EDUCATIONAL TECHNOLOGY PLAN
JULY 1, 2012 – JUNE 30, 2015

CATALINA FOOTHILLS SCHOOL DISTRICT
TUCSON, ARIZONA

TECHNOLOGY PLAN: CIPA CERTIFICATION AND LEA APPROVAL

School District/Charter School Name: **Catalina Foothills Unified School District**

Begins: July 1, **2012** End: July 31, **2015**

CIPA CERTIFICATION

Check appropriate option:

(DISTRICTS OR SCHOOLS WHO APPLY FOR E-RATE SHOULD CHECK THE FIRST OPTION BELOW.)

_ X_ The LEA **applies for E-Rate funds** and is therefore not required to submit CIPA compliance under the ESEA to the Arizona Department of Education, but instead submit CIPA compliance certification directly through the E-Rate application.

_____ Every "applicable school"[1] has complied with the CIPA requirements in subpart 4 of Part D of Title II of the ESEA.

_____ Not all "applicable schools"[1] have yet complied with the requirements in subpart 4 of Part D of Title II of the ESEA. However, the LEA has received a one-year waiver from the U.S. Secretary of Education under section 2441(b) (2) (C) of the ESEA for those applicable schools not yet in compliance.

_____ The CIPA requirements in the ESEA do not apply because no funds made available under the program are being used to purchase computers to access the Internet, or to pay for direct costs associated with accessing the Internet, for elementary and secondary schools that do not receive e-rate services under the Communications Act of 1934, as amended.

[1]An "applicable school" is an elementary or secondary school that does not receive e-rate discounts and for which Ed Tech funds are used to purchase computers used to access the Internet, or to pay the direct costs associated with accessing the Internet.

LEA APPROVAL & SIGNATURE

Enter dates, district/charter school name, CTDS #, print name, sign with blue ink, send original hard copy to ADE

Date the plan was approved by the LEA governing board: 05/08/12

Your signature below certifies that detailed records will be retained and made available for audit upon request.

I certify that the information in the technology plan is true to the best of my knowledge, and has been created and written in accordance with Enhancing Education Through Technology Act of 2001, 20 U.S.C. and the Federal Communications Commission's (FCC) Fifth Report and Order (FCC 04-190, released August 13, 2004) for those applying for E-rate.

Catalina Foothills Unified School District — School District/Charter School Name

10-02-16-000 — District/Charter CTDS Number

Mary Kamerzell Ph.D., Superintendent — Print School District Superintendent/Charter School Principal Name

Mary Kamerzell — School District Superintendent/Charter School Principal (signature in **blue** ink)

5/10/12 — Date

An original hard-copy of this form must be sent to ADE by certified mail.

Arizona Department of Education: Educational Technology Unit 1535 W. Jefferson St. BIN #8 Phoenix, AZ 85007

Technology plans will be submitted online through a web based application in the Common Logon, https://www.ade.az.gov/CommonLogon/logon.aspx, "ALEAT" (Arizona Local Education Agency Tracker.) The Arizona Department of Education (ADE) will review the technology plan for accuracy and compliance.
Detailed records of all submissions (and accompanying documents) must be retained by the school district or charter school and made available for review or audit upon request.

CFSD; Approved by Governing Board, 5/8/12 1

TECHNOLOGY PLAN: LEA PROFILE AND CONTACT INFORMATION

EFFECTIVE DATES OF THE TECHNOLOGY PLAN (ENTER YEARS)						
Begin:	July 1,	2012		End:	July 31,	2015
LEA PROFILE						
LEA name:	CATALINA FOOTHILLS UNIFIED SCHOOL DISTRICT					
CTDS: 10-02-16-000						
Number of schools in LEA: 8						
E-rate billed entity number (if not applicable, indicate N/A)						

TECHNOLOGY PLAN CONTACT INFORMATION

PRIMARY TECHNOLOGY PLAN CONTACT INFORMATION

Name: Mary J. Conery	Telephone #: (520)209-7500
Title: Assistant Superintendent	Fax #: (520)209-7560
Address: 2101 E. River Road, Tucson, AZ 85718	E-mail: mjc@cfsd16.org

SECONDARY TECHNOLOGY PLAN CONTACT INFORMATION

Name: Rachel Parmeter	Telephone #: (520)209-7500
Title: Director of Technology	Fax #: (520)209-7570
Address: 2101 E. River Road, Tucson, AZ 85718	E-mail: rparmeter@cfsd16.org

Technology plans will be submitted online through a web based application in the Common Logon, https://www.ade.az.gov/CommonLogon/logon.aspx, "ALEAT" (Arizona Local Education Agency Tracker.) The Arizona Department of Education (ADE) will review the technology plan for accuracy and compliance.
Detailed records of all submissions (and accompanying documents) must be retained by the school district or charter school and made available for review or audit upon request.

LEA TECHNOLOGY COMMITTEE

The CFSD Technology Committee updated the existing technology plan to include the parameters established by the Arizona Department of Education and to align outcomes with the priorities and needs of the school district. The committee will meet annually in the spring of each school year to monitor and evaluate progress toward the goal(s) as described in the strategies, benchmarks, and actions steps for each component of the plan. Other evaluative measures will include student achievement data, surveys, Teacher Assessment Program (TAP), professional growth plans, and school improvement plans.

