in at least two technology professional development trainings on Internet safety, including protection of online privacy, avoidance of online predators.	By June 30, 2014, 100% of teachers will participate in at least two technology professional development trainings on Internet safety, including protection of online privacy, avoidance of online predators.

Implementation

Objective 11.1 By October of each year of this plan, the TMS Department, with assistance from Ed Services, will plan at least two technology training sessions that address Internet safety, including protection of online privacy and avoidance of online predators, during each year of this plan. By December 2011, the TMS Director and PS will also create grade-appropriate lesson plans on these topics that will be used in the training and made available to teachers. The TMS department will provide at least one training per school year on these Internet safety topics to Site Technology Reps and to principals at a scheduled meeting. Successful strategies, lesson plans and other resources to support Internet safety products will be posted on the collaborative area of the District website using *Haiku* by the TMS Department and the TMS PS. The TMS department will continue to post all District technology trainings on the District web site; staff members can register to attend on the website. The TMS department will also post schedules of any technology training offered by the County or other entities available to teachers in summer. TMS department will work with CSU Fullerton and other universities to continue to offer college credit for training participants when applicable.

Evaluation Instruments, Procedures, and Responsibility

11.1	The TMS Department and Ed Services training schedules will be reviewed quarterly for evidence of trainings on Internet safety topics mentioned in the objective. After each training, for the duration of this plan, the TMS Department and Ed Services will collect and analyze training agendas, sign-in sheets, and evaluations collected on <i>Google</i> to monitor and make any adjustments to future trainings. The number of lesson plans, other resources and collaborations posted using <i>Haiku</i> on the District web site will be tracked quarterly and analyzed by the TMS Department for information to be shared with all staff and highlighted at future trainings. Responsibility: TMS Department, TMS Director, TMS PS and the Ed Services Department.
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The following goal focuses on utilizing technology tools for student information and assessment. The District currently utilizes *PowerSchool* student information system, *PowerTeacher Gradebook* for classroom grades, and *DataDirector* for assessment. Because the District emphasizes data driven decision-making during Professional Learning Communities, it is important to have a firm foundation with utilizing the tools to access data on current grades, benchmarks, and state testing.

Goal 12: Provide staff development opportunities on record keeping, assessment and access to student information more efficient and supportive of efforts to meet students' academic needs.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
12.1	By June 30, 2014, 70% of teachers will participate in at least one technology professional development training each on <i>PowerTeacher Gradebook</i> , <i>PowerSchool</i> and <i>DataDirector</i> , The District's data assessment program.	By June 30, 2012, 50% of teachers will participate in at least one technology professional development training each on <i>PowerTeacher Gradebook</i> , <i>PowerSchool</i> and <i>DataDirector</i> , The District's data assessment program.	By June 30, 2013, 60% of teachers will participate in at least one technology professional development training each on <i>PowerTeacher Gradebook</i> , <i>PowerSchool</i> and <i>DataDirector</i> , The District's data assessment program.	By June 30, 2014, 70% of teachers will participate in at least one technology professional development training each on <i>PowerTeacher Gradebook</i> , <i>PowerSchool</i> and <i>DataDirector</i> , The District's data assessment program.
Implementation				
<p>Objective 12.1 By October of each year of this plan, the TMS PS and the Coordinator of Assessment and Accountability in the Ed Services Department will plan at least one technology training session on how to use <i>PowerTeacher Gradebook</i>, the teacher portions of <i>PowerSchool</i> and how to retrieve, analyze, use and store assessment data in <i>DataDirector</i> during each year of this plan. The Coordinator of Assessment and Accountability will provide at least one training per school year on <i>DataDirector</i> to Site Technology Reps and to principals at a scheduled meeting meeting. At the beginning of each school year, a training on these tools will be given to teachers new to the District by the TMS PS and Coordinator of Assessment. These two trainers also will provide training on using these tools by request on an as-needed basis during each school year of this plan. TMS department will work with CSU Fullerton and other universities to continue to offer college credit for training participants when applicable.</p>				

Evaluation Instruments, Procedures, and Responsibility	
12.1	<p>The TMS Department and Ed Services training schedules will be reviewed quarterly for evidence of trainings on <i>PowerTeacher Gradebook</i>, <i>PowerSchool</i> and <i>DataDirector</i>. Following each training, for the duration of this plan, the TMS Department and Ed Services will collect and analyze training agendas, sign-in sheets, and evaluations collected on <i>Google</i> to monitor and make any adjustments to future trainings. The number of teachers using <i>PowerTeacher Gradebook</i>, <i>PowerSchool</i> and <i>DataDirector</i> will be tracked quarterly using the tools within those programs by the Coordinator Of Assessment and Accountability and assisted by the TMS Department. At least quarterly, the TMS PS will track the number of teachers requesting additional training and the types of training requested to help plan future staff development offerings.</p> <p>Responsibility: TMS Department, TMS Director, TMS PS and the Coordinator of Assessment and Accountability.</p>

The following goal and benchmarks focus on the development of the home-school connection through two-way communication. Providing parents with timely, consistent communication is important. By including a variety of methods of communication, including more recent modes like Email, RSS Feeds, and web sites, schools can improve the probability that parents will be well informed and engage in a two-way dialogue with the school site.

Goal 13: Provide staff development opportunities on technology used to enhance two-way communication between teachers, administrators and parents.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
13.1	By June 30, 2014, 90% of principals will participate in at least one technology professional development training on publishing newsletters in a digital format.	By June 30, 2012, 80% of principals will participate in at least one technology professional development training on publishing newsletters in a digital format.	By June 30, 2013, 85% of principals will participate in at least one technology professional development training on publishing newsletters in a digital format.	By June 30, 2014, 90% of principals will participate in at least one technology professional development training on publishing newsletters in a digital format.

13.2	By June 30, 2014, 90% of principals and teachers will participate in at least one technology professional development training on using digital tools such as <i>iWeb</i> , <i>Haiku</i> , blogs, podcasts and others to develop a home-school connection and provide information to parents on their student's achievement.	By June 30, 2012, 80% of principals and teachers will participate in at least one technology professional development training on using digital tools such as <i>iWeb</i> , <i>Haiku</i> , blogs, podcasts and others to develop a home-school connection and provide information to parents on their student's achievement.	By June 30, 2013, 85% of principals and teachers will participate in at least one technology professional development training on using digital tools such as <i>iWeb</i> , <i>Haiku</i> , blogs, podcasts and others to develop a home-school connection and provide information to parents on their student's achievement.	By June 30, 2014, 90% of principals and teachers will participate in at least one technology professional development training on using digital tools such as <i>iWeb</i> , <i>Haiku</i> , blogs, podcasts and others to develop a home-school connection and provide information to parents on their student's achievement.
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Implementation

Objective 13.1 At least once per year, during the monthly principals' meetings, the TMS Department will provide training on publishing newsletters in a digital format (PDF or ePUB) on school web sites or principal's webpage. The TMS PS is available throughout each year of this plan on an as-needed basis to assist principals in using these tools at their school sites.

Objective 13.2 At least once per year, during the monthly "District Wednesdays", the TMS Department will provide training on digital tools that help teachers and administrators develop home-school connections to improve student achievement. Such tools will include *iWeb*, *Haiku*, blogs, podcasts and others. The TMS PS is available throughout each year of this plan on an as-needed basis to assist teachers and principals. The TMS department will work with CSU Fullerton and other universities to continue to offer college credit for training participants when applicable.

Evaluation Instruments, Procedures, and Responsibility

13.1	After each training, for the duration of this plan, the TMS Department will collect and analyze training agendas, sign-in sheets, and evaluations collected on <i>Google</i> to monitor and make any adjustments to the training for the future. The number of principals requesting on-site assistance will be collected. The number of school site online newsletters will be tracked quarterly by the TMS Department and additional training will be scheduled as needed each year to meet the goals of this plan. Responsibility: TMS Department, TMS Director and the TMS PS.
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13.2	After each training, for the duration of this plan, the TMS Department will collect and analyze training agendas, sign-in sheets, and evaluations collected on <i>Google</i> to monitor and make any adjustments to the training for the future. The number of teachers and principals requesting on-site assistance will be collected and the type of help needed will be used to plan future trainings. The number of teachers and principals using digital tools for home-school communications will be tracked quarterly by the TMS Department using posts on school and District web sites, and additional training will be scheduled as needed each year to meet the goals of this plan. Responsibility: TMS Department, TMS Director and the TMS PS.
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C. The Monitoring Process

The Director and Program Specialist, Technology and Media Services, will annually monitor the progress of teachers and administrators via the online EdTechProfile assessment tools and information from the Net Day SpeakUp survey by Project Tomorrow. Technology professional development will be annually monitored and adjusted depending on the results of these surveys. Evaluations are collected from participants at the end of each professional development opportunity. These are used to evaluate the success of the trainings and to determine if there is any need for modifications. Every year, all teachers and administrators go online and retake the EdTechProfile assessment so that growth in technology proficiency and technology integration can be monitored. In addition, access logs to *Haiku*, *DataDirector*, *PowerTeacher Gradebook* and *PowerSchool* provide data on how these tools are being used. The Coordinator of Assessment and Accountability, with assistance from the TMS Department, will collect data from these sources on an annual basis. This data will be used to help guide staff development to help meet the goals of this plan.

The technology use section in the Fullerton School Technology Survey (FSTS) will be utilized to monitor the number of teachers integrating technology across the curriculum and help determine staff development needs. The FSTS will also be utilized to monitor the increase in technology use by site administrators. In addition to the monitoring of the EdTechProfile assessment, records will be kept by the TMS and Ed. Services Departments as to the types of professional development opportunities requested and delivered to staff and school sites. This data will be analyzed to help plan future staff development offerings and custom trainings.

By June 30 each year of the plan, the TMS and Ed. Services Departments will meet with principals to discuss professional development goals and needs for the following year. This will include training opportunities for administrators, District Wednesdays, and specific school sites. This information will also be used to help guide the supporting material that will be posted to the district *Haiku* as professional development resources.

At least once per year the TMS Director will report on the progress of plan goals to the Technology Advisory Committee, the Cabinet and the Superintendent. At the request of the Cabinet and Superintendent, the TMS Director will also provide a Board presentation on the progress with technology integration within the District.

5. Infrastructure, Hardware, Technical Support and Software

A. Current Resources and Support

As technology use increases, schools need to utilize effective strategies for providing ready student access to computers and mobile devices (iPod touch or iPad units). Access to technology is critical to support the goals and objectives in the curriculum and professional development sections of this plan. The ideal is one computer or mobile device per student, but not all students in our schools have access to a 1:1 Laptop Program or mobile device program. To increase access at the schools without a formal 1:1 program, the use of wireless laptop carts and iPod and iPad carts provide increased access for student use. Portability and mobility are important in leveraging funds and providing 1:1 or high-access environments to multiple classrooms on a limited basis throughout the school day.

Infrastructure and Networking

Since 1998, the District has applied for and received funding through the federal E-Rate program. These funds have been used at ten school sites for the purpose of network installations and expansions. E-Rate funds have also been used to refurbish aging equipment at four schools in the 2009-2010 funding year.

All schools have fiber backbones connecting MDF and IDF electronics, 100mbps connections provided to each ethernet jack, and wireless network access throughout their campuses.

Each school site is connected to the District's wide area network (WAN). All schools have at least a full T1 circuit to the WAN providing 1.5mbps of bandwidth. Two schools have two T1 lines, providing an aggregated bandwidth of 3mbps, and two schools have four T1 lines, providing an aggregated bandwidth of 6mbps to those sites. District staff monitors and assesses bandwidth usage at all sites to determine the most appropriate provision of bandwidth to meet on-going needs. See Appendix V for a summary of each site's network.

The District's WAN is connected to its Internet Service Provider, the Orange County Department of Education (OCDE), through an Opt-e-man circuit providing 45mbps of bandwidth between the District and OCDE.

These circuits are used to provide wide area network services within the District, delivering access to network resources such as email, internal web servers, etc., as well as access to payroll and financial applications through OCDE. These circuits also provide access to Internet services with web data content filtering provided through *M86* filtering software (formerly *8e6*) at OCDE. District technical personnel continuously monitor bandwidth usage to insure the proper operation of instructional applications that support the curriculum standards.

As of October 2010, 6 schools had 1:1 Laptop Programs with over 1,600 students in the program. Pages 14-15 of this document list the scope of the program at the school sites.

As telephone services change with the introduction of new technology, the District is studying the current Centrex voice telephone services in order to determine if other solutions such as Voice over IP (VoIP) would reduce the cost of local and long distance telephone services. The current use of cellular telephone services by principals, assistant principals, selected administrators, and District support staff members is also being studied to determine how emerging technologies can be used to integrate telephone services. Cellular service is currently used by both school site and District support personnel to provide enhanced communications in support of instructional and logistical activities.

Hardware

Each school currently has at least one network-capable computer in every classroom. Every teacher has a wireless laptop to use at school and home. At three schools, students in the laptop program have a computer to use 24/7. At three schools, students in the laptop program have access to a laptop during school hours. There is an average of four mobile laptop carts per school site. There is an average of one iPod touch cart per school site. There are 157 interactive whiteboards or interactive projectors in classrooms throughout the District. See Appendix V for a count of all computers, mobile devices and other technology at each school site based on the District Computer Inventory as of June 1, 2010.

Technical Support

The District's Technology & Media Services Department currently provides network troubleshooting and repair services for computers, mobile devices (iPod touch and iPad units), interactive whiteboards, document cameras, printers, and projectors. See the Funding and Budget section for a list of support staff positions.

At each school site, an existing staff member serves as the site's Technology Rep. He or she receives special training, support, and information at regularly scheduled District meetings. One school has a full-time computer repair technician and three schools have a part-time computer repair technician. The other schools rely on instructional assistants, library/media personnel, or their Site Technology Rep to assist with minor troubleshooting with technology. One District computer repair technician rotates part of

his time between all schools. Another District computer repair technician rotates between the 1:1 laptop schools to provide technical and repair support. A third District computer repair technician is stationed at the District office to focus on repair issues that arrive throughout the District.

Software

Electronic learning resources vary by school site. Schools use District funds and school resources to purchase software and online subscriptions. The District Technology Standards for Students suggests types of software to be used to help students meet curricular goals and standards: word processors, spreadsheets, presentation software, multimedia programs, graphic programs, web-based resources, and *Web 2.0* tools. All instructional computers are purchased with a suite of productivity tools (the *iWork* suite) and come standard with Internet browser software, a suite of creativity tools (the *iLife* suite), and a camera with microphone (unless purchasing a Mac mini or Power Mac). Some schools also have keyboarding programs and digital imaging programs to support still and video cameras. The District assists with the procurement of licenses and educational discounts from our county office of education, CTAP, Cal-Save and other sources.

The District tries to utilize software and subscriptions recommended by the California Learning Resources Network (CLRN) because these have all been evaluated by educators and are considered standards-based. For software and subscriptions that fall outside of CLRN recommendations, there is a District review procedure in place. All other software and subscriptions are evaluated by the TMS Department for their educational value prior to site purchases. The TMS Department is also actively compiling an active list of currently used software and subscriptions that will be posted on the District web site as a reference to teachers and administrators.

B. Technology Support Needed to Support Curriculum

Infrastructure and Networking

As technology use increases, more bandwidth is necessary. The District is actively exploring how best to upgrade all site lines to fiber for greater bandwidth capacity. The District also participates in the Technology Working Group (TWG), a City of Fullerton commission. This group is studying bandwidth needs of the City and other agencies. One option being studied is the installation of a municipal fiber network that would include city agencies, school districts and other businesses and organizations.

