

SUPPORTING DOCUMENT A

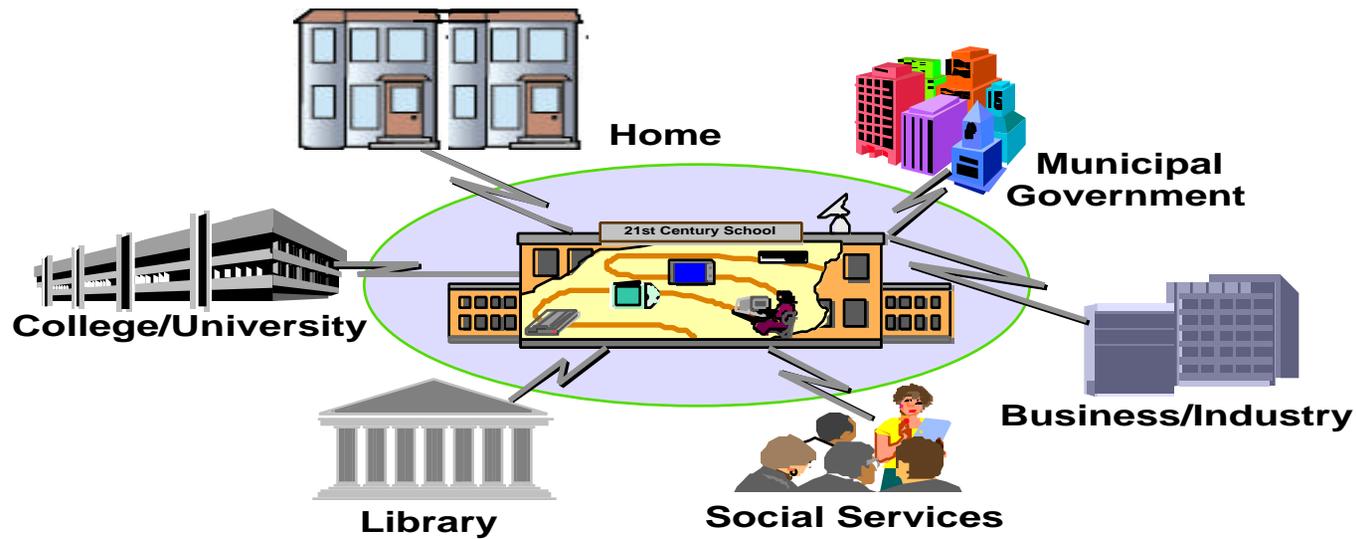
LAUSD Instructional Technology: Key Findings

- The Center for Educational Leadership and Technology (CELT) developed an initial set of findings from interviews of teaching staff and administrators in schools and offices in LAUSD.
- The key findings present a current picture of where LAUSD is in terms of instructional technology.
- Focus groups worked with CELT to develop recommendations and implementation strategies to address the key findings. Focus groups members were selected based upon their areas of expertise and proven abilities in:
 - Human Resources and Development
 - Curriculum and Learning Standards
 - Plan Implementation Issues
 - Technology Enhanced Learning Environments
- The initial findings were validated by focus groups whose members read and offered clarifications to the findings.
- The final report consisting of key findings, recommendations, and implementation strategies is being used to form the Instructional Technology Plan.

LOS ANGELES UNIFIED SCHOOL DISTRICT

INSTRUCTIONAL TECHNOLOGY PLANNING PROJECT

Recommendations and Implementation Approaches Draft Report



Prepared by:

CELT Corporation
199 Forest Street
Marlborough, Massachusetts 01752
(508) 624-4877
www.celt.org