Member	Title (if applicable)	Constituency Represented
Allie, Michael	Teacher	Canyon View Elementary
Conery, Mary Jo	Assistant Superintendent (Curriculum, Title I, Professional Development Educational Technology)	Administration
Hansen, Holly	Teacher	Ventana Vista Elementary
Hunt, Ginger	Curriculum Technology Integrator	Canyon View & Ventana Vista Elementary
Koepsel, Marc	Curriculum Technology Integrator	Manzanita & Sunrise Drive Elementary
Kolter, Travis	Director of Community Schools	Preschool / Care / Community Schools
Maleski, Rachel	Curriculum Technology Integrator	Esperero Canyon Middle School
Nocon, Cynthia	Parent	Community
Pape, Lily	Teacher	Orange Grove Middle School
Parmeter, Rachel	Director of Technology	District IS
Pelot, Kirsten	Teacher	Esperero Canyon Middle School
Pence, Lynn	Curriculum Technology Integrator	Orange Grove Middle School
Rawson, Kara	Teacher	Manzanita Elementary
Robinson, Justin	Teacher	Catalina Foothills High School
Ross, Candice	Director of Technology	Community (local area school district)
Rubin-Toles, Mark	Curriculum Technology Integrator	Catalina Foothills High School
Setliff, Mary	Principal	Administration
Shoffner, Josh	Network Manager	District IS
Silverman, Anna	Teacher	Sunrise Drive Elementary
Stephenson, Jim	Software Application Specialist	District IS
Whitaker, David	Student Information Systems & Database Manager	District IS

TECHNOLOGY PLAN: VISION AND MISSION STATEMENTS

A Vision for the Future

> *For many years, I have told students, 'Do not do what I do; rather, take whatever I have to offer and do with it what I could never imagine doing and then come back and tell me about it.' My hope is that our education systems will be shaken out of their complacency and will open teaching and learning to a future we cannot conceive.*
>
> – Mark C. Taylor, Ph.D., Columbia University

Catalina Foothills School District's (CFSD) vision of 21st century learning is one that prepares students well to learn and succeed in college, work, and life. 21st century educators in CFSD will ensure that technology is an integral and ubiquitous part of a flexible and relevant learning environment to advance and enhance the learning process. Students will be challenged to use technology and information resources responsibly and to think critically and creatively to solve problems effectively and efficiently. To this end, CFSD has created a three-year technology plan that emphasizes proficiency in CFSD's 21st century skills (see p. 23) and the application of modern technologies in the context of rigorous academic standards. The CFSD Technology Plan utilizes material from and builds on the Arizona Long-Range Strategic Educational Technology Plan (2009-2013), Arizona and CFSD Educational Technology Standard, and the National Education Technology Plan, *Transforming American Education: Learning Powered by Technology* (2010). This plan exemplifies a simple, though powerful, vision for all learners that facilitates:

> ***students'*** *active participation in authentic learning experiences that foster collaboration, critical thinking, and problem solving that are personalized according to the needs of the learner facilitated by...*
>
> ***educators*** *with the skills, understanding, and resources to use developmentally appropriate technologies to prepare CFSD's future citizens with the skills necessary to succeed personally and professionally in a global society in...*
>
> ***robust school environments*** *that provide anytime/anywhere access to quality digital content, tools, and strategies to facilitate student learning.*
>
> *Arizona Long-Range Strategic Educational Technology Plan*

In order to ensure that all students have the skills and capacity to solve the complex problems facing society today and in the future, this technology plan provides strategies, annual benchmarks, and action steps for a three-year period that will guide our continuing efforts to enhance student learning through technology. Technology is a teaching and learning tool, that when used effectively, will support and help transform how we interact, produce, and seek personal growth and enjoyment. We expect effective, competent, and purposeful use of technology by students, teachers, and administrators to establish seamless integration of technology on a daily basis throughout the curriculum and extracurricular activities.

Catalina Foothills School District Mission
Our highest aspiration

The mission of Catalina Foothills School District is to guarantee that each student achieves academic and personal excellence, becomes a lifelong learner and is a responsible citizen of the world, by engaging all students in meaningful programs which meet the highest educational and ethical standards within a caring, collaborative learning community.

CFSD Technology Plan and the Arizona Local Education Agency Tracker (ALEAT) Technology Plan – Continuous Improvement Plan

To actualize the vision and mission, the district technology committee developed a three-year plan around technology literacy and integration that supports CFSD's Strategic Plan and the No Child Left Behind (NCLB) goals in the district's Continuous Improvement Plan, as prescribed by the Arizona Department of Education (ADE) in the Arizona Local Education Agency Tracker (ALEAT). The Continuous Improvement Plan in the ALEAT system runs parallel to the district's strategic plan, and must be updated annually. The two plans are directly aligned, where possible, to ensure that the district's strategic agenda remains the focus of our work. This iteration of the technology plan was intentionally written to increase and sustain momentum in the overall technological literacy of students and staff, support the attainment of goals in the CFSD strategic plan, and to specifically support the goals and strategies of the continuous improvement plan in ALEAT. In some cases, the strategies in the technology plan may not be directly aligned to some of the goals in ALEAT, but technology is utilized and "tagged" to those goals, as appropriate. The goals in ALEAT are as follows:

- Goal 1: Teaching for Learning Environment;
- Goals 1A and 1B: Reading/Language Arts Proficiency, Mathematics Proficiency;
- Goal 2: Equitable Distribution of Teachers;
- Goal 3: Proficiency in English for English Language Learners (ELLs)
- Goal 4: High School Graduation;
- Goal 5: Parent Involvement; and
- Goal 6: Technology Literacy

Specifically, Goal 6: Technology Literacy is the goal that details the district's three-year technology plan. It includes a SMART Goal and the following four components:

1) Student engagement with 21st century technology skills;
2) Assessing student technology literacy skills;
3) 21st century technology professional development for educators; and
4) Infusing the educational technology standard into core content.

In order to create a plan that advances the work from the current technology plan, the technology committee used the following four questions to frame the work:

- What does technology allow our students to do now that would have been impossible (or at least difficult) before technology was widely available in our schools?
- How is technology currently creating new and engaging learning experiences for students?

- Predict how instructional technology will change classroom teaching and learning in the next three years.
- How has professional development related to technology changed the way that teachers teach and organize instruction for students?

The SMART Goal and a summary of the strategies and action steps for each of the components in Goal 6: Technological Literacy, are described below.

District Technology Plan and the Continuous Improvement Plan in ALEAT

ALEAT Goal 6: Technology Literacy

Supports ALEAT Goal 1A (Reading/Language Arts Proficiency), Goal 1B (Mathematics Proficiency), Goal 3 (Proficiency in English for ELLs), Goal 5 (Parent Involvement)

SMART GOAL:
By May 2015, 80% of CFSD students will demonstrate technological literacy as measured by project-based rubrics or evaluation tools used in conjunction with common course/subject, or grade level assessments, which integrate content area knowledge/skills and technology.

Note: Arizona defines student technology literacy as the ability to responsibly use appropriate technology to communicate, solve problems, create products, and access, manage, integrate, evaluate, and create information to improve learning in all subjects, to use information to improve learning in all subject areas, and acquire lifelong knowledge and skills for the 21st century.