Additionally, there is a need to replace aging routers at all schools due to lack of current support from the manufacturer. There are also some aging servers that need to be considered for replacement during the three years of this tech plan.

Hardware

There is a need for more computers, mobile devices (iPod and iPad units), and other technologies such as digital cameras, USB microphones, and probeware, to support the curriculum. Appendix V lists the current student-to-computer ratio. Our teachers and students use technology tools during the teaching and learning process. A reduced computer ratio provides more student access to technology tools, and facilitates a variety of technology-infused projects.

There is always a need to replace and update aging computers. New software releases require updated computers to work properly. The budget section of this document describes the District's current replacement funding.

Technical Support

There is a need for one additional computer repair technician and additional system administration support at the District Office. An additional District computer repair technician would increase the amount of visits each school site receives. Ultimately, this would decrease the amount of time a computer is in for repair and increase the time that students and teachers have access to fully-functional technology. Several schools have indicated a need for more technology support at their school sites due to the purchase of mobile devices, interactive whiteboards, and other technology tools, but they lack the necessary funding to do so. With an additional District computer repair technician, some of these needs would be met.

Software

There is a need to continue District and school licenses of the Macintosh operating system, *iLife*, *iWork* and other tools used by all the schools and the District Office. With the help of the Fullerton Technology Foundation, there is currently a District subscription to *Discovery Streaming*. This tool provides video segments, images, and audio to support the curriculum. Continued funding for this license is a priority. *Gizmos*, online math and science simulations, is another subscription supported by the District.

C. 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 identified in Section 5b

Goal 14: Hardware: The district will provide or help facilitate the purchase of the hardware needed by the district’s teachers, students, and administrators to support the activities in the Curriculum and Professional Development components of the plan.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
14.1	By June 30, 2014, 95% of teachers and administrators will utilize a current computer (less than five years old).	By June 30, 2012, 70% of teachers and administrators will utilize a computer that is less than five years old.	By June 30, 2013, 85% of teachers and administrators will utilize a computer that is less than five years old.	By June 30, 2014, 95% of teachers and administrators will utilize a computer that is less than five years old.
14.2	By June 30, 2014, the ratio of students to current computing devices (laptops and mobile devices less than five years old) will be 1.5:1 across the District.	By June 30, 2012, the ratio of students to current computing devices (laptops and mobile devices less than five years old) will be 2.5:1 across the District.	By June 30, 2013, the ratio of students to current computing devices (laptops and mobile devices less than five years old) will be 2:1 across the District.	By June 30, 2014, the ratio of students to current computing devices (laptops and mobile devices less than five years old) will be 1.5:1 across the District.
Implementation				
<p>Objective 14.1 Every year of the plan, the TMS Department will determine the minimum configuration for laptops and mobile devices for teacher and administrator use. The TMS Department will also examine technology trends and software requirements to determine if modifications need to be made to hardware standards or infrastructure for compatibility. The TMS Department will work with the Buyer Coordinator to ensure best pricing on selected hardware.</p>				
<p>Objective 14.2 Every year of the plan, the TMS Department will determine the minimum configuration for laptops and mobile devices for student use. Sites will determine equipment to be purchased to meet program needs and make long-term and short-term goals to decrease the ratio of students to computers and mobile devices. The TMS Department will also examine technology trends and software requirements to determine if modifications need to be mad to hardware standards or infrastructure for compatibility. TMS Department will work with the Buyer Coordinator to ensure best pricing on selected hardware.</p>				

Evaluation Instruments, Procedures, and Responsibility	
14.1	The District will continue to complete the Fullerton School District Technology Survey once per year in Spring to update the record of current inventory. Data from this survey will be analyzed and used to plan purchases of replacement laptops for teachers and administrators. Responsibility: Site administrators, Tech Reps, Buyer Coordinator, and TMS Department.
14.2	The District will continue to complete the Fullerton School District Technology Survey once per year in Spring to update the record of current inventory and plan purchases of laptops and mobile devices for student use. Data from this survey will be analyzed and used to plan purchases of laptops and mobile devices for student use. The data from the survey will also be used to calculate the ratio of students to laptops and mobile devices to ensure progress towards the District goal. Responsibility: Site administrators, Tech Reps, Buyer Coordinator, and TMS Department.

The following table shows the activities, responsibilities and timeline to meet the above benchmarks.

Goal 15: Software: Review, select and obtain learning resources required to support the implementation of the District Technology Plan.				
Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
15.1	By June 30, 2014, 100% of software and learning resources purchases will be approved through the California Learning Resources Network or District evaluation.	By June 30, 2012, 80% of software and learning resources purchases will be approved through the California Learning Resources Network or District evaluation.	By June 30, 2013, 90% of software and learning resources purchases will be approved through the California Learning Resources Network or District evaluation.	By June 30, 2014, 100% of software and learning resources purchases will be approved through the California Learning Resources Network or District evaluation.

Implementation

Objective 15.1 In the first year of the Technology Plan, the TMS Department will begin collecting a list of all software and digital learning resources used throughout the District. By June 30, 2012, the TMS Department will identify any resources that are no longer approved or compatible with current systems and provide school sites with more appropriate alternatives. On an as needed basis, the TMS Department will utilize CLRN, TICAL, and CTAP to assist in the purchase of software and other digital learning resources for school sites and specific District programs that include Response to Intervention, Systematic ELD, and GATEWAYS. If software is not previously approved by CLRN, TICAL, or CTAP, the TMS and Ed. Services Department will collaborate together to determine the educational value and appropriate use of the software or digital learning resource. To aid in the purchase of educational software and learning resources, the TMS Department will create a *Haiku* page aligning existing District software and learning resource purchases to specific curricular uses. At least twice per year, these resources will be updated for accuracy.

Evaluation Instruments, Procedures, and Responsibility

15.1	Using the Fullerton District Technology Survey, the TMS Department will calculate the percentage of software that has been approved by CLRN, TICAL, CTAP, or District evaluation. Notes from collaborative meetings about software not on CLRN, TICAL, or the District approved list will be reviewed and used to make decisions about purchases. Responsibility: Site administrators, Buyer Coordinator, and Ed. Services, TMS Department.
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Goal 16: Meet the repair and infrastructure needs of all school sites and the District Office.

Objective		Benchmark		
		June 30, 2012	June 30, 2013	June 30, 2014
16.1	By June 30, 2014, 75% of computer repair technicians will be certified repair technicians for Apple, Epson, and Lexmark.	By June 30, 2012, 25% of computer repair technicians will be certified repair technicians for Apple, Epson, and Lexmark.	By June 30, 2013, 50% of computer repair technicians will be certified repair technicians for Apple, Epson, and Lexmark.	By June 30, 2014, 75% of computer repair technicians will be certified repair technicians for Apple, Epson, and Lexmark.
16.2	By June 30, 2014, 100% of school sites will have upgraded fiber optic connectivity with bandwidth rates of at least 30 mbps.	By June 30, 2012, 5% of school sites will have upgraded fiber optic connectivity with bandwidth rates of at least 30 mbps (only one of twenty sites currently has fiber lines with 30 mbps).	By June 30, 2013, 100% of school sites will have upgraded fiber optic connectivity with bandwidth rates of at least 30 mbps.	By June 30, 2014, 100% of school sites will have upgraded fiber optic connectivity with bandwidth rates of at least 30 mbps. Monitor bandwidth & maintain connectivity at all 20 sites.

Implementation

Objective 16.1 Currently, the TMS Department has three certified Apple technicians, one certified Epson technician, and one certified Lexmark technician. Each year of the plan, the TMS computer repair technicians will seek out classes and training to help them either certify or re-certify as authorized technicians of Apple, Epson, and Lexmark products. These are three of the standardized technology products in the District. Through standardizing on products and becoming certified technicians, parts can be stocked and repairs made more quickly. Every year of the plan, each of the repair technicians will be expected to add one more certification.

Objective 16.2 The current bandwidth needs of the District are constrained, but overall adequate because the TMS Assistant Director and networking staff have implemented caching servers at high-use sites. However, with the increase in mobile devices in recent years, the District knows that the time has come to improve connectivity and bandwidth at each site. Currently, one site is connected to the District Office via fiber optic lines and has at least 30 mbps connectivity. The current environment of at least one T1 line to all other sites, providing a minimum of 1.5 mbps, will be evaluated by August 1, 2011. No later than October 15, 2011, the TMS Department will work with the Coordinator of Purchasing to issue an RFP in conjunction with the Erate Form 470 for improving connectivity at each school site with fiber optic lines and at least 30 mbps bandwidth. By February 15, 2012, a vendor for upgrading connectivity will be selected and the Form 471 will be filed. By August 1, 2012, all site bandwidth will be increased to a minimum of 30 mbps.

Evaluation Instruments, Procedures, and Responsibility

16.1	Apple, Epson, and Lexmark each have training material and tests for people to become certified repair technicians. When someone successfully completes the testing process, they receive a certificate to indicate that they are a certified technician. These certificates will be kept on file for each repair technician. Progress towards the tech plan goal will be evaluated annually by June 30. Responsibility: Computer repair technicians, TMS Director, Repair Supervisor.
16.2	Every year, as part of the Erate cycle, the District must file the Form 470 requesting specific services for connectivity. To determine the needs of the schools, the TMS Department utilizes the Intermapper service to observe bandwidth usage at each site. At least once per day, the TMS Assistant Director monitors the bandwidth to determine trends and needs. In the first year of the Tech Plan, the TMS Department will use the Form 470 and an RFP to request quotes for fiber optic lines and additional bandwidth. Once the additional bandwidth is added, the TMS Department will continue to monitor daily bandwidth usage at each site with Intermapper to determine if the connectivity meets the needs at each site. Responsibility: TMS Assistant Director, TMS Director, Coordinator of Purchasing.

D. The Monitoring Process

Monitoring the District's progress in meeting its technology goals in the areas of infrastructure, hardware, technical support and use of software is one of the major activities of the Technology & Media Services Department (TMS). If District personnel have a problem with network speed or connectivity, TMS is called to help solve the problem. Technology & Media Services is also called for hardware and software recommendations and for help on answering technical problems.

The Director, TMS is responsible for the timely delivery of requested technical support. At monthly TMS Department meetings, a list of current problems or projects at each site is reviewed and discussed by technical support staff. This list is updated on a regular basis to show how problems have been resolved and anticipate upcoming needs. These meetings provide a chance for problem-solving, future needs planning, and for planning how the department will work to accomplish the goals of the District Technology Plan.

An online log is kept, tracking each computer sent in for repair. The Supervisor of Computer Repair and Technical Support Specialist are responsible for the maintenance and accuracy of the repair log. This log describes the problem and how it was resolved. The log allows the tracking of repairs and the identification of trends in any specific equipment failures. The TMS Director monitors the expediency of this service on a monthly basis so that computers are repaired in a timely fashion.

District departments and school sites monitor the need for additional equipment. The TMS Department assists schools and departments with hardware and software selection to meet their needs. Schools and departments are made aware of any upcoming programs that may require the purchase of additional hardware. The Lead Purchaser is responsible for ordering equipment and verifying the accuracy of equipment and software orders. Updates of new hardware and other technology items of interest are presented at regular Site Technology Rep meetings, principals meetings, and at District general management meetings.

The TMS and Ed. Services Departments assist the District in identifying current educational software and learning resources available to help students and teachers meet District curriculum goals. For all software and learning resources not specifically approved by CLRN, TICAL, or CTAP, the TMS Department will work with Ed. Services to approve. This list augments the list of resources selected by the California Learning Resources Network (CLRN) and will be updated on an annual basis. Technology training includes workshops on how to use the recommended software to help students meet District goals and standards. The TMS Director and TMS Program Specialist are responsible for training that involves technology integration. There are at least 20 trainings scheduled during each school year.

Technology & Media Services is responsible for compliance with laws that require

Internet filtering on computers accessed by students. The Orange County Department of Education serves as our Internet Service Provider (ISP) and currently provides filtering. The District also provides local filters and filters on laptops that go home with students. This process is continuous and is monitored by the TMS Director and the TMS Assistant Director for its success and cost effectiveness.

The District also reviews electronic logs of Internet use for students who need interventions on the proper use of the Internet. The TMS Assistant Director, who also manages all the email and Internet servers, does this on an as-needed basis and provides reports to school principals. The TMS Assistant Director conducts an annual security to determine if further filters or safeguards need to be put in place.

At least once per year the TMS Director will report on the progress of plan goals to the Technology Advisory Committee, the Cabinet and the Superintendent. At the request of the Cabinet and Superintendent, the TMS Director will also provide a Board presentation on the progress with technology integration within the District.

6. Funding and Budget

A. Established and Potential Funding Sources

The District currently allocates funds to implement the technology plan. The following is a list of programs and Technology & Media Services staff funded by the District.

- The Technology & Media Services budget currently allocates approximately \$472,685 per year for in-house computer and printer repair services, including salaries and benefits
- The Technology & Media Services budget allocates approximately \$74,316 per year for Opt-e-man and T1 data line for unsubsidized costs
- The District allocates approximately \$34,309 per year for unsubsidized voice communications covering cell phone and long distance services
- Positions funded by the District in the Technology & Media Services Department include:
 - four full-time Computer Repair Technicians
 - one full-time Technical Support Specialist III for student information systems support and general help desk services
 - one full-time Assistant Director for image and server development, network design, E-rate submissions, and administration
 - one full-time Systems Administrator for network support and filtering
 - one full-time Technical Support Specialist IV for network support and connectivity
 - one full-time Technical Support Specialist II for support of the student information system and ConnectEd support
 - one full-time Technical Support Specialist I for general technical support, email administration, and clerical duties
 - one Program Specialist for technology training throughout the District, curriculum integration planning, 1:1 laptop support, mobile device integration, and grant program support
 - one Director, Technology & Media Services for federal and state reporting, infrastructure planning, State assessment data management, coordination of grant writing and implementation, site ed tech vision plans, and overall department management

There are two part-time computer repair technicians and six computer instructional assistants at schools who provide first-line technical support at the site level. School sites fund these positions, but the personnel are invited to attend Technology & Media Services meetings. They also utilize Technology & Media Services for support and guidance when needed.

In addition to the above funds and personnel, the District also received funds from several grants.

- The District received a second Enhancing Education Through Technology ARRA Competitive Grant for technology, language arts, and music for 2010-11. The District received \$50,000 total to implement iMUSES (integrating Musice to Unravel Standards and Empower Students) at one K-8 school and one junior high school.
- Enhancing Education Through Technology Formula Grants: The District received \$40,000 for three school years, 2008 to 2010. A minimum of twenty-five percent of these funds are used to support staff development.
- Federal E-Rate for wiring and telecommunications: The District has qualified for approximately \$350,000 in subsidies for Internet services, voice and cell phone services, and wide-area networking since 2008.
- Phelps Family Foundation funds grants for technology projects by school site request. The last round of grants funded technology at six schools for \$77,342.
- CTAP Teacher Grants from Region IX CTAP, a competitive grant for classroom technology to support curriculum needs. Five Fullerton School District grants were funded in 2011 for \$38,532.92.
- Parents at three schools participate in the 1:1 Laptops for Learning program. Parents may select from a variety of payment options or choose to pay a yearly insurance fee and use a District or school site computer. The average cost of the computer with a four-year warranty, tax, and peripherals is approximately \$1200.

The TMS Director and Program Specialist also receive email notification of California Department of Education funding opportunity alerts. The bimonthly meetings of county technology Program Specialists and information technology directors provide timely information about upcoming technology grant opportunities. Several of the grants mentioned above are ongoing and the District applies as a new funding cycle becomes available.