October 6, 1999

1. RECOMMENDATIONS AND IMPLEMENTATION APPROACHES MATRIX

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Curriculum/Technology Integration		
<ul style="list-style-type: none"> District leadership at all levels look to the integration of instructional computing devices and related instructional applications to increase the options/ materials available to teaching staff to meet the diverse learning needs of their student populations. Strategies incorporating technology to deliver and enhance instruction (distance learning, on-line learning, interactive two-way video, data collection projects, mentorships, and tutorials) are highly desired by leadership within the district. To achieve systemic integration of desktop computing devices to address curricular goals, district leadership identified the need for staff development as a high priority for most all teachers. ITAFs (Instructional Technology Applications Facilitators) involved in focus group discussions were able to articulate a comprehensive vision for integrating technology resources to achieve curricular goals, but cited many challenges to achieve this vision systemically. 	<p>Identify and adopt strategies (processes and structures) for systematically integrating technology into all aspects of the curriculum, specifically areas that support the superintendent's seven priorities.</p>	<p>Identify, embrace, and disseminate a set of research-based curriculum/technology integration approaches that align student technology standards with content standards, and process skills, such as those identified in the ISTE guide <i>National Educational Technology Standards for Students ~ Connecting Curriculum and Technology</i>.</p> <p>Focus initial curriculum and technology integration initiatives on specifically identified district/cluster priority areas such as:</p> <ul style="list-style-type: none"> - literacy - special education - students at-risk <p>Create and regularly update guidelines to assist teachers in the selection of technology-based resources that are differentiated by instructional levels and content area.</p> <p>Design a web page to distribute the technology selection guidelines to teachers.</p> <p>Link selection guidelines to staff development design and implementation.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
<i>Curriculum/Technology Integration (continued)</i>		
<ul style="list-style-type: none"> • Methods using technology to de-emphasize the differences among teachers and among students within the LA learning environment are sought within the recommendations and implementation approaches presented in the <i>Instructional Technology Plan</i>. 	(See Recommendations on previous page.)	(See Implementation Approaches on previous page.)