Student Engagement with 21st Century Technology Skills

> *Teachers must become comfortable as co-learners with their students and with colleagues around the world. Today it is less about staying ahead and more about moving ahead as members of dynamic learning communities. The digital-age teaching professional must demonstrate a vision of technology infusion and develop the technology skills of others. These are the hallmarks of the new education leader.*
>
> *Don Knezek, ISTE CEO, 2008*

Technology is only a wise investment if it changes something about the way students learn, opens new doors and possibilities, and/or helps them engage in their learning experiences. To this end, CFSD students must have regular opportunities to use technological tools to develop skills that encourage creativity and innovation, communication and collaboration, research and information fluency, critical thinking, problem solving and decision-making, digital citizenship, and personal productivity in the classroom and in daily life. Once these skills are obtained, students will be on the road to becoming lifelong learners and contributing members of a global technological society.

The need for students to understand and use a variety of digital strategies in multiple contextual situations has never been greater. The use of multiple technologies continues to increase in all aspects of everyday life, in the workplace, in scientific and technical communities. To prepare students to learn throughout their lives and in settings far beyond classrooms, we must change what and how we teach to match what people need to know, how

they learn, and where and when they learn and change our perception of who needs to learn. We must bring 21st-century technology into learning in meaningful ways to engage, motivate, and inspire learners of all ages to achieve. The CFSD Educational Technology Standard, Arizona Technology Standard, and CFSD's Framework on 21st Century Skills, are articulated to facilitate this vision. For the next three years, the district will engage in the following strategies and action steps to support and increase student engagement in their learning:

Student Engagement with 21st Century Technology Skills
Strategy: Students will be able to use technology to collaborate and communicate. ▪ *Students will use technology to communicate with others inside and outside of the classroom. Students will publish work and share with real audiences.* ▪ *Students will use creative ways to show learning (GarageBand, iMovie, Digital Storytelling, presenting with technology)*. ▪ *Students will use technology to research and gather information*
Year 1 Benchmark: Students will be able to use digital tools to gather information and present learning within the school environment. Examples include (see Figure 1): • EasyBib/Zotero/Diigo • Databases/catalogs • Keynote/PowerPoint presentations • Word Processing • Digital Storytelling • GarageBand • Infographics • Emails with peers
Action Steps: 1. Teachers will provide opportunities for students to use digital tools to gather and organize information. 2. Teachers will provide opportunities for students to use digital tools to present learning.
Year 2 Benchmark: Students will be able to organize team projects, collaborate, and communicate learning beyond the classroom environment. Examples include: • Collaborative Google Documents • Digital collaboration tools (like Trello & Wallwisher) • Wiki • Online learning environments (Moodle, Blackboard, online discussion forums) • Publishing work to class websites • Collecting data from other classrooms or schools
Action Steps: 1. Teachers will provide opportunities for students to use digital tools to collaborate and organize team projects. 2. Teachers will provide opportunities for students to use digital tools to communicate learning beyond the classroom environment.
Year 3 Benchmark: Students will be able to use digital tools to gather information from and collaborate with peers and relevant experts, and communicate learning to audiences beyond the school community. Examples include: • Interactive websites • Blogging

- Surveying a broad public
- Skype
- E-pals
- Communicate with experts in a field
- Leverage social media to communicate or research (Twitter, Facebook, Ning, YouTube)

Action Steps:

1. Teachers will provide opportunities for students to use digital tools to collaborate with others to construct knowledge (peers or relevant experts - other students, community members, professionals, academics, etc.)
2. Teachers will provide opportunities for students to use digital tools to communicate learning to audiences outside the confines of school.

Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion?

- Student created work
- Project/task/assessment descriptions/ criteria for success
- Data from common assessments

Figure 1: Solis, Brian, and Jesse Thomas. *The Conversation Prism 1.0*. Digital image. *Briansolis.com*. 5 Aug. 2008. Web. 24 Apr. 2012

Assessing Student and Educator Technology Skills

What's worth knowing and being able to do? Education experts have proposed answers to this question, and although they differ in the details they recognize that what we need to know goes beyond traditional subjects. Whether the domain is English language arts, mathematics, sciences, social studies, history, art, or music, it is strongly recommended that 21st-century skills and expertise such as critical thinking, complex problem solving, collaboration, and multimedia communication be woven into all content areas. These skills are necessary to become expert learners, which we all must be if we are to adapt to our rapidly changing world over the course of our lives. That involves developing deep understanding within specific content areas and making the connections among them.

How we need to learn includes using the technology that professionals in various disciplines use. Professionals routinely use the Web and tools, such as wikis, blogs, and digital content for the research, collaboration, and communication demanded in their jobs. They gather data and analyze the data using inquiry and visualization tools. They use graphical and 3D modeling tools for design. For students, using these real-world tools creates learning opportunities that allow them to grapple with real-world problems—opportunities that prepare them to be more productive members of a globally competitive workforce.

CFSD will prepare students to excel in the community using 21st century skills by providing them with opportunities to demonstrate learning in new ways and contexts. To determine a starting point, CFSD used an external assessment to measure the technology literacy and 21st century skills of teaching staff and all 8th grade students during the winter of 2010-2011. The results of that assessment were compared to the results from the 2011-12 test administration. Teacher and student use of communication and collaboration tools surfaced as a major area for growth. Utilizing tools such as the National Education Technology Standards NETS for Students, NETS for Teachers, NETS for Administrators (see example in Table 1), and the Arizona Technology Integration Matrix (TIM), the CFSD is committed to designing meaningful tasks and assessments that measure these and other skills as outlined in this technology plan.

Table 1. Example of Technology Skill from NETS for Grades 3-5 (Learning Points Associates)

NETS for Students	Novice By the end of Grade 3	Basic By the end of Grade 4	Proficient By the end of Grade 5	Advanced
Technology Communication Tools a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.	Students know how to safely and securely use telecommunications tools to read, send, or post electronic messages to peers, experts, and family members.	Students know how to use telecommunications tools to access remote information, to communicate with others in support of direct and independent learning, and to pursue personal interests.	Students identify telecommunications tools (e.g., email, online discussions, Web environments) and online resources for collaborative projects with other students inside and outside the classroom who are studying similar curriculum-related content.	Students know how to develop Web-based telecommunications projects (e.g., WebQuest) that identify content, challenge other students who access the site to answer questions or give opinions adding to the content, and provide opportunities to evaluate responses or submissions for currency and accuracy.