The District accepts donations that meet our equipment requirements, but these have decreased in the past few years as schools need modern equipment to access the Internet and use multimedia software with increased processing demands. Equipment can be donated to individual school sites or to the District. A list of donation requirements is on the District web site.

The funding for this plan will use current District general funding sources, grants (as outlined above) and other sources of funds as they become available. Any new positions or additional funds requested to support the implementation of this plan will be presented to the Superintendent and the Board of Trustees in the annual budget planning process.

Budget preparation done by the TMS Director and Program Specialist include an analysis of the previous year's technology spending on equipment, software, technical support and infrastructure. This analysis helps in determining anticipated increases in

computer repair and maintenance, network support and training needs. The budget is then prepared to reflect these increases.

School sites also plan funds for equipment, software and any infrastructure or staff needs during the annual budget process. Schools use the donations, other school site allocations and categorical monies to support the implementation of technology for curriculum and instruction.

The District also allocates approximately \$132,170 per year to fund the Program Specialist who supports technology staff development efforts, including coaching and mentoring. School sites also provide funding for technology staff development out of site budgets and the District technology allocation.

The District funds ongoing technical support. The Site Technology Reps provide some technical support at each school, often aided by library/media personnel and Instructional Assistants of technology. The six schools with full or part-time Instructional Assistants, Technology have access to their services for technology support at the site.

B. Estimated Annual Cost of Implementation

Budget Code	2011-12	2012-13	2013-14	Justification for Expenses
1000 Certificated employees	\$123,558 103,443	\$125,000 105,000	125,000 105,000	<ul style="list-style-type: none"> • Director • Program Specialist
2000 Classified employees	87,695 62,480 64,667 165,427 48,216 52,363 51,336 60,710 96,000 60,000 8,300	89,000 64,000 65,000 167,000 50,000 54,000 53,000 62,000 96,000 60,000 8,300	89,000 64,000 65,000 167,000 50,000 54,000 53,000 62,000 96,000 60,000 8,300	<ul style="list-style-type: none"> • Assistant Director • Systems Administrator • Supervisor Computer Repair • Three Computer Repair Technicians • Technical Support Specialist I • Technical Support Specialist II • Technical Support Specialist III • Technical Support Specialist IV • Two School Site Computer Repair Technicians • Six instructional-aides at school sites • Extra time for site support and laptop imaging
3000 Employee Benefits	196,823	200,000	200,000	<ul style="list-style-type: none"> • Estimated benefits for employees listed in the 1000 and 2000 codes.
4000 Materials & Supplies	152,000	152,000	152,000	<ul style="list-style-type: none"> • Computer and printer repair parts, network support parts, and supplies for projects and training
5000 Other Services & Operating Expenses	13,314 68,670 73,726 17,995 13,037 1,076 28,240 13,964 4,000 96,800 12,315 6,600	13,314 68,670 73,726 17,995 13,037 1,076 28,240 13,964 4,000 100,000 12,315 6,600	13,314 68,670 73,726 17,995 13,037 1,076 28,240 13,964 4,000 100,000 12,315 6,600	<ul style="list-style-type: none"> • Yearly update/tech support of library automation software • <i>Data Director</i> licenses and technical support • <i>PowerSchool</i> technical support and updates • <i>Explore Learning Gizmos</i> license • Unsubsidized voice communications • Lexmark printer service subscription • DS3 and TI data lines (unsubsidized rates) • Router warranties • Technology training and conference fees • Digital Arts Technology Buses • ISP Service (subsidized by CENIC) • Circuit maintenance and content filtering
6000 Equipment	14,000	14,000	14,000	<ul style="list-style-type: none"> • District equipment replacement allocation for general hardware purchases and Laptop Program
7000 Debt Service	420,000	420,000	420,000	<ul style="list-style-type: none"> • 1:1 Laptop Program lease. Includes hardware, software licenses and professional development.

Budget Code	2011-12	2012-13	2013-14	Justification for Expenses
8000 Income for Debit Service	-378,000	-378,000	-378,000	• Parent purchase of laptops, Title I funds, donations (estimate based on current and average purchases).
Total	\$1,738,755	\$1,759,237	\$1,759,237	Estimated Totals

C. Replacement Policy

The District recommends that school sites and departments replace technology that is over four years old. The technology is usually still working well, but it is essential to have a site plan that regularly refreshes technology in that time frame. Although sites do not get a specific allocation from the District Office, the TMS Department works with each school site to utilize unrestricted and categorical funds to update and replace obsolete equipment on an ongoing basis. In addition, the District has a donations-acceptance policy, detailing minimal criteria for accepting donated computers and associated peripheral equipment to ensure that donations are not outdated.

The Technology & Media Services Director works with site administrators, vendors, and the Lead Buyer to ensure that the lowest prices are provided for all purchases. Whenever possible, purchases are grouped together to decrease costs.

All Apple computer purchases are required to include the Applecare Protection Plan 3-year warranty. Computers in the 1:1 laptop program include an extended 4-year warranty. Technology & Media Services also collects an allocation on each non-Apple computer purchased to provide for future support of that computer. The fee is currently \$180 per computer. These funds are placed in a special account to be used for repair services.

District routers and network devices are replaced on a regular basis when warranty services are no longer available on currently owned equipment. The Assistant Director, and the Systems Administrator will monitor these devices and request replacement when the equipment can no longer be serviced.

D. The Monitoring Process

Repair records and turn-around times for hardware repair are monitored daily by the Computer Repair Coordinator to determine the quality of technical support. The Computer Repair Coordinator determines which parts and supplies to purchase to support ongoing repair operations. Technology & Media Services personnel meet with site administrators four times per year during the Audit Meetings and often discuss repair issues. This information is used to make improvements in our support of technology equipment used for teaching and learning.

During the annual budget preparation process, the Director and Program Specialist,

Technology & Media Services review budgets and make revisions based on current expenditures and what might be expected during the next year. As more computers are purchased, additional funds need to be allocated for their maintenance. As more teachers and other staff members have access to technology at their desktop, ongoing training is needed to integrate the use of these tools into the instructional process as well as school management and support. The annual budgets are presented to the District Superintendent and then recommendations are made to the Board of Trustees. The District sees the need for increased technology support and occasionally increases budgets to accommodate requests made by Technology & Media Services.

After budget approval, District staff development activities are planned jointly by the Digital Learning Team, which is composed of administrators and teachers from Educational Services and Technology & Media Services and listed on page 41 of this document. Additionally, the Director and Program Specialist actively work with teachers and site administrators to find and write grants to supplement current funding and meet the needs of all their students.

At least once per year the TMS Director will report on the progress of plan goals to the Technology Advisory Committee, the Cabinet and the Superintendent. At the request of the Cabinet and Superintendent, the TMS Director will also provide a Board presentation on the progress with technology integration within the District.

7. Monitoring and Evaluation

A. Evaluation of Plan's Progress and Impact on Teaching and Learning

District and State assessment data are currently shared with the Board of Trustees and principals as soon as available in the late summer and early fall. Data is analyzed for student growth in meeting curriculum standards. This data is reviewed to identify growth in curriculum areas where technology has been an integral part of the curriculum during class time, before and after school, and in the 1:1 Laptop Program schools.

The District selected *PowerSchool* as the student information system. Teachers are able to keep student records and attendance online. Evaluation of this system is ongoing. During the last few years the District has requested modifications to the system and our requests have been met.

The Fullerton District Technology Survey is used to help assess the implementation of the plan. This survey gives the District data on how the implementation is progressing. Curriculum integration as well as annual technology purchases are both tracked through this survey.

Impact on Teaching and Student Learning

The impact on student learning in the attainment of curriculum goals will be monitored by using CST testing data and District multiple measures data. The District multiple measures data consists of the results of a variety of assessments collected during the year using *Data Director*, our online data warehouse. These assessments include, but are not limited to District benchmarks in English language arts and mathematics. These same assessments, along with information from CST testing, are used to determine at-risk students and plan interventions to help them meet curricular goals. The data is analyzed for all schools and can easily be used to look at the impact of technology on programs and to determine where technology tools could be used to assist students and teachers in meeting District goals.

An outside consultant evaluates the 1:1 Laptop Program and the results are reported to the Board of Trustees when it is completed. These data are also valuable for planning the use of technology to assist in areas where students are not meeting District curriculum goals. Principals review the data to plan technology purchases for their sites. The Coordinator of Assessment and Accountability as well as the Director and Program Specialist of Technology & Media use this information to evaluate, plan and implement programs targeted at specific areas of weakness.

The information obtained through the monitoring and evaluation process will be used to update the technology plan and to inform decision-makers and stakeholders so that decisions in funding, training and support can be made. The use of all technologies, including video, probeware, multimedia, and instructional subscriptions will be included in this monitoring process. The use of new technologies being tested by a few teachers and/or schools, such as mobile devices, Web 2.0 publishing, streaming video, and video conferencing, will also be monitored and evaluated as to impact on student achievement by the Director and Program Specialist, Technology & Media Services.

Information gathered from the analysis of student achievement data will be used to assess the use of technology in the District. Recommendations of successful practices will be shared with the Digital Learning Team, District Office departments, site administrators, and Technology Reps.

PowerSchool use, including *PowerTeacher Gradebook* and the use of electronic report cards, will be evaluated and monitored by the TMS Program Specialist and Technical Support Specialist III at least twice per year. Results will be reported to the TMS Director and other stakeholders.

The yearly EdTechProfile teacher survey results and District created staff development evaluations (given after each staff development session) will be monitored by the TMS Director and Program Specialist. School site and teacher requests for technology training will also be gathered and reviewed by the TMS Program Specialist. Training, coaching, and mentoring sessions will be logged and sign-in sheets of attendees will be

kept by the leaders doing the training. The Digital Learning Team will use this data to monitor progress and plan staff development offerings.

After all implementation data has been gathered by each June, the TMS Department and the Digital Learning Team will meet to review the data and make suggestions for revisions in the plan. The District Technology Plan is a living document, so that ongoing evaluation is imperative to make best use of technology in the schools.

Information about the use of technology will be shared with the District Superintendent and the Board of Trustees when requested so that plans can be made for technology in the future. This information will also be presented to principals at principal meetings during the year. Principals will annually review data from EdTechProfile teacher surveys about technology integration at their site and share with Site Technology Reps so that modifications can be made to individual School Technology Action Plans for the next year. Technology & Media Services will review the data collected on computer repair, response to technical issues, and training evaluations and will use it to analyze and improve department services and plan for future needs.

B. Schedule of Plan Evaluation

The following table presents the schedule for annually evaluating the effect of plan implementation.

Activities	Responsibility	2011-12	2012-13	2013-14
1. Schools develop a technology action plan to assist in the implementation of the District Technology Plan	Site Principals Site Technology Reps	x	x	x
2. Compare the pre- and post- training EdTechProfile teacher survey results for growth at least once a year	TMS Director TMS Program Specialist	x	x	x
3. Use the Fullerton District Technology Survey, completed by each school site, to assess the use of technology in the curriculum and the type of use	TMS Director TMS Program Specialist	x	x	x
4. Analyze student assessment data for progress in meeting District and state curriculum goals and relate to the use of technology for program improvement	Coordinator of Assessment & Accountability Director, Ed Services Digital Learning Team TMS Director TMS Program Specialist Site Principals	x	x	x
5. Share results of student assessment data analysis with principals, the Board of Trustees and District administrators	Coordinator of Assessment & Accountability Director, Ed Services TMS Director	x	x	x

Activities	Responsibility	2011-12	2012-13	2013-14
6. Share technology success stories at Site Technology Rep meetings, in PTA newsletters, local newspapers, OCDE web site, school web sites and the District web site	TMS Director TMS Program Specialist Site Tech Reps	x	x	x
7. Track attendance and gather evaluation information from District, county and other technology trainings	TMS Director TMS Program Specialist	x	x	x
8. Publish the District Technology Plan on the District web site	TMS Director TMS Program Specialist	x	x	x
9. Monitor expenditures of technology funds for adherence to the District Technology Plan	TMS Director TMS Program Specialist	x	x	x
10. Use data from the above activities to modify the District Technology Plan	TMS Director TMS Program Specialist Digital Learning Team	x	x	x

C. Communication of Evaluation Results to Stakeholders

The progress on implementation and any evaluation of the District Technology Plan will be reported on at least an annual basis to the Superintendent, the Cabinet and the District Technology Advisory Committee. Additionally, if requested information will also be presented to the Board of Trustees, Principals, and/or Site Technology Program Specialists.

The following table shows the activities, responsibilities and timeline for communication to our stakeholders.

Activities	Responsibility	2011-12	2012-13	2013-14
1. Meet with the Digital Learning Team (at least once a year) to review the progress made toward implementation of the District Technology Plan	TMS Director TMS Program Specialist Digital Learning Team	x	x	x
2. Record feedback from the Technology Plan Advisory Committee	TMS Program Specialist	x	x	x
3. Revise technology plan based on Digital Learning Team feedback	TMS Director TMS Program Specialist Digital Learning Team	x	x	x
4. Prepare an annual written evaluation of the technology plan implementation	TMS Director TMS Program Specialist	x	x	x
5. Share the evaluation with the Superintendent, Board of Trustees, Principals and Site Technology Reps	TMS Director TMS Program Specialist	x	x	x
6. Present the results of the 1:1 Laptop Program evaluation to the Board of Trustees	1:1 Laptop Program Evaluator	x	x	x

8. Effective Collaborative Strategies with Adult Literacy Providers to Maximize the Use of Technology

Adult Literacy Providers and Collaborations

Currently, the Fullerton Public Library system partners with Read/Orange County (Read OC) is an organization that provides tutoring in reading, writing, and English to individuals. Read OC has several programs for parents and children that include Families for Literacy, Read Jr., and English Language and English Literacy Civics Education. Their tutoring services are offered throughout Orange County, and they occasionally provide tutor training through the Fullerton Public Library system. Additionally, although the Placentia Public Library is outside of the Fullerton city limits, they provide adult literacy services for Fullerton residents.

Fullerton School District does provide some adult literacy services through the Community-Based English Tutoring (CBET) program. The District receives approximately \$120,820 per year from CBET. Adult literacy services are provided with CBET funds in collaboration with the Parent Institute for Quality Education (PIQE at <http://piqe.org>). Another component of CBET, in conjunction with the City of Fullerton, is PACE (Parents And Children Education). PACE includes adult English, and parent/child family literacy in English classes.

Parent and family literacy classes and events, including ESL classes and the Latino Literacy Project, are held throughout the year at several school sites within the District. These classes occur before, after and during school hours. Although some of these classes and events are scheduled on an as-needed basis, Maple, Commonwealth, Richman, Orangethorpe, and Valencia Park all provide regular classes and/or events to promote adult literacy or provide tutoring. For example, Maple features morning and evening literacy classes on a bi-monthly basis.

The Fullerton Collaborative is a community resource network that works closely with the Fullerton School District community. Members include: Assistance League of Fullerton, Barnes & Noble Booksellers, City of Fullerton, California State University, Fullerton, Family Resource Center, Fullerton Chamber of Commerce, Fullerton College, Fullerton Joint Union High School District, Fullerton Public Library, Fullerton Police Department, Fullerton School District, Hope International University, North Orange County Community College District, Orange County Social Services Agency, Orange County District Attorney, Rotary, St. Jude Medical Center, Western State University College of Law, and Woman's Club of Fullerton.

The Monitoring Process

Records will be kept of any collaboration meetings with adult literacy providers and requests for technology support. The Director of Child Development, the Director of Education Services and the Program Specialist of Technology & Media Services will be responsible for keeping the records of meetings and technology requests.