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Curriculum/Technology Integration (continued)		
<ul style="list-style-type: none"> • Current district-wide communications regarding instructional practices and guidelines are ineffective. • Few channels exist for teachers to share successful curriculum and technology integration practices with colleagues across the district. • Channels that are available for sharing are not well known and under-utilized. • LAUSD educators expressed the need for uniform criteria, formats, and templates to provide a vehicle for on-line, searchable lessons and units in support of learning standards. • Establishment of quality control procedures for gathering/ documenting successful practices was identified as a priority by LAUSD staff. 	<p>Develop communication channels, implementation strategies, and quality control procedures for identifying and sharing successful curriculum and technology integration practices among district educators.</p>	<p>Include, as part of LAUSDnet and ultimately as a component of the district's decision support system, an easily-accessible, relational database of lesson plans and units for sharing successful integration practices across the district.</p> <ul style="list-style-type: none"> - develop criteria for selecting lesson plans/units (initial emphasis on literacy) - design template with searchable fields - determine quality control procedures - design and conduct a variety of staff development initiatives for using (inputting lessons into and searching) the database <p>Make this database available through the LAUSD web site.</p> <p>Widely publicize the existence of and encourage the use of this database as teachers secure technology resources in their schools and classrooms.</p> <p>Investigate and document successful practices of other large school districts with similar populations as LAUSD.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Curriculum/Technology Integration (continued)		
<ul style="list-style-type: none"> • LAUSD educators expressed a need for well-researched, centralized learning resources for use with at-risk students. • Additionally, leadership within the district seeks technology solutions and strategies to address the required interventions for students not succeeding within the standard school day. • Likewise, there is a growing need for technology-based resources able to supplement efforts in support of interventions and extended instruction as a result of the "no social promotion" legislation. 	<p>Identify and promote a variety of technology supported solutions and strategies for students at-risk which provide interventions during and beyond the standard school day. Ensure that these solutions are linked to the district decision support system such that it may be used for early identification to prescribe early interventions.</p>	<p>Research and disseminate via the LAUSD website successful strategies, programs, and models for addressing the needs of students at-risk from preK through grade 12 by:</p> <ul style="list-style-type: none"> - defining and identifying the district's at-risk populations - determining criteria for selecting at-risk populations that can benefit from technology enhanced interventions - aligning technology enhanced interventions with at-risk populations - creating and disseminating assessment strategies to align individual students at-risk with the most appropriate intervention <p>Increase access to LAUSD instructional technology resources by promoting partnerships with childcare service providers offering before-school, after-school, and week-end programming for LAUSD students.</p> <p>Provide appropriate access to student information within the district decision support system to childcare service providers offering before-school, after-school, and week-end programming for LAUSD students.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
<i>Curriculum/Technology Integration (continued)</i>		
<ul style="list-style-type: none"> Leadership within the Instructional Technology Branch seeks to develop an understanding at the school level of the use of diverse types of instructional technology devices available to support curricular goals and increase student performance on district standardized tests. 	<p>Research and document alternative desktop computing devices which have proven successful in supporting curricular goals, improving literacy, increasing student performance on district standardized tests, and addressing the superintendent's priority areas.</p>	<p>Research and publish (print and electronic) a guide for creating effective technology enhanced learning environments that includes the use of alternative desktop computing devices, such as portable writing keyboards, graphing calculators, laptop and portable computers. (See the <i>Guide to Technology Enhanced Learning Environments</i>)</p> <p>Negotiate high volume purchasing agreements for all LAUSD schools with vendors of these alternative desktop computing devices. Distribute procedures for securing devices at these prices to all schools.</p> <p>Maintain up-to-date hot links from the electronic version of this guide to vendor sites and schools sites describing successful implementation stories/strategies.</p> <p>Identify mentor teachers who have used these devices and are willing to work with others to facilitate effective integration into classroom activities. This mentoring can be provided remotely via e-mail.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Curriculum/Technology Integration (continued)		
<ul style="list-style-type: none"> Although a process exists for reviewing educational materials (overseen by the Administration of Textbooks and Library Services), current on-line software evaluation resources are limited. A comprehensive on-line system was identified as desirable to align products with state learning standards and with LAUSD's goals and major educational priorities. 	<p>Develop a comprehensive on-line system that aligns educational materials with state learning standards and with LAUSD's goals and major educational priorities. Ensure that this system can link to and communicate with the district's decision support system.</p>	<p>Implement a district-wide on-line system that aligns educational materials with state learning standards and with LAUSD's goals and major educational priorities:</p> <ul style="list-style-type: none"> - research and identify existing systems with the capacity to meet LAUSD needs - identify customization required for LAUSD clusters/schools - review the system from a technical perspective to ensure that it can be integrated into the district's decision support system - determine implementation strategies, timelines, and maintenance needs <p>Negotiate high volume purchasing agreements for all LAUSD schools with vendors of core instructional applications. Distribute procedures for securing instructional materials at these prices to all schools.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Student Technology Standards		
<ul style="list-style-type: none"> No district level student technology standards have been articulated or embraced. This is envisioned by some as a primary task of the ITAFs. The Standards Branch has embedded some technology standards within specific curriculum areas. District leadership expressed interest in the emerging ISTE student technology standards which will be generated as a component of the NETS (National Education Technology Standards) project. ITAF's voiced their desire to have district-wide student technology standards identified, aligned with specific grade levels, and integrated into multiple content areas. Some clusters have identified student technology standards by grade levels and/or discipline. Some schools have embraced other student technology standards found primarily on the Internet. District-level student technology standards are desired for clusters and schools where they do not exist, are not comprehensive, or require updating. There is strong consideration within LAUSD to establish core student indicators demonstrating technology standards as a graduation requirement. 	<p>Select and endorse a comprehensive set of student technology standards, K-12, with associated student assessment strategies/performance measures. Align the student technology standards with the Superintendent's seven priority areas.</p>	<p>Identify/endorse major categories of student technology standards (consider ISTE/NETS standards as a model).</p> <p>Develop/embrace a comprehensive list of K-12 student technology standards within each major category, differentiated by grade level.</p> <p>Design a process and guidelines for customizing the standards for the district, cluster, and school levels as appropriate.</p> <p>Develop a comprehensive set of assessment strategies to assist teachers in measuring student proficiency of specific technology milestones at selected grade levels.</p> <p>Provide teachers and professional development personnel with models for systematically integrating technology standards within subject areas, themes, and/or lesson plans.</p> <p>Design and implement a web-based relational database to accommodate the K-12 student technology standards.</p> <p>Establish effective communication channels to implement the K-12 student technology standards initiative systemically.</p> <p>Create a review/transition process for schools who have previously embraced other technology standards to ensure consistency across the district over time.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Assessment		
<ul style="list-style-type: none"> • District assessment data and performance indicators have been aligned with the Superintendent's seven priority initiatives with comparative data tables produced annually for each school. This information is available on the district web site, allowing for quick access. • Student achievement data at the district level includes standardized testing using the Stanford-9, which is conducted annually. • District-level staff are also investigating norm referenced testing options which would create an annual student performance profile. • To date, tracking and compiling of student assessment data has been for administrative and legal compliance purposes, with less emphasis on improving instructional strategies. • Teachers do not have timely and ready access to assessment data on individual students to the extent that such data can be used in on-going modification and adaptation of student instructional activities/programs. • Likewise, teachers do not have access to technology assisted assessment tools to enable documentation of student achievement in direct support of promotion decisions. 	<p>As a component of the district's decision support system, integrate an automated, easy-to-use assessment system, composed of multiple indicators and linked to the district content standards, that provides teachers and administrators with information about student mastery of learning standards and cross-discipline competencies.</p>	<p>Implement a district-wide student assessment system that:</p> <ul style="list-style-type: none"> - addresses multiple indicators (i.e., the SAT-9, on-demand performance assessment, and authentic classroom-embedded assessment measures) - correlates all forms of student assessment with the content standards, benchmarks, and performance standards - provides disaggregated data - links directly to curriculum development and learning management information - provides electronic, easy-to-access information - creates assessments that determine student proficiency with technology in the context of the integrated curriculum - provides access to banks of assessment tasks - includes ability to aggregate and disaggregate assessment data by multiple student characteristics - meets the needs of all students