For the next three years, the district will engage in the following strategies and action steps to support assessing student and educator technology skills:

Assessing Student and Educator Technology Skills
Strategy 1: Students will demonstrate critical technology and information literacy skills through ongoing authentic assessments that measure academic content/skills in the context of real-world applications.
Year 1 & Year 2 Benchmark: K-12 teachers will develop a common assessment to measure at least one technology measurement topic/benchmark within an academic content area.
Action Steps: 1. The CTIs will collaborate and coordinate with district administration and site principals and leadership teams to design support structures for assessment development (e.g., site-based professional learning, Data Teams, strategic planning, comprehensive assessment design). 2. Teachers or teacher teams will use annual or unit plans to identify where technology integration will enhance or extend learning. 3. Teachers or teacher teams will examine existing assessments for possible technology integration opportunities, or develop a design plan for one assessment aligned to the Educational Technology standards and the NETS Rubrics. 4. Teachers or teacher teams will revise or design the assessment using the principles of authentic assessment design, stated criteria for success, and a rubric to evaluate the student work. Field test the assessment, review student work, and make adjustments, as needed. 5. The CTIs, district IS staff, and site- and district-level administration will develop a systematic way to store and retrieve data about student technological literacy, and communicate it to relevant stakeholders -- students, teachers, site-level administration (Crystal Reports in Pinnacle, Parent Internet Viewer, Report Cards). 6. Site-level teams (CTIs, administrators, teachers) will analyze and use data about student technological literacy to inform instruction and make adjustments, as needed, to increase performance levels.
Year 3 Benchmark: Evaluate data at the district level about student technological literacy.
Action Steps: 1. Implement common assessments. 2. CTIs in collaboration with district-level staff will analyze and use data to evaluate student technological literacy across the district.
Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion? • K-12 assessments and assessment tools • Student data in Pinnacle

Assessing Student and Educator Technology Skills
Strategy 2: Professional educators will evaluate their technology literacy in instructional practice.
Year 1 Benchmark: Develop a draft protocol /instrument to measure educator technological literacy in instructional practice.
Action Steps: 1. An online and assessment (e.g., Learning.com) and structure for evaluating the technological literacy of new to district teachers will be developed that becomes part of the hiring process. 2. Site technology leadership teams, Professional Learning Group (PLG) facilitators, and the CTIs will use the data from the above assessment to develop ongoing and just-in-time learning sessions that support and advance the technological literacy of new teachers. 3. The CTIs will create a self-assessment protocol to help all teachers to evaluate their own technological literacy and classroom practice, aligned with the technology plan's professional development goals, for use in site and district-level professional development opportunities. 4. The CTIs in collaboration with teachers will create self-assessment protocols / rubrics (aligned to NETS-T, district Educational Technology standards, Common Core standards, the TAP document, and professional growth plans) to help educators evaluate their technological literacy in their content areas / disciplines. 5. All new staff will participate in a web-based, 21st Century Skills / Technology assessment to determine their proficiency in the Educational Technology Standards.
Year 2 Benchmark: Assess educator technological literacy in instructional practice.
Action Steps: 1. Teachers will evaluation instrument/protocol assess their technology literacy and use in the classroom. 2. Teachers will set goals for improvement.
Year 3 Benchmark: Begin systematic use of the instrument/protocol.
Action Steps: 1. CTIs will develop tools that can be used by teachers and CTIs to track individual and aggregate growth/progress in goals over time. 2. Use data to determine professional development needs and set goals for the future.
Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion? • Draft protocols and/or instruments • Data about teacher progress and skill • Action plan and timeline for professional development

21st Century Technology Professional Development for Educators

> The challenge for our education system is to leverage technology to create relevant learning experiences that mirror students' daily lives and the reality of their futures. We live in a highly mobile, globally connected society in which young Americans will have more jobs and more careers in their lifetimes than their parents. Learning can no longer be confined to the years we spend in school or the hours we spend in the classroom: It must be lifelong, lifewide, and available on demand.
>
> Bransford et al. 2006

The quality of teaching will determine the levels to which students achieve. A well-designed curriculum doesn't stand on its own strength absent its delivery by highly capable teachers. The Catalina Foothills School District is dedicated to providing its staff with high quality ongoing, sustained professional development that will maximize the effective use of technology to improve academic achievement. It is important that the program be sustainable over time and includes the participation of all employees within the CFSD learning community.

In addition to the district's professional development offerings, Community Schools creates and offers extended day courses to provide ongoing learning opportunities for staff, families, and members of the Catalina Foothills community. District facilities at each site have been made available for extended day learning and adult education. CFSD partners with Pima Community College and the University of Arizona to provide facilities for continuing education courses. CFSD course offerings are shared with Adult Literacy Providers and with the local community.

Research confirms that high quality, systemic and ongoing professional development is the most effective way to improve student learning. Job-embedded coaching/mentoring is the best professional development for assuring that teachers apply new strategies; consequently CFSD provides a variety of technology professional development activities with follow-up coaching/mentoring and implementation sessions during the school year and summer. Simultaneously, the district and sites are building leadership capacity in technology through teacher leader roles/mentors and technology leadership teams that are facilitated by each site's curriculum technology integrator and principal as another strategy for broad-based implementation and sustainability. Technology changes the way the world works. As technology evolves, so must the skill sets of those who use it. CFSD is continually developing a comprehensive professional development program that aligns its course offerings to the district's strategic goals. For the next three years, the district will engage in the following strategies and action steps to support the professional development of its educators for increased student learning:

21st Century Technology Professional Development for Educators
Strategy 1: Leverage appropriate social networking technologies and platforms to effectively communicate with students/families/community.
Year 1 Benchmark: Staff can describe and compare social media (Facebook, blogs, wikis, Twitter) and identify appropriate, district-approved uses for their grade levels.
Action Steps: 1. CTIs create and provide professional development opportunities for staff, parents, and the community (e.g., emails, tutorials, faculty meetings) about social media and district social media practices (For example: Social media and digital citizenship privacy and safety issues, the role of parents in digital safekeeping and advice-giving) 2. CTIs, teachers, and administrators craft a district-level 'best practices' for social media. 3. CTIs, administrators, and teachers identify targeted social media and shared vocabulary per site.
Year 2 Benchmark: Each site will create and maintain site-level social media avenues to connect staff, students (as appropriate), parents, the local community, and the global community.
Action Steps: 1. Administrators, teachers, parents, students, and CTIs determine goals and parameters for site social media as appropriate for site and student population. 2. Sites will create and maintain social media accounts. 3. Determine how to assess the effectiveness of the social media practices.
Year 3 Benchmark: Sites will evaluate and revise their use of social media as needed to reflect emerging technologies.
Action Steps: 1. Collect and use data to assess the effectiveness of site-based social media. 2. Adjust social media practices and goals to reflect feedback from assessment.
Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion? 1. Social media accounts and histories 2. Records of professional development 3. Documents about best practices and shared vocabulary 4. Data from site-based assessments

21st Century Technology Professional Development for Educators

Strategy 2: Teachers will integrate digital tools so that students can collaborate and communicate learning. [This strategy is aligned to the engagement strategy and intended to support teachers in implementation efforts.]

Year 1 Benchmark: Teachers will integrate digital tools into instruction so students can gather information and present learning within the school environment.

Action Steps:

1. CTIs and teachers will determine the needs for professional development around collaborative digital communication.
2. CTIs will offer differentiated professional development opportunities to help teachers learn strategies (e.g., Figure 1: The Conversation Prism and Figure 2: Bloom's Digital Taxonomy Pyramid).
3. Students will learn how to share and store information (Google Docs, /Google Apps, Dropbox, social bookmarking, servers, email, cloud-based technologies, etc.)
4. CTIs and teachers will assess teacher progress in this area.

Year 2 Benchmark: Teachers will integrate digital tools so students can organize team projects, collaborate, and communicate learning beyond the classroom environment.

Action Steps:

1. CTIs and teachers will assess teacher progress from Year 1 and determine what is needed for professional development in this area for continued progress.
2. CTIs will offer differentiated professional development opportunities to help teachers learn strategies.
3. Teachers will create opportunities for students to collaborate and communicate beyond the classroom environment (email, Google docs, etc.).

Year 3 Benchmark: Teachers will integrate digital tools so students can gather information from and collaborate with peers and relevant experts, and communicate learning to audiences beyond the school community.

Action Steps:

1. CTIs and teachers will assess teacher progress from year 2 and determine what is needed for professional development in this area.
2. CTIs will offer differentiated professional development opportunities to help teachers learn strategies.
3. Teachers will create opportunities for students to collaborate and communicate with others beyond the school community (e.g., Skype, online discussion forum).

Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion?

1. Student work, and other evidence of student learning
2. Observed changes in educator practice
3. Schedules that show the devotion of organizational resources to this professional development (staff meeting/collaborative time, etc.)
4. Assessments of educator understanding
5. Assessments of educator attitudes + evaluations of training

Note: Bloom's Digital Taxonomy Pyramid (Figure 2) and The Conversation Prism (Figure 1) illustrate the myriad of digital tools available to teachers and students to increase student engagement; support technology integration; and develop critical thinking, collaboration, and communication skills.

Bloom's Digital Taxonomy Pyramid

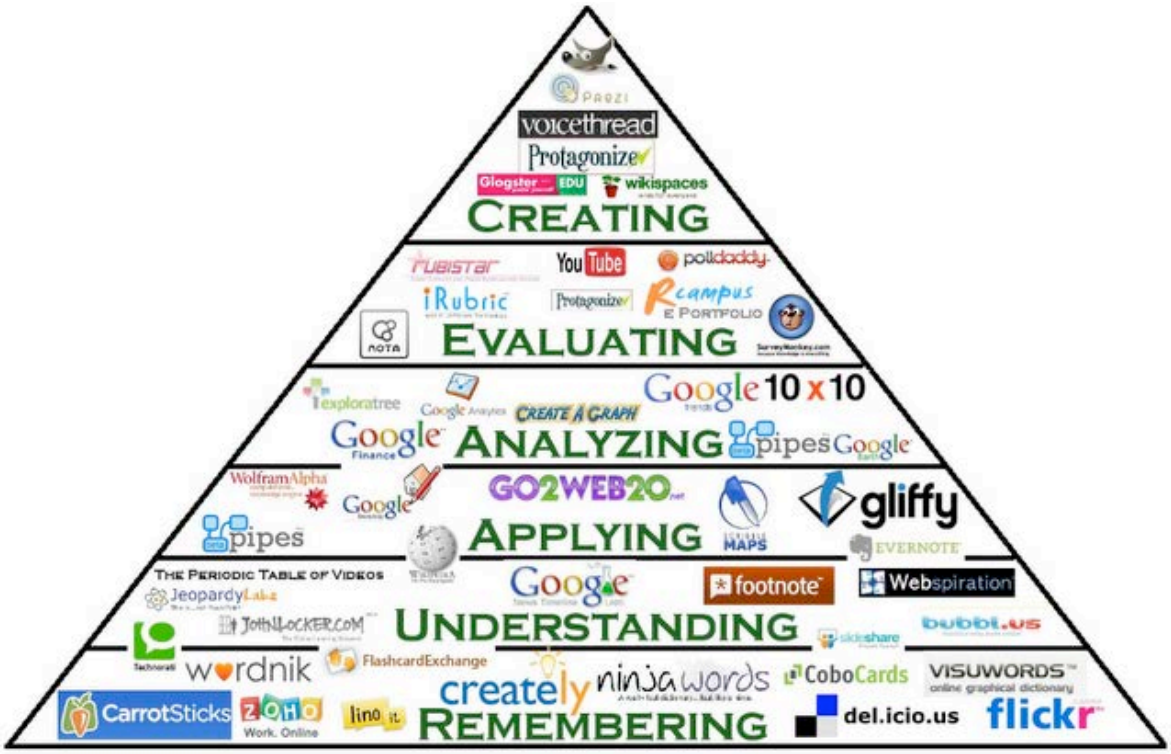

Figure 2. This work is licensed under a Creative Commons Attribution-NoDerivs 3.0 Unported License.