Any adult literacy software programs used in the Fullerton School District will be selected using the software selection guidelines of the California Learning Resources Network (CLRN). The Program Specialist of Technology & Media Services will research success rates and suitability of various software programs by request. Each site's program leader will keep records as to how many parents are using technology as part of their adult literacy program.

At least once per year the TMS Director will report on the progress of plan goals to the Technology Advisory Committee, the Cabinet and the Superintendent. At the request of the Cabinet and Superintendent, the TMS Director will also provide a Board presentation on the progress with technology integration within the District.

9. Effective Research-Based Methods and Strategies

Background

This section is divided into two parts:

- Part A - a review of relevant research and how it supports the Curriculum and Professional Development Components
- Part B - a description of technology assistance to extend and supplement academic content

A. Curriculum and Professional Development Goal

Curriculum Component (Sections D-J)

Many resources have contributed to the development of this technology plan. There are countless research studies on technology in education. The references below are some of the studies more pertinent to the Fullerton School District Technology Plan.

The Internet hosts many research sites that are helpful to educators. The National Center for Research in Education Laboratory (NCREL at <http://www.learningpt.org>) and in particular the enGauge link (<http://www.ncrel.org/engage/>) is a source for large scale research on technology use in schools as well as practitioner and technology planning and evaluation information. The Center for Applied Research in Educational Technology (CARET) is a valuable resource for research on questions of how technology has

impacted student learning, curriculum and instruction, professional development, and assessment and evaluation. CARET is located at <http://caret.iste.org>. These electronics resources, and others (such as ERIC, the Education Resources Information Center at www.eric.ed.gov), provide information on educational technology research to assist educators in planning for effective use of technology and were used when writing this plan.

Journals are a source of research on technology in education. The *Journal of Research on Technology in Education* is a source of high quality technology in education research. *Learning and Leading with Technology* is a good resource for current technology and integration ideas. *Computers in the Schools* is another research-based journal that provides information on current trends and technology integration. There are also resources for information and research about Apple digital learning environments. Apple Computer (<http://itunes.apple.com/us/podcast/apple-education/id334296685>) has links to various podcasts. Fullerton School District's web site (<http://www.fsd.k12.ca.us/menus/1to1/links.html>) has links to research on several programs.

Additionally, Fullerton School District allows local universities, such as California State University, Fullerton and University of California, Irvine, to conduct research on our technology programs. The information gathered is shared and used for program evaluation and technology planning.

The following strategies will be used to implement the Fullerton School District Technology Plan. Strategies are listed under the specific section of the plan to which they apply. It is the responsibility of the Director and Program Specialist of Technology & Media Services to monitor future research findings and to incorporate their findings into the implementation of the technology plan.

Section D: Technology Use to Improve Teaching and Learning in Support of District Curriculum Goals:

Integrate technology use into all curriculum areas to assist students in meeting District and state academic content standards.

Research on integrating technology into the curriculum to improve teaching and learning indicated that:

- Technology can have the greatest impact when integrated into the curriculum to achieve clear, measurable educational objectives (The CEO Forum on Education and Technology, 2001)
- The first step in infusing technology into the curriculum is having information about the specific content of a program, or use of an application, that is aligned with state-adopted curriculum standards (Cradler & Beuthel, 2000)

- When students used web-based modeling tools, technology-based probes and video representations, as well as their lab experiments, they were able to make more informed hypotheses and construct shared understanding of scientific phenomena (Kozma, 2003)
- Gains in student test scores on the SAT9 for 950 fifth graders were attributable to the alignment of the curriculum, software, teacher instruction and tests (Mann, Shakeshaft, Becker, & Kottkamp, 1999)
- Seventy percent of the students in Maine's 1:1 Laptop Program indicated that they are more involved with school since receiving the laptop (Silvernail & Lane, 2004)
- When 4th grade students used technology with editing capabilities, test scores on Massachusetts' standardized measures were higher for English Language Arts and writing proficiency (O'Dwyer, Russell, Bebell, & Tucker-Seeley, 2005)
- Teachers found students more engaged in their learning, more actively involved in their own learning, and producing better quality work when each student used their own laptop (Silvernail & Lane, 2004)
- Kindergarten and first grade students were highly motivated to write and read using technology when it was integrated into the curriculum Casey (2001)
- Students using project-based learning (PBL) and multimedia appeared to be more motivated and spent more time outside the classroom learning about their subject than students not using multimedia. The long-term follow-up test revealed a significant advantage for the PBL group. (Zumbach, Kumph, & Koch, 2004)
- In the Whitepaper on Challenge Based Learning, Apple found that 97% of the students who created CBL projects felt the experience was worthwhile. (Apple, Inc., 2008)

Implications for Section D

The implications of this research are such that:

- The software being used in Fullerton School District needs to be aligned to District and State standards
- The District will continue to promote the use of applications such as *Gizmos* (math and science) Discovery Streaming (multiple curricular areas) in appropriate grades
- Student technology projects must support and/or extend curriculum standards to be most effective
- During the software selection process, educators need to look for how the software supports student collaboration and how student progress within the application is tracked and made available to the student and the teacher
- Teachers should provide opportunities for students to use technology and assist them in sharing their work and projects with others
- Teachers should find ways to incorporate technology (computer, cameras, probeware, etc.) into a typical instructional day so that it is viewed by students as an integral tool to help them learn

- Teachers should continue using Professional Learning Community (PLC) planning time to discuss and plan for effective use of technology (e.g., software, the Internet, digital media) integration across the curriculum

Section E: Student Acquisition of Technology and information Literacy Skills

Students will acquire technology and information literacy skills.

Research supports natural integration of technology into teaching and learning to promote 21st century skills such as critical thinking and problem-solving, collaboration, and technology proficiency. For example:

- Students [with laptops] direct their own learning, report a greater reliance on active learning strategies, readily engage in problem solving and critical thinking and consistently show deeper and more flexible uses of technology than students without individual laptops (Gulek & Demirtas, 2005)
- Students and teachers must have access to rich multimedia resources to extend their world and life experiences (Barrios et. al., 2004)
- Teachers must create instructional environments in which students use higher-order cognitive skills to construct meaning, engage in disciplined inquiry and work on projects that have value beyond the school (Barrios et. al. 2004)
- One of the most important benefits of a laptop program is an increase in the student's ability to learn independently, collaborate with peers and communicate learning to others (Rockman, 2003)
- Practice with software improved student understanding of concepts in mathematics. (Harel, 1990; Heller, 1991; McCoy, 1996)
- Students who took their laptops home had a higher usage for completing class work (Rockman, 2003; Silvernail & Lane, 2004)
- Conditions for successful implementation of innovations with technology include (a) knowing if a technology application required additional equipment or network connections (and acquiring those resources before use), and (b) using technology applications that are consistent with their own teaching practices and colleagues who will support or mentor one another through implementation of innovative projects (Zhao et al., 2001)
- Over 70% of the teachers surveyed in Maine's 1:1 Laptop Program reported that laptops helped them effectively meet their curriculum goals and individualize their curriculum to meet student needs (Silvernail & Lane, 2004)

Implications for Section E

The implications of this research are such that:

- Software selection and web-based subscriptions to educational applications (e.g., *Discovery Streaming*, *Gizmos*) must be aligned with District and state standards

- The District must support teachers by giving them time to learn and then collaborate in their use of technology in support of the core curriculum
- The District must continue to provide teachers and administrators with laptop computers and instructional materials so the technology becomes integral to who they are as educators
- The District must continue promoting collaboration between teachers through grade level planning and providing professional development opportunities for all educators
- The District should provide time for both students and teachers to learn software applications and design appropriate learning environments for successful use in instruction

Section F: Ethical Use of Information Technology

Students, teachers and administrators know and follow U.S. copyright laws and can distinguish lawful from unlawful uses of copyrighted works.

Literature supporting the need for professional educators and their students to know and apply U.S. copyright laws indicated that:

- Many educators lack a basic understanding of the copyright law (Becker, 2000; Chase, nd)
- With technology & media sources changing, it's important to have current information on how copyright law and Fair Use guidelines apply to intellectual property on the Internet and other digital resources (Simpson, 2010)

Implications for Section F

The District takes the issue of ethical use of technology very seriously. Implications of the current state of educators' and students' understandings of ethical technology use include:

- Fullerton School District must continue to conduct professional development workshops for teachers and administrators on copyright and fair use laws
- The District must continue to provide information to parents and students on copyright and fair use
- The District will require all educators, and continue to require that students and parents sign acceptable use policies that include requirements and expectations for acceptable use and copyright
- The District will continue to monitor inappropriate student use of computers
- The District should provide links to appropriate web sites and copyright-friendly multimedia for teachers, administrators, students, and parents as a means for promoting copyright laws and Fair Use guidelines
- The District should have in place a district-wide policy for consequences for breaking copyright laws and Fair Use guidelines

Section G: Internet Safety

The District will address Internet safety, including how to protect online privacy and avoid online predators by providing parents with Cybersafety information and sharing Internet safety lessons for teacher and students

Literature on issues of Internet safety in K-12 education indicated that:

- The American Library Association appreciates the shift in debate to education, "rather than expanding the federal mandate to block content, as the Children's Internet Protection Act already does. The experiences of librarians, parents, teachers, and others continue to affirm that teaching kids how to safely navigate the World Wide Web is the best tool. (American Libraries, 2007)
- Approximately one in seven youths experience a sexual solicitation or approach while online (Wolak, Mitchell, Finkelhor, 2006)

Implications for Section G

The current issues on Internet safety for students are taken very seriously by the District and the implications of such include:

- Continue to implement training for teachers on promoting Internet safety for students
- Continue to require parents, students, and educators to sign acceptable use policies that stress the need for Internet safety
- Continue to maintain and update filtering and blocking software on all District owned or leased computers, including those belonging to students in the 1:1 Laptop Programs

Section H: Equitable Technology Access for All Students

The District will provide equitable access to technology for all students in every classroom to enhance teaching and learning.

Research on the importance of equitable technology access for all students indicated that:

- "Without equitable access, the gap between the technology "haves" and the "have nots" will widen, further exacerbating the already troubling disparity in the quantity and quality of educational resources that are available to different populations because of location or socioeconomic conditions (NCREL <http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te400.htm>)
- Teachers and administrators from 1 to 1 schools report new depths of academic inquiry, researching, and understanding on the part of students. (Metiri Group, 2006)
- The types of educational access and opportunities afforded by a 1:1 computing program can lead to measurable changes in teacher practices, student

achievement, student engagement, and students' research skills. (Bell, 2010)

Implications for Section H

Equitable access to technology for all students is an important issue that the District addresses. Implications of research on equitable access include:

- The District will continue to work with school sites to increase access to technology in classrooms by way of mobile laptop carts, mobile devices, and one-to-one programs in schools
- The District will continue to provide financial opportunities for students to participate in the one-to-one program
- The District will continue to provide professional development to teachers on ways to differentiate learning and meet the needs of all students using technology
- The District will continue to provide opportunities for summer training for teachers from schools with high proportions of at-risk students

Section I: Technology Support for Student Record Keeping and Assessment

Use technology to make record keeping and assessment more efficient and supportive of efforts to meet students' academic needs.

Technology can facilitate assessment of students' higher-order thinking skills and depth of content area knowledge with its capacity to automate scoring and provide timely performance feedback. Research in this area indicated:

- Digital tools provide a means for teachers to use open-ended responses and performance assessments that were too difficult to score efficiently (Fletcher, 2002)

Implications for Section I

- Continue to provide technology tools to assist teachers in assessment of student achievement
- Continue to use and evaluate tools for scoring writing and other open-ended assessments
- Continue to support *Data Director* for the collection of assessment data and *PowerSchool* for student information

Section J: Technology to Improve Communications Between Home and School

A variety of technologies will be used to enhance two-way communication between teachers, administrators, and parents.

Research in the use of technology in school, home, and community partnerships indicated:

- Innovative technologies such as e-mail, websites, and cell phones have the potential to expand communication and thus bridge the communication gap between parents and middle schools (Rogers & Wright, 2008)
- The Internet has tremendous possibilities to promote communication between the school and families (Hernandez & Leung, 2004)
- Classroom web site and email communication was helpful to parents as it allowed them to help their children at home (Kasprowicz, 2002)
- Parents felt more connection with the teacher and greater knowledge about class activities when the Internet was used for communication (Tobolka, 2006)
- Email increases communication between administrators and teachers and extends dissemination of vital information (Cradler, 2002)

Implications for Section J

Fullerton School District believes in partnerships between schools, families, and the community. The implications of research in this area include:

- The District will continue to hold information sessions for parents of students in the one-to-one initiative prior to providing students with the laptop
- The District will continue to keep current its web site and individual school web sites, including teacher web pages
- The District will continue its use of *PowerSchool* for communicating student progress with parents
- Teachers and administrators will continue to communicate via email with parents and the community
- School and District telephone services (*Connect Ed*, classroom telephones, etc.) will be updated and kept current for open communication between schools, teachers, and parents
- As the District shifts to fiber optic lines, TMS will explore other communication options like Voice Over IP

Professional Development Goal

Provide staff development opportunities to assist teachers and administrators in using technology to support State and District curriculum standards and to meet the goals of this plan.

Research on professional development indicates that:

- Teacher training was the most significant factor influencing the effective use of educational technology to improve student achievement (Sivin-Kachala & Bialo, 2000)
- Teachers are motivated to develop their own technological skills when professional development links technology applications to specific curriculum goals. Similarly, technology helped reduce the isolation that teachers traditionally feel, by allowing for electronic networking (Roschelle et al., 2000)
- Intensive staff development aligned to state curriculum goals and objectives increased student achievement and teacher technology use (Mann et al., 1999)
- Teachers are motivated when school districts are financially committed to teacher involvement in decision-making (The Office of Technology Assessment Report, 1995)
- Staff development, training, and follow-up assistance are prerequisites for effective and sustained applications of technology. Effective technology integration requires that technical assistance be available when needed, time is allocated for planning, learning and implementation, long-term staff development is available rather than one-time workshops and that teachers have ready access to technology while planning (Cradler, & Cradler, 1995)
- School administrators need to make time available for teachers to experiment with new technologies (Honey & McMillan, 1996)
- Successful professional development must be held on a continuous basis and provide mentors, coaches or teammates to model integration strategies (Barrios et. al. 2004)
- Teachers who collaborate with other teachers and attend and make presentations at professional conferences, demonstrate exemplary use of computers and active learning instructional practices and philosophies (Becker & Riel, 2000)
- A combination of staff development strategies, including ongoing training, for effective integration of technology (Cradler & Cradler, 1995)
- Hold teachers accountable for implementing instructional strategies and student learning (Barrios et. al, 2004)
- Training administrators alongside teachers, and engaging other stakeholders in the use of technology, supports technology use in the classroom (Office of Technology Assessment, 1995)

Implications for Professional Development Section

Fullerton School District is committed to providing quality and effective professional development opportunities for all employees. We need to:

- Work to make technology tools a seamless part of the school environment
- Continue to provide on-going workshops and trainings in technology for teachers, administrators, and support staff
- Collaborate and share success stories of technology integration
- Provide time for peer coaching and observations of appropriate technology

- integration strategies in actual classrooms
- Continue to promote Professional Learning Communities at school sites
- Use resources such as the National Educational Technology Standards for Teachers and Administrators to guide staff development workshops and trainings

B. Technology Assistance in the Delivery of Academic Content

Technology use in the Fullerton School District supports the rigorous standards-based curriculum and provides an opportunity to extend the curriculum beyond the classroom walls. The following sections describe some of the technology resources used to extend and supplement the curriculum.