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Assessment (continued)		
<ul style="list-style-type: none"> At the cluster level, a number of pilot projects using technology resources to target literacy, student assessment, and improved performance are underway. For example, the Roosevelt cluster is considering Accelerated Reader, Skills Bank, or Cornerstone for cluster-wide purchase. Within individual schools, some technology enhanced performance assessment strategies have been identified and initiated, but these initiatives are found in small pockets throughout the district. Systemic impact of these efforts has not been evaluated. 	<p>Measure the impact of the pilot projects and school-level initiatives in the area of assessment and issue guidelines for expansion of these models.</p>	<p>Develop instruments and procedures for evaluating the impact of the pilot projects and school-level initiatives in the area of assessment.</p> <p>Gather both quantitative and qualitative data about the programs.</p> <p>Compile the data and report findings.</p> <p>Create a set of guidelines for potential district-wide implementation based upon study results.</p> <p>Review assessment initiatives from a technical perspective to ensure that they can be integrated into the district's decision support system.</p> <p>Develop implementation guidelines and technical specifications for schools and clusters interested in embracing successful models.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Curriculum Development/Learning Management		
<ul style="list-style-type: none"> Curriculum development and improvement has been largely driven by standardized testing results. Increased scores on standardized testing such as the Stanford are one of the Superintendent's seven priority areas. In this highly site-based district, most curriculum development and improvement initiatives occur at the school and sometimes the cluster level. These projects are as diverse in their intent and outcomes as are the many schools which comprise LAUSD. Leadership within the Instructional Technology Branch seeks to develop understanding in schools regarding curriculum development, improvement, learning management, and the role of technology to assist these efforts. The district is currently reviewing proposals resulting from an RFP for a Decision Support System (DSS) for the district. This system holds the potential to support teachers with some learning management needs. Efforts at district-wide curriculum design, improvement, or implementation have been initiated over the past few years, such as the primary literacy endeavor. 	<p>Expand the criteria/components of the current decision support system design to include a web-based curriculum development and learning management system using relational database architecture to link curricular, instructional resource, assessment, and student information.</p>	<p>Integrate into the proposed decision support system a curriculum development and learning management system that will:</p> <ul style="list-style-type: none"> - be easily accessible to teachers and administrators at the classroom, small learning community, cluster, and district levels - use a relational database architecture - link curricular information (e.g., content standards, performance standards, etc.) with learning resources, student assessment, and student information - monitor the alignment of instructional resources to district standards - enable educators to record and share the alignment of content standards, benchmarks, performance standards, frameworks, and cross discipline competencies <p>Develop functional and bid specifications for the curriculum development/learning management system in accordance with identified district needs.</p> <p>Procure, implement, and test the curriculum development/learning management system in a pilot setting.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Curriculum Development/Learning Management (continued)		
<p>(Continued from the previous page.)</p> <ul style="list-style-type: none"> • There is a pervasive concern that a comprehensive learning management system with a robust assessment component would be used inappropriately to judge teacher performance. 	<p>(See Recommendations on previous page.)</p>	<p>(Continued from the previous page.)</p> <p>Implement the curriculum development/ learning management system across the district.</p> <p>Clearly define for administrators and educators the intent and purpose of the system for improving instruction.</p>