21st Century Technology Professional Development for Educators
Strategy 3: Websites Students, families, and teachers will have access to instructional websites that provide students with all the tools they need to fully engage in and extend their learning.
Year 1 Benchmark: All CFSD teachers will create, maintain, and update an instructional website that presents timely and comprehensive content information.
Action Steps: 1. Teachers will create and regularly update websites so that all students and parents have access to all necessary course content and information. [Tag parent involvement] 2. CTIs will designate or create a rubric to assess instructional websites (e.g., the 5 levels from Dunn's "Making the Most of Your Classroom Website," or other site-based assessments that include criteria for success, such as overall organization and design, calendar/due dates, class materials, links to resources, interactivity). 3. CTIs and administrators will guide the staff to use the rubric to self-assess the interactivity of their websites at intermittent points of the school year (Level 1: Static, Level 2: Semistatic, Level 3: Supplemental Resource, Level 4; Integral curricular, and Level 5: Pedagogical Memory).

4. CTIs will provide differentiated instruction to help teachers maintain and improve their websites.
5. CTIs will publish and maintain a district-wide site for self-directed learning about technology tools and applications.

Year 2 Benchmark: All CFSD teachers will create, maintain, and update a classroom website that provides resources and opportunities for students to communicate about their course content learning.

Action Steps:

1. New teachers will create and regularly update websites so that all students have access to all necessary course content and information.
2. Staff will assess their instructional websites, and set goals for the current year.
3. Staff will solicit student and parent feedback about the effectiveness and usability of instructional websites (e.g., surveys, newsletters, parent conference feedback, etc.) [Tag Parent Involvement]
4. CTIs will provide differentiated instruction to help teachers maintain and improve their websites.
5. Identify model websites that can serve as exemplars.
6. CTIs will revise and maintain a district-wide site for self-directed learning about technology tools and applications.

Year 3 Benchmark: All CFSD teachers will create, maintain, and update a classroom website that provides resources and opportunities for students to construct knowledge and contribute to the learning of the class.

Action Steps:

1. New teachers will create and regularly update websites so that all students and parents have access to all necessary course content and information. [Tag Parent Involvement]
2. Staff will assess their instructional websites, and set goals for the current year.
3. Staff will solicit student and parent feedback about the effectiveness and usability of instructional websites (e.g., surveys, newsletters, parent conference feedback, etc.)
4. CTIs will provide differentiated instruction to help teachers maintain and improve their websites.
4. CTIs will revise and maintain a district-wide site available to staff, students, and families for self-directed learning about technology tools and applications.

Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion?

1. Instructional websites
2. Rubric tools / self-assessments
3. Student and parent feedback

Infusing the Educational Technology Standard into Core Content

In order to prepare CFSD graduates for their lives in the 21st century, they must be proficient in rigorous academic standards, adept at using and applying 21st century skills, and competent in the use of 21st century digital tools. Meaningful and engaging learning experiences will be used to measure students' academic growth and 21st century skills, and will be integrated within and across disciplines.

The CFSD recognizes the shift from technology being a supplemental topic, taught only in the computer lab or other static environment, to technology supporting learning anywhere, anytime in a dynamic environment. Keeping this shift in mind, the Educational Technology Standard will be used to guide efforts to enhance and extend student learning through the integration of technology and academics. The Educational Technology Standard, articulated by grade level, is divided into six measurement topics:

- Creativity and Innovation: This measurement topic requires that students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

- Communication and Collaboration: This measurement topic requires students to use digital media and environments to communicate and collaborate with others.

- Research and Information Literacy: This measurement topic requires that students apply digital tools to gather, evaluate, and use information.

- Critical Thinking, Problem Solving and Decision Making: This measurement topic requires students to use critical thinking, problem solving, and decision making to manage projects using digital tools and resources.

- Digital Citizenship: This measurement topic requires students to understand human, cultural, and societal issues related to technology practice and ethical behavior.

- Technology Operations and Concepts: This measurement topic requires students to demonstrate a sound understanding of technology concepts, systems, and operations.

The standard is a highly interconnected framework that supports the learning process; ideas from all six measurement topics need to be continuously integrated, as appropriate, to make meaningful connections within and to other content areas. For the next three years, the district will engage in the following strategies and action steps to support infusing the educational technology standard into core content:

Infusing the Educational Technology Standard into Core Content
Strategy 1: Create a systematic schedule/plan that integrates technology skills acquisition in core content area**s** K-12.
Year 1 Benchmark: Creation of a K-12 map of Educational Technology skills and applications by subject and grade level.
Action Steps: 1. CTIs will use curriculum mapping to compose a K-12 map that matches the Education Technology standards to subject and grade-level specific skills and applications. 2. Coordinate Educational Technology plan with site-level strategic plans, common assessments, and the Teacher Assessment Program. 3. The CTIs will obtain teacher feedback to ensure map is the best possible fit for grade level and content requirements (for example, HS Social Studies currently uses Comic Life in a common, authentic assessment).
Year 2 Benchmark: Implementation of the K-12 map of Educational Technology skills district wide.
Action Steps: 1. K-12 Map will be posted to Core 21 (Faculty Intranet) and CFSD Technology website. 2. Teachers will implement the map, ensuring that students learn Educational Technology skills. 3. CTIs will revise map based on teacher feedback.
Year 3 Benchmark: Evaluate the success of the implementation of K-12 Educational Technology Core Content Alignment Map.
Action Steps: 1. Evaluate the progress and achievement of students using data from student work, common assessments, teacher feedback, and observations. 2. Use data from evaluation to inform professional development.
Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion? 1. K-12 Educational Technology Core Content Alignment Map 2. Student work 3. Common assessment scores 4. Aggregate TAP walk-through data 5. Measurements of teacher understanding of Educational Technology skills + implementation plan