Strategies to Use Technology For Academic Course Delivery

Fullerton School District is an elementary district in an urban area and is close to many resources. Technology is often used to assist in the delivery of academic content: broadcast television, streaming video, podcasts and virtual field trips are used to assist students in meeting state and District core curriculum standards. The District also participates in videoconferences through the Orange County Department of Education.

Online Classes

Currently, there is no legislation for offering funding online courses in the K-8 environment in the state. Districts may offer courses for independent study or after students make the 240 minutes per day. (ADA is based on the 240 minutes).

Courses currently developed and offered that follow California curriculum standards are generally intended for high school students. As it takes more than 300 hours to develop one online course, it might be more effective, less costly, and less time consuming to explore the development of supplemental online courses to support current face-to-face instruction. Another alternative would be for a consortium of districts to work together to develop classes for elementary and middle school students to meet state content standards. The District participates in an Online Learning Group organized by the Orange County Department of Education, in order to learn more about online courses, development and laws governing their offering.

Since 2009, the District has been exploring the use of the *Haiku Learning Management System* to supplement and extend the teaching day. The District currently has 1500 licenses for administrators, teachers, and students. It is being used to create blended learning environments.

Web-Based Resources

There are many web-based resources that are models for technology-supported instruction. The District has implemented *Gizmos* for math and science support for all students from 4th-8th grades. Some schools use *World Book Online* as students can

access the encyclopedia from home and school. *BrainPop* is also used to help teach students using multimedia.

Web-based programs provide current information and are updated frequently without the student or teacher installing new software. As all of our schools have Internet connections, and many have wireless access points, online programs are being reviewed as potential learning resources. The Digital Learning Team, Technology & Media Services and Ed Services Departments, teachers, and administrators will continue to research and evaluate model online programs.

Streaming Video and Instructional Television Services

Telecommunications of Orange County (TOC) is the instructional television service of PBS-SoCal, the Orange County public broadcasting station. As a District member of TOC, all Fullerton School District teachers have access to *Discovery Education*, an Internet-based educational streaming video subscription service correlated to California state standards (<http://www.discoveryeducation.com/>). A database of almost 10,000 videos can be searched by keyword or State standard. Each search produces a listing of applicable standards and videos, images, and audio files that meet those standards. Each full-length video is broken into instructional segments. The segments can be streamed or downloaded to the teacher's computer for use at anytime. Teachers can also create assignments and quizzes for students to complete. Membership also includes rights to save the clips to a CD or DVD and use of those clips as part of student work.

Using video from *Discovery Education* increased student achievement in third grade science, third grade social science and eighth grade social studies. (Boster, F. & Meyer, G., 2002). Similarly, results show that the mean gains of a group of sixth and eighth grade mathematics students using *Discovery Education* exceeded those of students not exposed to the streaming video (Boster & Staff, 2004).

Additionally, TOC members have broadcast on demand access with PBS SoCal. Members have access to over 130 instructional television series correlated to state curriculum standards. Teachers can request when programs are to be broadcast. They may copy and retain programs for at least the school year. TOC programs come with teacher guides and are meant to be used as part of the instructional process. The Director of Education at PBS SoCal is also available for District and school site training on effective uses of video and multimedia in education.

Virtual Field Trips

Virtual field trips are also a way to use technology for core content delivery. Students are able to engage in rich experiences virtually through the use of IP-based videoconferencing units, video podcasts, and educational web sites with interactive exhibits.

The District received an IP-based videoconferencing unit from the Orange County Department of Education as part of a CTAP project. This portable unit can be borrowed by classrooms who are interested in videoconferencing. The Orange County videoconference web site at <http://vc.ocde.us/> has lists of free and fee-based virtual field trips, county sponsored events, and other opportunities for schools. Additionally, all Apple MacBooks and MacBook Pros have a webcam that can be utilized for videoconferencing as well. Students and teachers can also use this technology to collaborate with people in and out of the District.

Since all classrooms are wired, teachers have access to the Internet for projects that bring the world to the classroom. One resource for virtual field trips that has been utilized is The Teacher's Guide web page on free virtual field trips (<http://www.theteachersguide.com/virtualltours.html>). These virtual tours of museums and exhibits can bring the outside world into the classroom in an engaging, interactive way.

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Appendix I

Technology Plan Contact Information

Appendix I – Technology Plan Contact Information (Required)

Education Technology Plan Review System (ETPRS)
Contact Information

County & District Code: 30 - 66506

School Code (Direct-funded charters only): _ _ _ _ _

LEA Name: Fullerton School District

*Salutation: Mr.

*First Name: Ted _____

*Last Name: Lai _____

*Job Title: Director, Technology & Media Services _____

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*City: Fullerton _____

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*Telephone: 714-447-7470 Ext: _____

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Please provide backup contact information.

1st Backup Name: Sara Gearhart _____

E-mail: sara_gearhart@fsd.k12.ca.us _____

2nd Backup Name: Sam Ricchio _____

E-mail: sam_ricchio@fsd.k12.ca.us _____

*Required information in the ETPRS

Appendix II

Summary of District Core Curriculum

Language Arts Core Curriculum

The major strands of what students should know in kindergarten through grade eight are presented below. The level of complexity for each standard increases as students progress through the grades.

Reading

- Know basic features of reading and translate letter patterns into spoken language using phonics, syllables and word parts
- Identify the basic facts and ideas in what was read, heard or viewed
- Read and understand grade-level appropriate materials
- Read and respond to a wide variety of significant works of children's literature

Writing

- Write clear, coherent sentences and paragraphs with a central idea
- Write compositions that describe and explain events, objects, or experiences
- Write in a variety of genres, including stories, letters, notes, descriptions, narratives, response to literature, informational reports, essays, persuasive compositions, first-hand biographies, expository compositions, research reports, summaries and technical documents
- Write and speak with a command of Standard English conventions that are grade level appropriate

Listening and Speaking

- Listen attentively and respond to oral communications using sentences
- Listen attentively and respond critically to oral communications
- Speak in a manner that guides and informs the listener's understanding of key ideas
- Deliver brief recitations and oral presentations around a coherent thesis statement
- Deliver well-organized formal presentations that are grade appropriate

Mathematics Core Curriculum

Strands covered by the mathematics curriculum are listed below. The level of complexity for each strand increases as students progress through the grades.

Number Sense

- Match sets to 1-10
- Read/Build/Record numbers to 130+
- Reads 4 digit numbers
- Solve missing addends to computations of 10
- Add/subtract +/- numbers
- Construct Fact Families
- Know multiplication 10×10
- Use numbers to 10,000
- Round to: 10; 100; 1,000; 10,000
- Multiply and divide multi-digit numbers
- Identify place value to 1 billion
- Add/subtract/multiply fractions with common denominators
- Add/subtract/multiply missed numbers with common denominators
- Covert fractions to decimals and percents
- Apply numbers in order of operation
- Round to specified decimal place
- Use all operations with mixed numbers

Algebra and Function

- Count by 1's, 2's, 5's, 10's, to 100
- Find missing number in a sequence
- Apply before, after, between
- Use patterns as a problem solving strategy
- Use patterns in processes of +, -, x, /
- Find/develop patterns
- Knows =, +, -
- Knows properties of zero
- Know and apply commutative property
- Write equations independently
- Solve equations independently
- Solve problems with < and >
- Solve problems using algebraic equations
- Solve linear equations using concrete, informal, formal methods
- Use variable expressions to solve problems
- Understand absolute value of a number

Measurement and Geometry

- Identify and name triangle, square, circle
- Identify and name rectangle, cone
- Recognize same/different figures
- Classify plane figures
- Classify space figures
- Know coin value to 10¢
- Know more, less, same
- Know most and least
- Read calendar independently
- Identify morning/afternoon/evening

- Identify date, before, after
- Read temperature in Celsius/Fahrenheit
- Linear measurement
- Time and money
- Uses standard metric measurement
- Measure angles
- Calculate area, perimeter
- Calculate diameter, radius, circumference and area of a circle
- Use geometric vocabulary
- Know and understand Pythagorean Theorem
- Use two-dimensional coordinate grids
- Use measures expressed as rates or products

Statistics, Data Analysis and Probability

- Collect/organize/record/interpret data
- Use lists/tables/graphs/charts/schedules
- Use data vocabulary
- Make predictions and record data from probability problems

Mathematical Reasoning

- Knows telephone number
- Group geometric shapes by color/size/shape
- Know all, some, none, yes, no
- Classify and sort using more than one attribute
- Explain thinking in own words
- Use a variety of problem solving strategies
- Use strategies from simpler to more complex problems
- Solve multi-step word problems

History/Social Science

The following topics in the history/social science curriculum are taught chronically beginning in kindergarten and ending in eighth grade.

- Learning and Working Now and Long Ago
- A Child's Place in Time and Space
- People Who Make a Difference
- Continuity and Change
- California: A Changing State
- United States History and Geography: Making a New Nation
- World History and Geography: Ancient Civilizations to AD 500
- World History and Geography: Medieval and Early Modern Times –500 to 1783
- United States History and Geography: Growth and Conflict 1783-present

Intellectual, reasoning, reflection and research skills are learned through and applied to the content in each grade level. The following strands increase in difficulty as students

progress through the grades.

Chronological and Spatial Thinking

- Place key events and people in chronological sequence and within a spatial context
- Explain how the present is connected to the past
- Apply terms related to time correctly: past, present, future, decade, century and generation
- Explain how major events are related to each other in time
- Use map and globe skills; location, legend, scale, symbolic representations
- Judge the significance of location; analyze how advantages/disadvantage of location change
- Construct timelines: key events, people, periods of history being studied
- Use maps, documents: identify physical and cultural features of neighborhoods, cities, states, countries
- Explain the historical migration of people, expansions and disintegration of empires, growth of economic systems

Research, Evidence and Point of View

- Differentiate between primary and secondary sources
- Pose relevant questions: historical event, documents, artifacts, photos, maps, architecture
- Distinguish fact from fiction: compare documentary sources with fictionalized characters/events
- Frame questions that can be answered by historical study and research
- Distinguish fact from opinion in historical narratives and stories
- Distinguish relevant/irrelevant information essential/incidental information: verifiable/unverifiable information
- Assess credibility of primary/secondary sources and draw sound conclusions from them
- Detect different historical points of view on historical events

Historical Interpretation

- Summarize key events of the era being studied: explain the historical context
- Identify the characteristics of places; explain how the features form the character of the place
- Explain the central issues and problems of the past, placing people and events in a matrix of time and places
- Distinguish cause, effect, sequence and correlation in

historical events, including long/short-term casual relations

- Explain sources of historical continuity and how the combination of ideas/events caused emergence of new patterns
- Recognize that interpretations of history are subject to change as new information is uncovered
- Interpret indicators of economic performance and conduct

cost/benefit analyses to analyze economic/political issues

- Identify and interpret the multiple causes and effects of historical events
- Conduct cost/benefit analysis of historical and current events

Science

Strands covered by the science curriculum are listed below. The level of complexity for each strand increases as students progress through the grades.

Physical Science

- Properties of materials
- States of matter
- Laws of motion
- Machines push/pull
- Magnetism
- Heat-Thermal Energy
- Atomic Structure
- Light Energy
- Electricity
- Elements
- Chemical Reactions
- Radiation, Convection
- Visible Light
- Machines
- Velocity
- Periodic Table
- Density, Buoyancy

Life Science

- Living vs. Non-Living
- Differences between plants and animals
- Plant structure
- Nutrients
- Life cycle
- Germination
- Adaptation, evolution, diversity
- Migration
- Food chains, food webs
- Animal physiology
- Photosynthesis
- Ecosystems
- Classification
- Biomes, biotic/abiotic factors
- Populations
- Cell biology, mitosis, genetics
- Asexual and sexual reproduction
- DNA, human anatomy and physiology

Earth Science

- Landforms
- Weather
- Earth's natural resources
- Recycling
- Seasons importance of the sun
- Rocks-classifying
- Weathering
- Soil
- Fossils
- Constellations, lunar cycle
- Solar system, solar energy
- Minerals
- Topography, volcanoes, earthquakes
- Erosion
- Water cycle, water use
- Plate tectonics
- Mountain formation
- Earth's structure
- Renewable vs. nonrenewable resources
- Geologic time
- Rock cycle
- The universe

- Galaxies and stars

- Light years

Investigation and Experimentation

- Observe, describe, sort
- Compare based on physical attributes
- Develop meaningful questions
- Record data
- Construct graphs
- Make predictions
- Measure, use magnifying lenses, use microscopes
- Differentiate evidence from opinion
- Use quantitative data
- Draw conclusions
- Differentiate observation from inference
- Follow oral and written instructions
- Classify objects
- Develop testable questions
- Conduct simple investigations
- Identify dependent, independent controlled variables
- Write an investigative report
- Read topographic and geologic maps
- Develop a hypothesis
- Construct models
- Verbal presentation
- Use technology, invent
- Use print and electronic resources
- Make inferences based on data
- Apply simple mathematical relationships
- Distinguish between linear and non-linear relationships

Visual and Performing Arts

The major strands of what students should know in kindergarten through grade 8 are presented below. The level of expectation for each standard increases as students progress through the grades.

- Students use their senses to perceive work of art, objects in nature, events and the environment
 - Students develop knowledge of artistic skills in a variety of visual arts media and technical processes
 - Students explore the role of visual arts in culture and human history
 - Students derive meaning from artworks through analysis, interpretation, and judgment
 - Students listen to and analyze music critically using the vocabulary and language of music
 - Students sing or perform on instruments a varied repertoire of music
 - Students develop knowledge and skills necessary to understand and perform music from all parts of the world
 - Students apply knowledge, skill and understanding to make critical judgments about and determine the quality of music experiences and performances
 - Students observe the environment and respond, using movement and voice
 - Students develop knowledge and skills in acting and directing
- through their own experience and imagination as well as through their research of literature and history
 - Students research relationships between theater, history and culture
 - Students develop and use criteria for judging and evaluation of informal productions, formal productions, films, and electronic media
 - Students develop body awareness; movement communications skills; and a capacity for movement response, motor efficiency, and multisensory integration
 - Students make connections between dance composition and performance and healthful living
 - Students develop knowledge and understanding of human diversity through dance.
 - Students analyze, interpret and judge in accord with learned aesthetic principles

Physical Education

The Physical Education Core curriculum is comprised of rigorous standards that promote knowledge, fitness and skills. The goal of this comprehensive, sequential curriculum is to provide all children with opportunities to succeed along with opportunities to develop a lifelong commitment to the health benefits and enjoyment of physical activity. The level of expectation for each standard increases as a child moves through the grades.