Curriculum and Learning Standards		
Key Findings	Recommendations	Implementation Approaches
Curriculum Development/Learning Management (continued)		
<ul style="list-style-type: none"> • Strong research-based instructional models resulting from curriculum reform initiatives (such as LASI for K-12 math/science via NSF grant) have had much impact on improving teaching and learning. • The Los Angeles System Initiative (LASI) via NSF addressed embedding technology within various subject areas, but did not include equipment acquisition. • The Los Angeles Education Reform Now (LEARN) initiative targets improvement through facilitated site-based management and accordingly impacts all curriculum areas. • Eisenhower Grant funds have been used to support district-wide professional development in math, science, and technology. 	<p>Continue to channel federal, state, and local grants and entitlements into technology resources and initiatives which address the superintendent's seven priority areas. (Please see Plan Implementation Issues ~ District Planning for more information on grants procurement.)</p>	<p>Develop and disseminate a menu of all federal, state, and local grants and entitlements for technology resources and initiatives that are available at the school, cluster, and district level.</p> <p>Encourage school staff to tap all available funding sources in support of technology initiatives such as:</p> <ul style="list-style-type: none"> - TetraPak/Edmark promotion - ETCEP recycling program - soup label/box top offers <p>Identify strategies for finding and applying for "special audience" grants.</p> <ul style="list-style-type: none"> - identify individuals/agencies with the skills to develop competitive grant applications - conduct workshops/seminars on successful grant development - regularly check web sites for grant opportunities <p>Locate standard grant elements on the district web site for easy access during the grant development process including:</p> <ul style="list-style-type: none"> - superintendent's seven priority areas - technology mission, vision, and goal statements - strategic/improvement plans - needs assessment data

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Staff Technology Competencies		
<ul style="list-style-type: none"> • The need has been identified at the district level to determine teacher technology competencies aligned with state technology standards and modeled on currently available ISTE guidelines. • The state has identified teacher technology competencies at four levels: personal proficiencies, instructional proficiencies, mentor proficiencies, and leadership proficiencies. • Technology competencies for school and cluster administrators and support staff, and staff of the Division of Instruction have not yet been identified. • The <i>Information Technology Plan</i> noted that there was an inconsistent level of technology proficiencies across all LAUSD personnel and recommended that proficiencies be identified. 	<p>Identify technology competencies and levels of performance for teachers, and other staff who support curriculum, instruction, and student learning.</p>	<p>Relate the technology competencies to the primary functions of the different staff groups engaged in instruction. Linking the required technology competencies to essential functions helps provide a clear rationale and incentive for technology competency development. The connection to functions also helps individuals and groups to prioritize staff development needs.</p> <p>Provide flexible guidelines based on the level of access individuals/groups have to various technology resources. For example, development of Internet research skills can only be expected of staff who have access to the Internet in their daily work environment.</p>