ALEAT Goal #1: Learning Environment

Learning Environment: Network/Internet Filtering and Acceptable Use Agreements
Strategy 1: Build a safe, positive, and productive learning environment that supports learning: Acceptable Use Agreement
Years 1-3 Benchmark: Ensure compliance and maintain network/Internet filtering and Acceptable Use Agreements.
Action Steps: 1. Align network/Internet filtering procedures and policies to the Fall 2011 CIPA Update. 2. Maintain and monitor firewalls and Internet security systems that are CIPA compliant. 3. Use Websense for Internet filtering. 4. All staff will sign and return the annual Electronic Information Services User Agreement with their teaching contract, indicating that they agree to the district's Acceptable Use policy (IJNDB). 5. All CFSD students/parents will sign and return the annual User Agreement within the first month of each new school year, indicating that they agree to the district's Acceptable Use policy. 6. Establish and enact a policy for Staff Use of Digital Communications and Electronic Devices that includes social media.
Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion? 1. CFSD District Policies IJNDB 2. Documentation of Internet filtering services 3. Site-based procedures and database for securing User Agreements 4. Signed User Agreements

Learning Environment: Internet Safety Curriculum
Strategy 2: Build a safe, positive, and productive learning environment that supports learning: Digital Citizenship/Internet Safety Curriculum
Years 1-3 Benchmark: Plan, develop, and implement a curriculum or program that teaches students and staff about Internet safety and digital citizenship.
Action Steps: 1. The district will provide annual professional development on bullying laws, including Cyberbullying, to-new to-district teachers during New Teacher Orientation. 2. The CTIs will provide resources (e.g., Stop Think Click, Net Cetera, Cyberbullying Research Center, Pew Internet) and ongoing professional learning around Internet safety and digital citizenship (e.g., socializing and communicating online through social networking websites, cyberbullying awareness/identification, prevention, and response; privacy protection).
Monitoring & Evaluation: What will be accepted as evidence of progress and successful implementation or completion? 1. Documented evidence of training sessions 2. Program(s) and/or sequence of study on Internet safety, cyberbullying, and digital citizenship.

Infrastructure

Over the past 40 years, there have been unprecedented advances in computing and communications that have led to powerful technology resources and tools for learning. Today, low-cost Internet access devices, easy-to-use digital authoring tools, and the Web facilitate access to information and multimedia learning content, communication, and collaboration. They provide the ability to participate in online learning communities that cross disciplines, organizations, international boundaries, and cultures.

The Catalina Foothills School District (CFSD) has adopted and utilized many aspects of technology integration in the last five years. We are now, however, at an inflection point for a much bolder transformation of education powered by technology. A comprehensive infrastructure for learning is necessary to improve and sustain movement beyond the traditional model of educators and students in classrooms to one that brings together teaching teams and students in classrooms, labs, community places, workplaces, and homes—anywhere in the world where people have access to devices and an adequate Internet connection. To this end, our infrastructure must support learning opportunities for students, educators, and administrators regardless of their location, the time of day, or the type of access devices. It supports not just access to information, but also the creation of content and access to people and participation in online learning communities.

Human Infrastructure

The Information Systems Department provides centralized consulting, service, training, and support for technology systems and projects throughout the district. The department's goal is to purchase, install, and maintain all Voice, Video, Data technology and to increase the competence and productivity of students and staff by making technology accessible for learning and the workplace.

Each site has a computer technician that maintains all workstation and peripheral equipment, desktop software/maintenance/upgrades/security and Internet filtering security. They respond to daily work orders and tasks, maintain all staff and student authentication methods, and participate in peer mentoring. The site technicians work closely with each school's Curriculum Technology Integrator (CTI) and play an integral role in child technology safety.

Curriculum Technology Integrator (CTI)

At the site level, all CFSD schools have a Curriculum Technology Integrator (CTI), who is a certified teacher with a strong foundation in pedagogy and teaching methodologies. The CTIs also have additional specialized training and knowledge in instructional technology. They provide leadership in technology and facilitate efforts to implement the district's technology plan. In a 21st century learning environment the CTI:

- Provides direct support to the classroom teacher via coaching or modeling for the utilization of technology tools and resources to support student learning;
- Provides assistance on first level technical questions, instructional applications, and software;
- Consults and collaborates directly with teachers, but works with students only for the purpose of modeling, demonstrating a lesson, or team teaching;

- Advises and assists teachers to determine what, when, and where to integrate appropriate technology tools in the curriculum to enhance teaching and learning;
- Models technology usage for staff and shares the vision of integrating technological components;
- Supports learning practices and physical environments that will support the teaching and learning of 21st century skill outcomes;
- Supports professional learning communities that enable educators to collaborate, share best practices, and integrate 21st century skills into classroom practice;
- Enables students to learn in relevant, real world 21st century contexts (e.g., through authentic or other applied work);
- Allows for equitable access to quality learning tools, technologies, and resources;
- In collaboration with other CTIs and Information Systems personnel (site and district) and Assistant Superintendent for 21st Century Learning, coordinates the selection and acquisition of software and emerging technologies.

The CTI is critical to ensuring that teachers can more effectively support students' 21st century learning needs and utilize technology in a context of relevance, "just in time," rather than "just in case." The CTIs and the principals facilitate and build leadership capacity in instructional technology through leadership teams and cadres that learn about effective technology practices and then provide ongoing support to staff.

Technology Infrastructure

While the previous section describes the human infrastructure necessary to implement the effective use of technology, this section covers the hardware and software systems necessary to support the other plan components.

On a more operational level, an infrastructure for learning brings together and enables access to data from multiple sources while ensuring appropriate levels of security and privacy. The infrastructure integrates computer hardware, data and networks, information resources, interoperable software, middleware services and tools and devices, and connects and supports interdisciplinary teams of professionals responsible for its development, maintenance, and management and its use in transformative approaches to teaching and learning.

The CFSD continually seeks to standardize and update the technology infrastructure to offer greater functionality and enhance the learning environment. The computer network consists of 9 Local Area Networks (LAN) that comprise our Wide Area Network (WAN) and each site has enterprise wireless network hardware that currently institutes the use of support 3 wireless networks; 1 each for in-district access, professional development, and guest access. Each school site and the District Office use TCP/IP protocol running Apple Macintosh OS X server operating systems.