Movement Skills and Movement Knowledge

Motor Learning

- expand that skills improve when correctly practiced many times
- perform a variety of locomotor skills (jump hop, gallop, skip) and non-locomotor skills (stretch, bend, turn, dodge)
- demonstrate the ability to toss, throw, bounce, catch and kick balls
- follow playground rules when using equipment
- cooperate with a partner to manipulate objects with purposeful movement
- use discrimination, such as size of ball, and adjust to cues when performing movement skills
- create a game for using movement and manipulative skills
- develop a practice plan to increase speed and accuracy in movement skills and activities
- demonstrate accuracy at a variety of distances while throwing, catching, striking, kicking, dribbling, and pass a ball
- set goals and practice techniques
- apply locomotor skills, non-locomotor skills and manipulative skills in team sports, individual sports and dual sports and activities
- set goals using frequency, intensity and time practice guidelines and monitor change in movement skills
- compare offensive and defensive techniques in a variety of sports

Biomechanics

- demonstrate balance while stationary and while manipulating objects
- explain how balance is related to movement performance
- explain how a movement skill is altered by speed
- describe outside forces that cause objects to change direction or speed
- analyze throwing, striking, or kicking performance
- analyze movement performance using Newton's Third Law and the principals of force and mass to increase accuracy
- analyze movement performance using the principles of spin, rebound and rotational principles

Exercise Physiology

- describe the location, size and shape of the heart and that it beats faster when exercising
- describe how exercise and nutrition improve physical activity and energy
- participate in a variety of fitness exercises and describe how exercising strengthens the heart and lungs
- participate in and explain the benefits of a variety of fitness exercise
- develop an awareness of his/her level of endurance and gradually improve the level of his/her physical fitness
- determine own level of fitness and participate in a wide variety of exercises to improve fitness
- set goals to improve physical fitness level
- design a daily routine to improve cardio respiratory endurance
- design a written daily routine plan for developing flexibility that includes warm-up exercises
- design an exercise plan to improve overall fitness
- demonstrate how to build cardio respiratory endurance including calculating target heart rate

Self-image and Personal Development

Human Growth and Development

- explain that the body grows and changes over time and that growth may affect movement performance
- describe the relationship between growth and movement performance
- explain that some movement activities are more appropriate at different growth stages
- explain the relationship between calories consumed, calories expended, healthy food, and physical activity
- describe how motor performance is related to all measures of maturity

Psychology

- participate in a variety of age appropriate movement activities that provide opportunities to experience success and achievement
- describe a movement skill he/she performs well
- demonstrate responsibility by choosing to participate in movement related fitness activities during recess and lunch
- develop a positive self-image through participation in success-based movement opportunities

- develop a wholesome attitude toward success and defeat
- participate in cooperative groups and team activities that foster positive recognition and a sense of acceptance and belonging
- appreciate the movement achievements of self and peers

Aesthetics

- respond to the aesthetic dimension of the environment through movement and play
- respond to sound, texture, size, shape through interpretive play and movement
- participate in interpretive movement activities with partners; taking turns, leading and following
- participate in rhythmic movement activities using space, time flow and force
- develop appreciation of the aesthetic features of rhythmic activities, including games, sports and dance
- choose movement patterns to compose a movement activity or dance
- identify and appreciate aesthetic features and stylistic differences in sports and dance
- identify aesthetic goals such as improved form, better precision

Social Development

SoDirectorlogy

- describe why playground rules are necessary
- demonstrate an understanding of safety for self and others including the responsible use of equipment
- demonstrate cooperation and team work with partners while participating in movement activity
- demonstrate rules of fair play and cooperation in groups and teams
- demonstrate respect for the rights and property of others
- demonstrate acceptance, respect and appreciation for individual differences in group activities and games
- apply knowledge of cooperative movement skills in small group games
- demonstrate collaborative problem solving during cooperative and movement activities

Historical Perspective

- describe what he/she does in physical education
- demonstrate sportsmanship and teamwork during physical education

- explain the purpose and value of physical fitness and education
- develop an awareness of how physical activities change depending on the environment, culture and time
- identify cultural and geographical influences that contributed to changes in physical education today and in the past
- describe the influences on movement activities in the United States during the 18th and 19th centuries and compare to physical education today
- describe physical education in the ancient world and compare to physical education today
- describe the origin of movement activities during medieval time and compare to physical education today
- describe physical education in the United States during the 19th and 20th centuries

Appendix III

Technology Standards for Students

Standard One: Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

Grade Level	Possible Demonstration of Standard and Skills
Kinder	<ul style="list-style-type: none"> • Demonstrate understanding of concepts like the water cycle and use a drawing application to represent it. • Create postcards using images of shapes around the classroom and school.
First	<ul style="list-style-type: none"> • Create flyers or ads of what the class is learning about with descriptive words and a digital image. • Record audio podcast of items that come in 2s, 5s, 10s, etc. and take pictures of corresponding images.
Second	<ul style="list-style-type: none"> • Record a simple enhanced podcast with a minimum of two images pretending to be a famous figure in history. • Create a brochure with images of the community.
Third	<ul style="list-style-type: none"> • Record a simple song or rap on a curricular topic like matter. • Write and design a brochure on a Native American tribe. • Record an enhanced podcast with a four or more images pretending to be a planet.
Fourth	<ul style="list-style-type: none"> • Write and design a pamphlet on one of the California Missions. • Record a podcast on the steps to long division with appropriate images and diagrams. • Write a script, draw a storyboard, record and edit a video on a gold mining method.
Fifth	<ul style="list-style-type: none"> • Create a comic book version of the American Revolution with appropriate images. • Develop a presentation on probability of various events like extreme weather and regular weather patterns. • Record a commercial persuading people to buy a product.
Sixth	<ul style="list-style-type: none"> • Write and record a rap on ancient Egyptian life. • Write a script, draw a storyboard, record and edit a video on volcanoes. • Create a comic book version of a key moment in a literature book.
Seventh	<ul style="list-style-type: none"> • Develop a brochure to visit an area during Middle Ages with attractions, entertainment, and typical food. • Create a music video on a language arts concept like prediction. • Record a podcast explaining a mathematical concept with appropriate images and diagrams.
Eighth	<ul style="list-style-type: none"> • Create a rap or song on the story arc/elements. • Pretend to be a colleague of Lewis and Clark, and plan, produce, and publish a video documentary on their journey. • Create a comic book, presentation, or pamphlet to help students understand an algebraic concept.

Standard Two: Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Grade Level	Possible Demonstration of Standard and Skills
Kinder	<ul style="list-style-type: none"> • Work in small groups to create digital postcards on shapes or local landforms. • Take photos of environment to visually communicate a concept like shapes, letters, or environmental print.
First	<ul style="list-style-type: none"> • Record anecdotal thoughts about books they've read with an iPod, iPad or computer. • Take photos of parts of plants and work with others to label them.
Second	<ul style="list-style-type: none"> • Group-write a poem on a specific curricular area and record in a computer with a beat to make a rap. • Reply to a discussion forum in a learning management system like <i>Haiku</i>.
Third	<ul style="list-style-type: none"> • Divide into groups of two to four and record a discussion on which planet is the best and why with all information relevant to each planet (e.g. Saturn is the best because of all its rings). • Create a group presentation on the multiplication tables with each person getting a different set of facts. Combine presentations to one computer.
Fourth	<ul style="list-style-type: none"> • In collaborative groups, create a commercial on a gold mining method. • Use a wiki or other asynchronous communication to organize ideas or plan a project.
Fifth	<ul style="list-style-type: none"> • Work in groups to create persuasive commercials. Listen to peer projects and evaluate the persuasiveness according to a rubric. • Create a brochure selling real estate for a new colony in America.
Sixth	<ul style="list-style-type: none"> • Work in groups to design and draw a ziggurat/pyramid and present the design to peers. • Chat in synchronous discussion groups via online services like SubEthaEdit.
Seventh	<ul style="list-style-type: none"> • Post work to a discussion forum, view peer projects, and leave comments. • Create a movie communicating a key moment in a literary book.
Eighth	<ul style="list-style-type: none"> • Listen to song lyrics and write a report on how you interpret them, and how they apply to your life. • Create videos for a health class communicating your "natural high."

Standard Three: Research and Information Literacy

Students apply digital tools to gather, evaluate, and use information.

Grade Level	Possible Demonstration of Standard and Skills
Kinder	<ul style="list-style-type: none"> • Search in a digital dictionary (on computer or mobile device) for words that begin with a specific letter. • Compare and contrast digital images for sorting.
First	<ul style="list-style-type: none"> • Access a weather web site or app to view forecasts and understand trends in weather (i.e. winter has colder days and more rain). • Visit teacher selected websites to research animals in specific climates.
Second	<ul style="list-style-type: none"> • Search for information in a digital reference (i.e. dictionary thesaurus, etc.). • Utilize more than one digital resource for information.
Third	<ul style="list-style-type: none"> • Reference more than one digital resource to verify information. • Perform an experiment with hot water in a variety of cups, taking temperature at intervals, record data, and determine the best insulator.
Fourth	<ul style="list-style-type: none"> • Research and read about the various gold mining methods to determine pros and cons of each. • Explore an online simulation of circuits to determine the difference between parallel and series circuits.
Fifth	<ul style="list-style-type: none"> • Research early Colonial settlements, looking at maps, to determine what makes a desirable location. • Listen to songs to search for patterns before composing a tune in GarageBand.
Sixth	<ul style="list-style-type: none"> • Compare and contrast ancient cultures to find similarities and differences that helped each flourish or fail. • Examine information on active and dormant volcanoes to look for patterns in location.
Seventh	<ul style="list-style-type: none"> • Research a math theorem to create a presentation to explain it to other people. • Examine animals traits, determine the reason for adaptation, and design your own creature.
Eighth	<ul style="list-style-type: none"> • Research the effects of drug and alcohol abuse and create a table to demonstrate the negative impact. • Create probability projects with dice, coins, or cards, track results in Numbers, and analyze data to calculate probability.

Standard Four: 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.

Grade Level	Possible Demonstration of Standard and Skills
Kinder	<ul style="list-style-type: none"> Examine pictures of common shapes in the class and home. Select one item and decide why it's that shape.
First	<ul style="list-style-type: none"> Examine pictures of flowers and other plants to compare and contrast key features. Design your perfect plant.
Second	<ul style="list-style-type: none"> Think about your hometown. What makes it unique. Design a simple brochure or podcast touting 3-5 unique elements of your hometown.
Third	<ul style="list-style-type: none"> Plan a trip to a planet and decide what type of equipment you would need to spend a night there. Design a travel brochure to that planet.
Fourth	<ul style="list-style-type: none"> Pretend you're a failed gold miner who has begun a new business. Create flyers, brochures, podcasts, or video commercials to promote your business to the successful gold miners.
Fifth	<ul style="list-style-type: none"> After deciding on criteria for locations of early colonies, create a video or podcast to convince people to begin a new colony in a location of your choosing. What features make your area unique and attractive.
Sixth	<ul style="list-style-type: none"> Pretend you are a Pharaoh. Design the interior to your own pyramid with the knowledge that people may try to steal your riches. What safeguards or elements would you build?
Seventh	<ul style="list-style-type: none"> Take a book the class is reading together. In collaborative groups, select one story element (setting, conflict, climax, resolution, etc.) and create a project that presents why that is the most important element of the book.
Eighth	<ul style="list-style-type: none"> Learn about basic stretching techniques and create video or enhanced podcasts demonstrating modifications for people with limited mobility or flexibility.

Standard Five: Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behaviour.

Grade Level	Possible Demonstration of Standard and Skills
Kinder	<ul style="list-style-type: none"> • Only visit websites that an adult has bookmarked for you or do Internet searches with adult supervision.
First	<ul style="list-style-type: none"> • Understand what to do if you navigate to a site with inappropriate content.
Second	<ul style="list-style-type: none"> • Understand that if you wouldn't say something to someone face-to-face, then you shouldn't do it online either. • All content on the Web is owned by someone. • There are specific sites with safer images (i.e. Pics4Learning, Kitzu, NASA images).
Third	<ul style="list-style-type: none"> • You should never communicate with strangers online or in person. • Copyright means that someone owns that work. • Verifying information on multiple web sites or digital resources is responsible. • Digital projects that are published should never have your last name.
Fourth	<ul style="list-style-type: none"> • Sharing music or other files is not legal. • When you use images or any files found on the Internet, the specific web site must be cited in your bibliography. • Using copyrighted work in student projects should be avoided.
Fifth	<ul style="list-style-type: none"> • There are specific formats for citing sources (ALA, MLA, Chicago Manual of Style). • Language used in digital format for discussions, comments, and wikis, should be standard English without slang or texting language. • Using work found on the Internet is another form of plagiarism and academic dishonesty.
Sixth	<ul style="list-style-type: none"> • Bullying in any form, whether face-to-face or cyber, is not acceptable. • When creating a digital presence, you should never make it fully public when you are a minor, and personal information should not be posted. • Using commercial music, like images in Google, is not legal if a project is re-published or submitted to a contest.
Seventh	<ul style="list-style-type: none"> • There are websites (like FBI-SOS) that provide students with information on how to handle cyber predators and bullies. • The Internet has resources for organizing projects and creating bibliographies.
Eighth	<ul style="list-style-type: none"> • All communication and information sent via the Internet is there permanently in some way (like web archives on the Wayback Machine). • Be fully aware and knowledgeable of the security and safety settings for online pages like Facebook, Myspace, etc.

Standard Six: Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

Grade Level	Possible Demonstration of Standard and Skills
Kinder	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, drawing application, dictionary
First	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras, microphones • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, Keynote, GarageBand, drawing application, dictionary
Second	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras, microphones • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, Keynote, GarageBand, drawing application, dictionary, ComicLife, NoteTaker, Haiku
Third	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras, microphones, video cameras • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, Keynote, GarageBand, drawing application, dictionary, ComicLife, NoteTaker, Haiku, iMovie
Fourth	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras, microphones, video cameras, tripods, probeware and digital microscopes • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, Keynote, GarageBand, drawing application, dictionary, ComicLife, NoteTaker, Haiku, iMovie, iWeb
Fifth	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras, microphones, video cameras, tripods, probeware and digital microscopes • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, Keynote, GarageBand, drawing application, dictionary, ComicLife, NoteTaker, Haiku, iMovie, iWeb
Sixth	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras, microphones, video cameras, tripods, probeware and digital microscopes • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, Keynote, GarageBand, drawing application, dictionary, ComicLife, NoteTaker, Haiku, iMovie, iWeb, Sketch Up
Seventh	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras, microphones, video cameras, tripods, probeware and digital microscopes, green screen, boom mic • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, Keynote, GarageBand, drawing application, dictionary, ComicLife, NoteTaker, Haiku, iMovie, iWeb, Sketch Up, Photoshop Elements

Grade Level	Possible Demonstration of Standard and Skills
Eighth	<ul style="list-style-type: none"> • Hardware: mobile devices, computers, digital cameras, microphones, video cameras, tripods, probeware and digital microscopes, green screen, boom mic, drawing tablet • Software: mobile apps, iPhoto, PhotoBooth, TextEdit, Pages, Keynote, GarageBand, drawing application, dictionary, ComicLife, NoteTaker, Haiku, iMovie, iWeb, Sketch Up, Photoshop Elements

Appendix IV

Sample Integrated Technology Lesson Plans

“Rapping” Up the Curriculum

Based on Ancient Egyptian Raps lesson plan by Ted Lai

Music is an engaging and effective way to help students learn. By using a familiar musical style, such as a rap or hip-hop song, the curriculum comes to life and becomes more meaningful to the students. Creating an educational rap to conclude a unit of study helps students master curricular standards through the process of writing, practicing, and recording their song.

Project Summary

At the end of a unit of study in history, the students imagine themselves as rap stars from that era. They create a poem about their feelings or experiences as a member of that society and express it through singing it to a beat in GarageBand. This rap is created through the simple process of laying down a beat track, recording vocals, and decorating with vinyl scratching and other instruments.

Grade Level/Subject

Elementary, Middle, or High School Social Studies/History

Lesson Goals

- Students will explore how poetry and music in rap form can help creatively express what they know about a topic.
- Students utilize popular music to relate to their studies.

Learning Objectives

After completing this project, students will be able to:

Academic

- Summarize some meaningful part of ancient Egypt through music.
- Create and perform an educational rap.
- Understand that rap is a form of poetry set to a regular beat.
- Reinforce syllabication and creative rhyming in poetry

Technical

- Use GarageBand to create a rap on a topic of study.
- Add real instrument tracks in GarageBand (vocals).
- Record their voices on a vocal track and manipulate it.
- Add beats, instruments, and vinyl scratching loops to their rap.