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Staff Technology Competencies (continued)		
<ul style="list-style-type: none"> Some school, cluster, and district leaders model appropriate use of technology to support their day-to-day functions, but many do not. Not all school, cluster, division, and branch leaders can clearly articulate how technology needs to be used to address high priority needs and critical mandates, i.e., assessment documentation; standards-based curriculum development, delivery, and management; literacy; massive staff development needs; special education mandates, etc.. Most building-level administrators have little experience assessing the success of curriculum/technology integration efforts of teaching staff. 	<p>Identify technology competencies and levels of performance for principals that address their leadership and supervisory functions, as well as, those related to administrative and management responsibilities.</p>	<p>Provide structured opportunities for principals to develop the following leadership-related technology competencies, in addition to those related to personal productivity:</p> <ul style="list-style-type: none"> - an understanding of, and ability to build and communicate a shared vision of technology integration as necessary to systemic, strategic improvement and essential to effectively addressing the superintendent’s priorities - supervisory skill in monitoring and evaluating individual teacher/staff effectiveness in integrating technology into major role-related functions
Staff Development Planning and Programs		
<ul style="list-style-type: none"> The Professional Development Branch is initiating strategic planning to help coordinate all the various development activities. The current intention of branch leadership is to identify core professional competencies and develop a multi-year curriculum. A survey has been conducted to assess the impact of staff development programs and of access to computers in schools. There is not consistent, coordinated planning for technology-related staff development at the district-, branch cluster-, school-, or individual-level. 	<p>Identify and implement a district -level comprehensive professional development planning model to enable more effective coordination and collaboration among various branches and groups providing training, and more efficient use of district, community, and vendor resources.</p>	<p>Determine the scope of professional development services that will be provided at the district-, cluster-, and school-level.</p> <p>Encourage the use of a planning model and process that promotes the alignment of professional development with the superintendent’s priorities, district mandates, and cluster/school improvement goals.</p> <p>Plan for and provide professional development services that reflect adult learning theory.</p>

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Staff Development Planning and Programs (continued)		
<ul style="list-style-type: none"> • A centralized train-the-trainer model is often used, but the most appropriate staff are not selected to participate in the programs. • The intended sharing of the training and/or dissemination of integration practices does not always happen back at the cluster or school. 	<p>(See Recommendations on previous page.)</p>	<p>(Implementation Approaches continued from previous page.)</p> <p>Ensure that the professional development planning model and process addresses the need to use technology as a tool to:</p> <ul style="list-style-type: none"> - assess competency-based development needs/priorities - do market research and marketing of professional development opportunities - research best practices and effective models of professional development - engage in ongoing collaboration, communication, support, and technical assistance - increase the number and variety of development delivery options including distance learning activities - evaluate the effectiveness of development activities, i.e., the impact on practice, using multiple assessment strategies - schedule, track, analyze, and manage professional development activities and data -

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Staff Development Planning and Programs (continued)		
<ul style="list-style-type: none"> • Some clusters provide technology-related staff development, but other provide none. • Some schools provide on-site applications training. • Technology facilitators at some schools demonstrate the use of instructional software, and suggest strategies to integrate technology into teaching and learning. • There are examples across the district of unstructured development activities, such as coaching and modeling being provided by peers and/or designated or informal student technology aides. • The Digital High School and upcoming Digital Middle School programs are curriculum reform-driven. Technology is considered a tool to accomplish the reforms. In addition to the original \$30/student the state provided for infrastructure to participating schools, it is anticipated in the second round that \$45/student will be available for staff development. 	<p>Set district-wide expectations for cluster- and school-based technology training to develop technology competencies.</p>	<p>Identify successful models and practices for both cluster-provided, and school-based technology staff development, such as: collegial workshops, tutorials, peer modeling, coaching/ mentoring, the development of student technology leaders/aides, and distance learning options.</p> <p>Develop and implement strategies for on-line sharing of successful cluster and school technology-related staff development models and practices within, and among, clusters.</p>