The wide area network (WAN) is designed as a star configuration consisting of 100MB high-speed fiber connections from each school site to the District Office, 800MB high-speed fiber to the District Office from the CenturyLink cloud and 100MB to the Internet from the District Office. This bandwidth does handle the current demand for Voice over IP telephony (VoIP),

Internet access, e-mail, ASP applications, and transfer of administration, Gradebook, attendance, and student records data, and has the capacity to allow new uses on the network to accommodate curriculum integration.

Every CFSD staff member has a Google e-mail account capable of sending and receiving e-mail locally (LAN), district-wide (WAN), and globally (Internet). Every student (with parent permission) has Gmail that is capable of sending and receiving intra-district email only.

The district maintains an Internet Web site at www.cfsd16.org. All schools maintain their own individual school Internet Web sites using a district-approved template for conformity. This makes it easier for parents, community members, and visitors to navigate the websites for information about the district and schools. Internet/Intranet applications are maintained using a Macintosh OSX server and File Maker Pro databases. The Firewall limits outside access from the Internet to the district network and filtering software is used to ensure that students do not have access to inappropriate materials on the Internet. Security procedures have been designed to protect against threats of unauthorized access and threats from loss due to technical mishaps (power outage, virus, user mistakes, hardware malfunction, denial of service) and/or physical destruction (natural disasters, fire, flood).

Each teacher in the Catalina Foothills School district has a laptop assigned to them and in each classroom there is a VoIP telephone, an interactive white board, a document camera, a projector, and computer cart. Laptops are available in mobile carts to all students at a ratio of 1:2. These laptops all have 2GB of RAM, DVD re-writable drives, built-in webcams, sound, microphones and run Apple Macintosh operating system OS X, version 10.5.x and 10.6.x. All computers have a core set of licensed software including, Apple iWork software suite (Pages, Keynote, and Numbers), Microsoft Word, PowerPoint, Excel, PowerSchool, Pinnacle grading and attendance software, at least 1 Internet browser, and various curriculum and multi-media programs. At each site, there is also an iPad cart of 30 devices with the exception of the high school, which has 2 carts.

The faculty login feature of CFSD's website provides teachers access to CORE 21 (Curriculum Overview: Resources Essential for the 21st Century), shared resources, and a professional development menu of options for learning and growth. CORE 21 makes available to teachers print and online resources from anywhere in the world. Teachers have the capability to post and share lessons, ask a mentor/colleague for information about curriculum, instruction, and assessment or find out what other resources are available from other colleagues in the school district.

The Parent Internet Viewer (PIV) is a web-based communication tool that allows parents and students secure access to grade, assignment, and attendance information. Assignments and student performance can be viewed as soon as entries are made by teachers into their electronic gradebooks. Teachers in CFSD are expected to update the grades/scores in their gradebooks every two weeks. PIV organizes and formats the data for convenient viewing. The program is straightforward and quite user-friendly – just point and click!

An essential component of a robust learning environment is a comprehensive infrastructure for learning that provides every student, educator, and level of our education system with the

resources they need when and where they are needed. The underlying principle is that infrastructure includes people, processes, learning resources, policies, and sustainable models for continuous improvement in addition to broadband connectivity, servers, software, management systems, and administration tools. Building and maintaining this infrastructure demands concerted and coordinated efforts.

Evaluation of the Technology Plan

The Catalina Foothills School District is committed to making the technology plan a continuous improvement plan. Proper evaluation of the plan goals, strategies, and actions steps is vital for the successful implementation of the CFSD Technology Plan. Without providing regular evaluation, it is difficult to measure the impact that plan strategies are having on the use of technology to enhance the learning of CFSD's students. We will evaluate the technology skills of students and staff in a systematic manner to inform the long-term investment of technology. Progress toward goals will be reviewed annually and adjustments will be made according to evidence of results or new priorities. A variety of surveys, classroom observations, analysis of students' scores, and other data will be used as part of the assessment process. The data will be evaluated annually to determine the quality, reach, and impact of the plan. The following questions will be used to gather and analyze the effectiveness of the plan and to determine areas that need to be modified and upgraded.

1. Are students learning the CFSD standards/measurement topics and benchmarks?
2. To what degree are students utilizing technology in their learning and how do we know?
3. To what degree are teachers utilizing technology in their instruction and how do we know?
4. Is CFSD accomplishing, meeting, or exceeding the technology plan objectives?
5. Is CFSD optimizing the available resources allocated to technology to achieve the goals and objectives of the plan?
6. How do CFSD students perceive the use of technology in their own learning at school?
7. How do students perceive teacher use of technology in instruction?
8. How effective has our professional development system been in helping teachers attain technology proficiency?
9. To what degree are teachers incorporating technology use and assessment into student achievement plans and CFSD annual, lesson, and unit plans?

CFSD can – and must – prepare all students with a 21st century education that will position them with the knowledge and skills they need to learn effectively and live productively in a rapidly changing digital world. We reserve the option to change this Plan based on changing conditions, emerging technologies, needs, and funding.

CATALINA FOOTHILLS SCHOOL DISTRICT

Distinguishing Traits & Qualities of 21st Century Learners

Critical and Creative Thinking

- Comparing
- Classifying
- Inductive Reasoning
- Deductive Reasoning
- Error Analysis
- Constructing Support
- Abstracting
- Decision Making
- Investigation
- Problem Solving
- Experimental Inquiry
- Invention
- Data Analysis
- Scientific Inquiry

Systems Thinking

- Big Picture
- Change Over Time
- Interdependencies
- Consequences
- System-as-Cause
- Leverage Actions
- Identification and Explanation
- Representation
- Transfer

Self-Direction

- Relevant and Realistic Goals
- Systematic and Comprehensive Plan
- Self-instruction
- Resources
- Effective and Sustained Effort
- Self-monitoring and Reflection
- Results that are Valued and Meet the Standard

Teamwork

- Role Understanding and Participation
- Openness and Sharing
- Team Goals and Reflection
- Responding to Others

Leadership

- Team Building
- Decision Making
- Communication
- Action Planning
- Perseverance
- Personal Responsibility

Communication

- Electronic Environments
- Media
- Conventions and Etiquette
- Design Elements
- Responsible Behavior

Cultural Competence

- Cultural Self-Awareness
- Worldview
- Intercultural Experience
- Technology and Cultural Diversity