- Export a GarageBand composition to iTunes and create a rap playlist.

What You'll Need

Recommended hardware and software

- Macintosh computers (capable of running GarageBand)
- Over-the-ear headphones (1 or more per group as needed)
- USB or other external microphones (optional but recommended)
- Headphone splitters (optional)
- iLife Tools (GarageBand, iTunes)
- Additional iLife Tools (iPhoto, iMovie, iDVD, & iWeb for extension activities)
- Blank CDs for creating compilations
- GarageBand Remix Tools JamPack (optional but recommended)
- A legal image library to gather digital images for a variety of possible extensions to this activity (optional)

Deciding on the Final Product

- Create a CD compilation. All the audio created in this project can be compiled in a single iTunes Playlist as a listening station. A playlist also helps the teacher and students burn a CD compilation of all the educational raps or hip-hop songs created. Relevant cover art can also be produced.
- Create music videos. Students can find relevant images (from legal sources) and create music videos. This would also showcase the integration of the iLife Suite applications like iPhoto, iMovie, and iTunes. Students can use iMovie to compile the music videos. iDVD can be used to create a compilation DVD of all the videos.
- Create a podcast site. The songs that have been created can be posted without adaptation to create an audio podcast. Enhanced podcasts can be created with GarageBand 3 and its included Media Browser. Students would bring in some of their relevant digital images. If music videos were created with iMovie, then they can be exported as video podcasts. The class would need a site, like the school server, to post their podcast, or the teacher can sign up for a free account at a podcast server like PodBean. One of the simplest ways to create a podcast site would be to use a me.com account and iWeb, a template-based webpage creation tool that can be used to create very simple podcast pages without worrying about the XML coding.

Outcome-based Assessment

Student Role

- Students design their strategies for the project, including:
 - Brainstorming the vocabulary that is integral to their topic.
 - Selecting words that can rhyme in their poem.

- Writing their poem that will become a rap.
- Interpreting the singing of their poem to a beat.
- Adding sound effects and musical riffs to enhance the rap.
- With the teacher's guidance and software or Web resources, the students create a rubric to assess the outcomes.

Teacher Role

- Determine the criteria for evaluation of students' work throughout the process and explain to students how you will assess the various parts of their project, including:
 - Reflective journals.
 - The writing process (brainstorming, writing, and revising their poem).
 - The interpretation of the poem into rap or hip-hop.
- Establish and explain your criteria for evaluating students' technical skills, including:
 - Clarity of their recording.
 - Appropriateness of loops and instruments to enhance their song.
 - Editing of empty spaces so that lyrics are in tempo.
- Identify how you will evaluate students' ability to reach their own intended outcomes as judged by their final product.

I. Getting Started

Teacher Planning

- Teachers should become familiar with some appropriate hip-hop or rap examples that can be shared with students. Teachers should also understand the strong link between poetry, rap, and hip-hop. There are many excellent resources for learning about poetry, rap, and hip-hop for kids. Among them are the Edu-Basics site (<http://www.edubasics.com/>), ReMix Project site (http://web.mac.com/tntnzing/iWeb/ReMix_Ed/), the Health Raps site (<http://www.aetn.org/healthraps/>), the Education World page on poetry (http://www.educationworld.com/a_sites/sites013.shtml), and the Songs for Teaching site (<http://www.songsforteaching.com/>).
- Teachers should be familiar with GarageBand. It's not necessary for the teacher to understand all the details of GarageBand, however, it is important for the teacher to be able to navigate the basic interface and work with recording and adding loops. If an external microphone is used, the teacher should understand how to plug it in to the computer and select it as an input in the GarageBand preferences.
- Determine the amount of time to be given for the project and set some suggested time limits to achieve specific milestones in the creation process. For example, when should the poem be completed? How much time should be given for rehearsing the rap? What amount of time is needed for recording?

- Decide the length of the poem to create. For example, a typical fourth or fifth grade group should be able to create a 16-line poem broken in to four stanzas. Each stanza would have four lines. Perhaps exemplary work would have more stanzas.

Preparing Students

- Listen to some educational rap and hip-hop songs. To aid in their music appreciation and understanding, the teacher can have students count 1, 2, 3, 4 with the song so that they understand that each measure of music contains four beats and the lyrics are sung to a specific tempo and rhythm. Jump rope rhymes are also good ways to teach the rhythm of lyrics.
- Give an introductory demonstration of the GarageBand interface, how to add loops, and how to record vocals. Special attention should be placed on the fact that loops and recorded lyrics can be edited and shifted so that they match the beat better. If an external microphone is used the teacher should also allow for some time to experiment with connecting and choosing it in GarageBand.

Tip: In the Control Menu, there is a selection called Count In. This gives the students four beats before GarageBand begins recording. It's a worthwhile tool that allows students to hear the beat before needing to sing.

II. Setting the Stage

Introducing the Project

- Discuss the differences between poetry and the forms of music known as raps and hip-hop. Essentially, raps and hip-hop are merely poems that are sung to music and a beat.
- Explore a few examples of rhyming poetry and rap or hip-hop lyrics. Lead students in a discussion comparing and contrasting these two forms of expression. One possible area to focus on is the rhyming. Where are rhymes usually seen or heard? If there's a variety of poems and raps, the students should see that a 4-line stanza often has rhyming on the third and fourth lines, but it's sometimes present on the second and fourth lines. Another area to focus on is syllabication. There are few songs that have drastically different syllabication on each line. Eight syllables per line is a good goal.
- Discuss how songs often tell a story or describe life for a specific person or group of people during an era in history. How are the songs organized? For example, song stanzas or verses are often organized into sub-topics like a paragraph.

Connecting the Known Information to New Learning

- As a class, brainstorm some of the different topics that the students feel a rapper might sing about if he/she lived in the period of history they were studying. What are some of the thoughts and feelings they might have for those topics? For example, an Ancient Egyptian rapper might have sung about the Nile River because it gave them life.
- Create a list of possible topics that a rapper in that period might have sung about. For example, in Ancient Egypt, a rapper's topics might have included songs about the Pharaohs, pyramids, The Nile River, gods and goddesses, or farming.

III. Organizing the Tasks (Pre-Production)

Process Folder

Students begin by creating a Process Folder to keep track of their project information, tasks, timelines, and goals. Some of the items that might be included in the Process Folder are a QuickWrite Journal, checklist, brainstorming ideas, production notes, and other project ideas or thoughts.

QuickWrite Journal

Students keep a journal of their project from beginning to end and use it to record thoughts, assess their progress, and set goals towards the completion of the project. It's an informal way for the student to be task-oriented and aware of their responsibilities. The Journal can also be utilized at the end of the project for reflections and reactions when viewing all the audio created. The QuickWrite Journal doesn't need to be created on paper. A blog or wiki could serve the same purpose. This would also facilitate assessment through a digital portfolio.

Student Grouping

Students will work in cooperative learning groups. Each group should be approximately four students. This project can be completed with two students, but shouldn't go past four or else there will be some who do not get involved. Having this number will facilitate interaction and communication but also stress individual accountability.

IV. Completing the Tasks (Production)

Creating the Poem

- Students decide on the topic their group will write about.
- Students spend time brainstorming what knowledge they have of this topic and the vocabulary that is associated with it. They can use mind-mapping software like Omnigraffle, Kidspiration, or Inspiration to help them organize their brainstorming.
- As their list of vocabulary develops, students begin sorting the words into categories and creating lists of rhyming words that would make sense in their poem.
- Students write a rough draft of their poem, making sure that there is regular syllabication in each line (4-8 syllables per line works well). Their poem should also demonstrate some kind of rhyming pattern.
- Students should read over their poem and revise as necessary, looking for areas of irregular syllabication or any grammatical errors that would interfere with comprehension of their topic.

Tip: One alternative process is to have students write sentences about a specific topic and its sub-topics. These sentences can be grouped by commonality, and then adjusted for rhyming and syllabication. For example, students writing a poem about parts of a plant may write sentences dealing with leaves, roots, stems, etc. Then these sentences can be grouped into a cohesive stanza.

Rehearsing the Song

- In class, home, or recess, students should be encouraged to meet with their group members to practice singing to a beat.
- After the students have spent some time rehearsing their song, they should be encouraged to go back and revise their song if there are sections that are hard to sing.

Recording the Song

- Students gather around their computer and select a beat track to sing to. Students should utilize headphones so that they do not re-record the beat track or metronome ticks in their vocal track. If more than one student at a time is singing in a single track, then they will need to use a headphone splitter so that both students will be able to hear the beat.
- Each student records his/her stanza on a different track. This allows the group to level the volume to the same output.

Tip: It's always a good idea to have separate tracks for each student because everyone sings at a different volume.

Tip 2: If you only have one set of headphones per computer, or you don't have a splitter, students who are singing the same verse can still sound like they are singing together if you record each of them separately. Have the student who sings to the beat more accurately go first so that the second will hear the beat and the first singer when they record on a different track.

- As students complete their recording, the group should listen to the recordings to determine if any re-recording is necessary. Specifically, they should listen for clarity of singing and their rhythm.
- If there are any vocal sound effects or call-and-responses echoes, then these should be recorded at this time as well.

V. Refining the Tasks (Post-Production)

Editing and Fine-Tuning the Recording

- If there are any empty spaces at the beginning or ending of a recorded phrase, it is possible to crop out the blank section so that it's easier to begin the vocals on the first beat.

Tip: The rap will sound better if each stanza begins at the beginning of a measure. Empty measures between stanzas can be filled by vinyl scratching or other sound effects.

- Work with each track's volume slider so that the output on each vocal is approximately the same. Special attention should be given to each track's output meter to make sure that the volume doesn't go to the red. When the red dots light up, that indicates that there will be "clipping," so the vocals will get distorted. Make sure each track's output indicator lights do not clip. Students should also check the Master Track's output as well.

Enhancing the Song

- A number of sound effects can be added to create a more authentic sounding rap or hip-hop song. For example, vinyl scratching and simple urban guitar loops can be added to give the song more character.

- Spaces can be added between stanzas to give students more time to insert sound effects. For example, by having a single measure of rest between stanzas, students can insert vinyl scratching that won't overpower the vocals.

VI. Sharing the Project

Presentation

Students present their finished songs to the class and discuss what they learned and how it was expressed through song. All songs can be added to an iTunes playlist so that the raps can be burned on a compilation CD.

Additional Activities and Extensions

- Students can create a music video. They can gather relevant photos from legal sources and put them into iPhoto. Because of the iLife Suite integration, any image in iPhoto and song in iTunes can be brought into iMovie. If titles are not necessary, then the images can be dragged directly into GarageBand to create a podcast-ready file.
- Students can export the finished movies in video podcast format. These video podcasts can be uploaded onto iPods or posted on a podcast page for distribution to parents and the outside community.
- Students can hold a "film" festival to showcase their work. This can be done at the school independently or as a showcase during a bigger event like Open House or Family Fun Night.
- The teacher can apply to have the work presented at a School Night at the Apple Store. Students would get an opportunity to share their work and what they learned in a theatre setting. The School Night at the Apple Store program is a great way to showcase student work and display what they are capable of creating with digital media.
- If this structure becomes an annual tradition, or if several different rap projects are created throughout the year, all songs can be used to build an educational song library (and used as examples for future projects).

VII. Wrapping it Up

Reflection

- Students can add a final entry to their QuickWrite Journal wrapping up their thoughts for this project.
- While listening to other group's songs, students can also write their reactions and thoughts to those compositions.
- Invite discussion, comments, and journal entries related to this project:
 - What did you learn about raps, hip-hop, and poetry?
 - How did using music help you master what you were learning?
 - In what way can this help you study in the future?
 - What were your successes and failures?

- What did you learn about working with others?
- How do you feel about your product and why?
- Students complete the rubrics, justifying their achievements, possibly focusing on the following criteria:
 - Content Choice: How well your rap represent the topic your group chose?
 - The Group Work: How well did the group members communicate and work collaboratively?
 - Further Learning: How well did your rap, and the work of others, entertain and engage you to learn more? In what way can you use this in the future?

The Group Work: VIII. Variations

Customizing the Lesson for Other Age Groups

This lesson is highly customizable. Any curricular area can be used as the topic of the raps, and any grade level can sing the songs.

- For younger students, the teacher can lead a group-write to create a rap. All students can rehearse and sing the rap in smaller groups. If there are older grade levels available as “Tech Buddies,” then they can help facilitate the recording and editing process.
- In literature, students can create rap songs about critical moments in the story. To extend that further, students can also add lyrics on facts and opinions about the characters’ actions.
- In math and science, students can create songs about specific concepts, procedures, or discoveries. They can also rap about word problems, math facts, or lab notes.
- English Language Learners can be partnered in groups with Fluent English speakers. ELL students can contribute on the music and artwork, and they can write and read any parts that match the level of their language ability. Alternatively, ELL students can rap in their native language.
- Older students and high-achievers would be expected to integrate more key vocabulary terms, stanzas, and a possible chorus. The important thing is to level the expectations appropriately to the students in the classroom.

Developing Reading Fluency with iPods

Lesson Goals

- Students will increase fluency rates in reading at their level
- Students will recognize good reading habits by hearing their own voice

Learning Objectives

After being involved in this project students will receive immediate feedback and make gains in reading fluency.

Getting Started

You will need a computer, tape recorder or easiest and most motivating to students due to size and ease is an iPod device with a microphone input (current iPod Touch units and laptops come equipped, older units may need an auxiliary mic). You also need reading material at student reading level. Also a great addition is a set of headphones per student so when they are reading aloud they do not all hear one another. Best practice seen in the classroom is a small group at a time recording so there is less distraction and clearer individual recordings but if all students are wearing headphones the noise level seems to work out.

Preparing Students

Read aloud to students from a text close to their level without inflection, dry and sounding out some words. Have them comment on how you might improve to start conversation on reading fluency and understanding text when text is read well. Then demonstrate how you would use your electronic device to record your reading and listen back. One trick for students to sound better is to smile when you read - it automatically sounds better and adds the inflection, so demonstrate that.

Then as a class listen back to the reading and show how you can tell how long it took and how you can mark errors as you follow along on the written text.

Completing the Task

Have students read into units using an app on an iPod device such as the Voice Recorder. Do familiarize yourself with how you record and play back on which ever app you choose. Next have students listen back to their passage - in upper grades this can be a 1 minute timed lesson each day. Then at least 2 more times but up to daily for a week have them reread and record the same passage again to hear and see in time and less errors their improvement in fluency.

Enhancing the lesson

Many teachers take notations from students and in benchmark scores for the fluency practice. You can keep records of the time and errors for the readings.