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Staff Development Planning and Programs (continued)		
<ul style="list-style-type: none"> • There are five (5) ITD regional training centers, each with a Mac and PC lab, that provide services to district staff. In addition to district provided free training, schools can use the site, paying only for instructors. Satellite training centers are also located at selected school sites. • There is a cadre of AT Assessors (assistive/adaptive technology resource staff) available through the clusters to help teachers use technology to address special learning needs. • There is some reliance on external providers, such as vendors, private businesses, and the LA County Consortia. AT & T worked with LA County to organize regional teacher training centers. • The LA County Office of Education started “Technology for Learning” and trained hundreds of staff in LAUSD, at least two per cluster. • To a large extent district-provided staff development has been linked to grant programs. For example, staff development has been funded through the two Literacy Challenge Grants, Title II, and National Science Foundation programs. However, staff development providers rarely incorporate how technology can be used as a tool to support the programs’ goals. 	<p>Begin the transition to competency-based human resource development by setting the expectation that descriptions for technology-related staff development activities will identify the targeted technology competency and performance level.</p>	<p>Enhance the effective use of development resources and help staff make the most appropriate selection of activities to meet their personal development needs and those of their staff by using competency-based descriptions.</p> <p>Use the course descriptions to clearly communicate any prerequisite competencies/ experiences/skills, and the minimum system and hardware/software requirements to ensure that participants will be able to use their new learnings upon return to their school/work site.</p> <p>Set the expectation that staff development planners and delivers will routinely use available technology to support all major mandates/ initiatives/programs. For example:</p> <ul style="list-style-type: none"> - train teacher in how to use technology to provide and document multiple student assessments to help track progress for promotion and gains in literacy - include as part of the basic curriculum in the classroom management module for beginning teachers how to use and manage classroom technology resources - develop technology vision and technology competencies in new school leaders as part of the New Administrators’ Academies

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Staff Development Planning and Programs (continued)		
<p>(Findings continued from previous page.)</p> <ul style="list-style-type: none"> • Well-focused courses (30 hrs.) on aspects of science and math curriculum/ technology integration have been offered through Eisenhower Grant funding. • Through special grant programs, three days of training have been provided to numerous parents to become “advocates for technology”. • Descriptions of training and development opportunities do not use competency and performance-level language to enable staff to select programs that best match their needs. Prerequisites are rarely identified. • Professional development providers (both in-district and county) often assume some basic level of staff proficiency that doesn’t exist. • A baseline capacity of teacher technology proficiency to enable them to effectively use on-line courseware cannot be assumed. • The <i>Information Technology Plan</i> noted that 5,000 employees attend one or more of the various courses offered by the Information Technology Division. 	<p>(See Recommendations on previous page.)</p>	<p>(Implementation Approaches continued from previous page.)</p> <ul style="list-style-type: none"> - continually evaluate and implement non-traditional, technology-assisted professional development delivery models to: expand the types of training and ongoing support opportunities for all staff, to help the district keep pace with its ever-expanding development needs, and to increase the ROI (return on investment) on professional development

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Staff Development Planning and Programs (continued)		
<ul style="list-style-type: none"> • There is strong interest in using technology to deliver more effective staff development options. • District leadership has expressed two important directions for staff development delivery: (a) use of the Internet for on-line courses and (b) interactive video. • LAUSD has internal capacity to develop on-line professional development programs. • It is estimated that 25,000 - 30,000 teachers will need staff development on improving student literacy skills. There is interest in using technology-supported delivery systems to address this enormous and urgent need. • The <i>Information Technology Plan</i> recommended weighing the costs and benefits of available training delivery methods: classroom instruction, self-study, or web-based. It also noted that the greatest efficiencies can be realized by coordinated delivery of baseline skill-set knowledge training since these courses may be identical for both the certified and classified staff. 	<p>Use technology-supported delivery systems to enable staff to access a greater variety technology-related training more conveniently.</p>	<p>Research currently available on-line courses and development resources and provide cluster and school personnel with printed and/or on-line information on sources that could meet their technology competency development needs. Develop and implement process for updating information on on-line courses.</p> <p>At the district-level, identify higher education, community, vendor, and corporate partners for developing and implementing distance learning delivery models that focus on professional development needs related to the superintendent's priorities.</p> <p>Design and pilot competency-based, distance learning delivery models such as: on-line courses, on-line development modules and resources (more specific with limited scope), project-based learning with on-line coaching, interactive video, teleconferencing, satellite broadcasts, on-line discussion groups, asynchronistic learning, etc..</p>