Appendix V

Computer Inventory and Network Status by School Site

Computer Inventory and Network Status by School Site

School	Total Computers on Site	Total Mobile Devices on Site	Students to Computer/Mobile Device Ratio	Wide Area Network	Local Area Network
Acacia	166	54	2.5	T1	Switched 10/100mbps Gigabit Fiber
Beechwood	244	0	3.6	T1	Switched 10/100mbps Gigabit Fiber
Commonwealth	214	25	1.7	T1	Switched 10/100mbps Gigabit Fiber
Fern Drive	216	0	2.5	T1	Switched 10/100mbps Gigabit Fiber
Golden Hill	257	32	2.4	T1	Switched 10/100mbps Gigabit Fiber
Hermosa Drive	267	21	1.7	T1	Switched 10/100mbps Gigabit Fiber
Ladera Vista	329	0	2.9	2 T1s	Switched 10/100mbps Gigabit Fiber
Laguna Road	189	0	3.3	T1	Switched 10/100mbps Gigabit Fiber
Maple	391	20	1.0	T1	Switched 10/100mbps Gigabit Fiber
Nicolas	988	10	0.9	4 T1s	Switched 10/100mbps Gigabit Fiber
Orangethorpe	373	43	1.9	T1	Switched 10/100mbps Gigabit Fiber
Pacific Drive	350	60	1.7	Shared Opt-e-man w/ DO	Switched 10/100mbps Gigabit Fiber
Parks	439	0	2.3	2 T1s	Switched 10/100mbps Gigabit Fiber
Raymond	238	0	1.9	T1	Switched 10/100mbps Gigabit Fiber
Richman	325	0	2.5	T1	Switched 10/100mbps Gigabit Fiber
Robert C. Fisler	876	171	0.8	4 T1s	Switched 10/100mbps Gigabit Fiber
Rolling Hills	209	0	2.9	T1	Switched 10/100mbps Gigabit Fiber
Sunset Lane	305	0	2.4	T1	Switched 10/100mbps Gigabit Fiber
Valencia Park	370	20	1.8	T1	Switched 10/100mbps Gigabit Fiber
Woodcrest	260	0	1.9	T1	Switched 10/100mbps Gigabit Fiber

Appendix VI

EETT Appendix C

Criteria for EETT-Funded Education Technology Plans

Appendix C: Criteria for EETT Technology Plans

(Completed Appendix C is REQUIRED in a technology plan)

In order to be approved, a technology plan needs to “Adequately Addressed” each of the following criteria:

- For corresponding EETT Requirements, see the EETT Technology Plan Requirements (Appendix D).
- Include this form (Appendix C) with “Page in District Plan” completed at the end of your technology plan.

1. PLAN DURATION CRITERION	Page in District Plan	Example of Adequately Addressed	Example of Not Adequately Addressed
The plan should guide the district’s use of education technology for the next three to five years. (For a new plan, can include technology plan development in the first year)	12	The technology plan describes the districts use of education technology for the next three to five years. (For new plan, description of technology plan development in the first year is acceptable). Specific start and end dates are recorded (7/1/xx to 6/30/xx).	The plan is less than three years or more than five years in length. Plan duration is 2011-14.
2. STAKEHOLDERS CRITERION Corresponding EETT Requirement(s): 7 and 11 (Appendix D).	Page in District Plan	Example of Adequately Addressed	Not Adequately Addressed
Description of how a variety of stakeholders from within the school district and the community-at-large participated in the planning process.	12	The planning team consisted of representatives who will implement the plan. If a variety of stakeholders did not assist with the development of the plan, a description of why they were not involved is included.	Little evidence is included that shows that the district actively sought participation from a variety of stakeholders.
3. CURRICULUM COMPONENT CRITERIA Corresponding EETT Requirement(s): 1, 2, 3, 8, 10, and 12 (Appendix D).	Page in District Plan	Example of Adequately Addressed	Example of Not Adequately Addressed

<p>a. Description of teachers' and students' current access to technology tools both during the school day and outside of school hours.</p>	<p>14</p>	<p>The plan describes the technology access available in the classrooms, library/media centers, or labs for all students and teachers.</p>	<p>The plan explains technology access in terms of a student-to-computer ratio, but does not explain where access is available, who has access, and when various students and teachers can use the technology.</p>
<p>b. Description of the district's current use of hardware and software to support teaching and learning.</p>	<p>16</p>	<p>The plan describes the typical frequency and type of use (technology skills/information and literacy integrated into the curriculum).</p>	<p>The plan cites district policy regarding use of technology, but provides no information about its actual use.</p>
<p>c. Summary of the district's curricular goals that are supported by this tech plan.</p>	<p>18</p>	<p>The plan summarizes the district's curricular goals that are supported by the plan and referenced in district document(s).</p>	<p>The plan does not summarize district curricular goals.</p>
<p>d. 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.</p>	<p>19</p>	<p>The plan delineates clear goals, measurable objectives, annual benchmarks, and a clear implementation plan for using technology to support the district's curricular goals and academic content standards to improve learning.</p>	<p>The plan suggests how technology will be used, but is not specific enough to know what action needs to be taken to accomplish the goals.</p>
<p>e. 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.</p>	<p>22</p>	<p>The plan delineates clear goals, measurable objectives, annual benchmarks, and an implementation plan detailing how and when students will acquire technology skills and information literacy skills.</p>	<p>The plan suggests how students will acquire technology skills, but is not specific enough to determine what action needs to be taken to accomplish the goals.</p>

<p>f. 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 and teachers can distinguish lawful from unlawful uses of copyrighted works, including the following topics: the concept and purpose of both copyright and fair use; distinguishing lawful from unlawful downloading and peer-to-peer file sharing; and avoiding plagiarism</p>	<p>25</p>	<p>The plan describes or delineates clear goals outlining how students and teachers will learn about the concept, purpose, and significance of the ethical use of information technology including copyright, fair use, plagiarism and the implications of illegal file sharing and/or downloading.</p>	<p>The plan suggests that students and teachers will be educated in the ethical use of the Internet, but is not specific enough to determine what actions will be taken to accomplish the goals.</p>
<p>g. List of goals and an implementation plan that describe how the district will address Internet safety, including how students and teachers will be trained to protect online privacy and avoid online predators.</p>	<p>28</p>	<p>The plan describes or delineates clear goals outlining how students and teachers will be educated about Internet safety.</p>	<p>The plan suggests Internet safety education but is not specific enough to determine what actions will be taken to accomplish the goals of educating students and teachers about internet safety.</p>
<p>h. Description of or goals about the district policy or practices that ensure equitable technology access for all students.</p>	<p>30</p>	<p>The plan describes the policy or delineates clear goals and measurable objectives about the policy or practices that ensure equitable technology access for all students. The policy or practices clearly support accomplishing the plan’s goals.</p>	<p>The plan does not describe policies or goals that result in equitable technology access for all students. Suggests how technology will be used, but is not specific enough to know what action needs to be taken to accomplish the goals.</p>
<p>i. List of clear goals,</p>	<p>32</p>	<p>The plan delineates clear goals,</p>	<p>The plan suggests</p>

<p>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.</p>		<p>measurable objectives, annual benchmarks, and an implementation plan for using technology to support the district's student record-keeping and assessment efforts.</p>	<p>how technology will be used, but is not specific enough to know what action needs to be taken to accomplish the goals.</p>
<p>j. List of clear goals, measurable objectives, annual benchmarks, and an implementation plan to use technology to improve two-way communication between home and school.</p>	<p>35</p>	<p>The plan delineates clear goals, measurable objectives, annual benchmarks, and an implementation plan for using technology to improve two-way communication between home and school.</p>	<p>The plan suggests how technology will be used, but is not specific enough to know what action needs to be taken to accomplish the goals.</p>
<p>k. 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.</p>	<p>37</p>	<p>The monitoring process, roles, and responsibilities are described in sufficient detail.</p>	<p>The monitoring process either is absent, or lacks detail regarding procedures, roles, and responsibilities.</p>
<p>4. PROFESSIONAL DEVELOPMENT COMPONENT CRITERIA Corresponding EETT Requirement(s): 5 and 12 (Appendix D).</p>	<p>Page in District Plan</p>	<p>Example of Adequately Addressed</p>	<p>Example of Not Adequately Addressed</p>
<p>a. Summary of the teachers' and administrators' current technology proficiency and integration skills and needs for professional development.</p>	<p>39</p>	<p>The plan provides a clear summary of the teachers' and administrators' current technology proficiency and integration skills and needs for professional development. The findings are summarized in the plan by discrete skills that include Commission on Teacher Credentialing (CTC) Standard 9</p>	<p>Description of current level of staff expertise is too general or relates only to a limited segment of the district's teachers and administrators in the focus areas or does not relate</p>

		and 16 proficiencies.	to the focus areas, i.e., only the fourth grade teachers when grades four to eight are the focus grade levels.
b. 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 - 3j) of the plan.	48	The plan delineates clear goals, measurable objectives, annual benchmarks, and an implementation plan for providing teachers and administrators with sustained, ongoing professional development necessary to reach the Curriculum Component objectives (sections 3d - 3j) of the plan.	The plan speaks only generally of professional development and is not specific enough to ensure that teachers and administrators will have the necessary training to implement the Curriculum Component.
c. Describe the process that will be used to monitor the Professional Development (Section 4b) goals, objectives, benchmarks, and planned implementation activities including roles and responsibilities.	58	The monitoring process, roles, and responsibilities are described in sufficient detail.	The monitoring process either is absent, or lacks detail regarding who is responsible and what is expected.
5. INFRASTRUCTURE, HARDWARE, TECHNICAL SUPPORT, AND SOFTWARE COMPONENT CRITERIA Corresponding EETT Requirement(s): 6 and 12 (Appendix D).	Page in District Plan	Example of Adequately Addressed	Example of Not Adequately Addressed
a. Describe the existing hardware, Internet access, electronic learning resources, and technical support already in the district that will be used to support the Curriculum	59	The plan clearly summarizes the existing technology hardware, electronic learning resources, networking and telecommunication infrastructure, and technical support to support the implementation of the	The inventory of equipment is so general that it is difficult to determine what must be acquired to implement the Curriculum and

<p>and Professional Development Components (Sections 3 & 4) of the plan.</p>		<p>Curriculum and Professional Development Components.</p>	<p>Professional Development Components. The summary of current technical support is missing or lacks sufficient detail.</p>
<p>b. 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.</p>	<p>61</p>	<p>The plan provides a clear summary and list of the technology hardware, electronic learning resources, networking and telecommunications infrastructure, physical plant modifications, and technical support the district will need to support the implementation of the district’s Curriculum and Professional Development components.</p>	<p>The plan includes a description or list of hardware, infrastructure, and other technology necessary to implement the plan, but there doesn’t seem to be any real relationship between the activities in the Curriculum and Professional Development Components and the listed equipment. Future technical support needs have not been addressed or do not relate to the needs of the Curriculum and Professional Development Components.</p>
<p>c. 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 identified in Section 5b.</p>	<p>63</p>	<p>The annual benchmarks and timeline are specific and realistic. Teachers and administrators implementing the plan can easily discern what needs to be acquired or repurposed, by whom, and when.</p>	<p>The annual benchmarks and timeline are either absent or so vague that it would be difficult to determine what needs to be acquired or repurposed, by whom, and when.</p>
<p>d. Describe the process that will be used to monitor Section 5b &</p>	<p>67</p>	<p>The monitoring process, roles, and responsibilities are described in sufficient detail.</p>	<p>The monitoring process either is absent, or lacks</p>

<p>the annual benchmarks and timeline of activities including roles and responsibilities.</p>			<p>detail regarding who is responsible and what is expected.</p>
<p>6. FUNDING AND BUDGET COMPONENT CRITERIA Corresponding EETT Requirement(s): 7 & 13, (Appendix D)</p>	<p>Page in District Plan</p>	<p>Example of Adequately Addressed</p>	<p>Example of Not Adequately Addressed</p>
<p>a. List established and potential funding sources.</p>	<p>69</p>	<p>The plan clearly describes resources that are available or could be obtained to implement the plan.</p>	<p>Resources to implement the plan are not clearly identified or are so general as to be useless.</p>
<p>b. Estimate annual implementation costs for the term of the plan.</p>	<p>72</p>	<p>Cost estimates are reasonable and address the total cost of ownership, including the costs to implement the curricular, professional development, infrastructure, hardware, technical support, and electronic learning resource needs identified in the plan.</p>	<p>Cost estimates are unrealistic, lacking, or are not sufficiently detailed to determine if the total cost of ownership is addressed.</p>
<p>c. Describe the district's replacement policy for obsolete equipment.</p>	<p>73</p>	<p>Plan recognizes that equipment will need to be replaced and outlines a realistic replacement plan that will support the Curriculum and Professional Development Components.</p>	<p>Replacement policy is either missing or vague. It is not clear that the replacement policy could be implemented.</p>
<p>d. Describe the process that will be used to monitor Ed Tech funding, implementation costs and new funding opportunities and to adjust budgets as necessary.</p>	<p>73</p>	<p>The monitoring process, roles, and responsibilities are described in sufficient detail.</p>	<p>The monitoring process either is absent, or lacks detail regarding who is responsible and what is expected.</p>
<p>7. MONITORING AND EVALUATION COMPONENT CRITERIA Corresponding EETT Requirement(s): 11 (Appendix D).</p>	<p>Page in District Plan</p>	<p>Example of Adequately Addressed</p>	<p>Example of Not Adequately Addressed</p>

<p>a. Describe the process for evaluating the plan's overall progress and impact on teaching and learning.</p>	<p>74</p>	<p>The plan describes the process for evaluation using the goals and benchmarks of each component as the indicators of success.</p>	<p>No provision for an evaluation is included in the plan. How success is determined is not defined. The evaluation is defined, but the process to conduct the evaluation is missing.</p>
<p>b. Schedule for evaluating the effect of plan implementation.</p>	<p>76</p>	<p>Evaluation timeline is specific and realistic.</p>	<p>The evaluation timeline is not included or indicates an expectation of unrealistic results that does not support the continued implementation of the plan.</p>
<p>c. Describe the process and frequency of communicating evaluation results to tech plan stakeholders.</p>	<p>77</p>	<p>The plan describes the process and frequency of communicating evaluation results to tech plan stakeholders.</p>	<p>The plan does not provide a process for using the monitoring and evaluation results to improve the plan and/or disseminate the findings.</p>
<p>8. EFFECTIVE COLLABORATIVE STRATEGIES WITH ADULT LITERACY PROVIDERS TO MAXIMIZE THE USE OF TECHNOLOGY CRITERION Corresponding EETT Requirement(s): 11 (Appendix D).</p>	<p>Page in District Plan</p>	<p>Example of Adequately Addressed</p>	<p>Example of Not Adequately Addressed</p>

<p>If the district has identified adult literacy providers, describe how the program will be developed in collaboration with them. (If no adult literacy providers are indicated, describe the process used to identify adult literacy providers or potential future outreach efforts.)</p>	<p>78</p>	<p>The plan explains how the program will be developed in collaboration with adult literacy providers. Planning included or will include consideration of collaborative strategies and other funding resources to maximize the use of technology. If no adult literacy providers are indicated, the plan describes the process used to identify adult literacy providers or potential future outreach efforts.</p>	<p>There is no evidence that the plan has been, or will be developed in collaboration with adult literacy service providers, to maximize the use of technology.</p>
<p>9. EFFECTIVE, RESEARCHED-BASED METHODS, STRATEGIES, AND CRITERIA Corresponding EETT Requirement(s): 4 and 9 (Appendix D).</p>	<p>Page in District Plan</p>	<p>Example of Adequately Addressed</p>	<p>Not Adequately Addressed</p>
<p>a. Summarize the relevant research and describe how it supports the plan’s curricular and professional development goals.</p>	<p>79</p>	<p>The plan describes the relevant research behind the plan’s design for strategies and/or methods selected.</p>	<p>The description of the research behind the plan’s design for strategies and/or methods selected is unclear or missing.</p>
<p>b. 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.</p>	<p>88</p>	<p>The plan describes the process the district will use to extend or supplement the district’s curriculum with rigorous academic courses and curricula, including distance learning opportunities (particularly in areas that would not otherwise have access to such courses or curricula due to geographical distances or insufficient resources).</p>	<p>There is no plan to use technology to extend or supplement the district’s curriculum offerings.</p>