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Staff Development Planning and Programs (continued)		
<ul style="list-style-type: none"> • Staff do not currently develop multi-year individual development plans aligned with district/school/program/department improvement goals and their own professional growth needs. • The Professional Development Branch intends to identify core professional competencies and develop a multi-year curriculum. • As part of a grant program, some teachers were provided with laptops. In order to participate and receive this equipment, participants were required to participate in substantial technology training related to laptop use. • There is not a formal incentive program to encourage wide-spread participation in technology competency development. 	<p>Develop and implement a competency-based Individual Professional Development Plan (ISPP) process and template to enable strategic and collaborative planning between instructional staff and their supervisors.</p>	<p>Use the ISPP to assist staff in identifying technology-related and other competency development needs and linking these with appropriate training and development activities and delivery models. Use the template to help staff and supervisors focus on individual development needs that align with district, cluster, and/or school improvement priorities and strategic goals.</p> <p>Encourage ISPP template use in collaborative determination of the most appropriate assessment strategies to enable the individual to demonstrate progress and growth in the targeted competency areas.</p> <p>Develop a comprehensive incentive program to encourage and reward competency development.</p> <p>Make the ISPP template electronic and searchable so that data from individual development plans can be used to:</p> <ul style="list-style-type: none"> - monitor “grassroots” professional development needs and plan staff development programs at district-, cluster-, and school-level - guide the design of high-leverage, competency- and performance level-based development activities - collect and share sample assessment strategies for various types of competency-based professional development activities

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Organizational Development and Human Resource Management		
<ul style="list-style-type: none"> • The Professional Development Branch has been reorganized within the past two years and deals largely with content area and educational mandates. • The Professional Development Branch intends to include representatives from Instructional Technology in their strategic planning process. • There is a lack of coordination between the Professional Development and Instructional Technology Branches and the Information Technology Division. 	<p>Involve the Professional Development and Instructional Technology Branches, and the Information Technology Division in collaborative organizational development activities to improve coordination and communication.</p>	<p>Provide joint organizational development worksessions with leaders and representatives of the Professional Development and Instructional Technology Branches, and Information Technology Division to:</p> <ul style="list-style-type: none"> - clarify major functions, roles and relationships - identify opportunities for mutually beneficial collaborations on providing technology-related staff development, and using technology to assess development needs; promote opportunities; develop and deliver programs; provide ongoing communication/support/technical assistance; manage development data; and monitor and evaluate staff development activities - determine critical interdependencies - develop action plans for improving staff development services provided by the two instructional branches.

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Organizational Development and Human Resource Management (continued)		
<ul style="list-style-type: none"> • There are not clearly defined expectations for district, division, branch, cluster, and school technology support, including support services for technology integration into teaching and learning. 	<p>Engage in organizational development to clarify functions, roles and responsibilities for technology support services related to: technology integration into curriculum/instruction; technology integration into administrative/ management functions; and planning, acquisition, maintenance, upgrades of technology resources and systems.</p>	<p>Involve representatives from the various units involved in providing technology support services in organizational development worksessions. Starting at the division and branch levels first, then working to the cluster and school levels, the sessions need to take a “customer service” approach to addressing and reaching consensus on:</p> <ul style="list-style-type: none"> - spans of authority, service charters, and missions of different branches or groups - critical interdependencies among the various groups - communication and collaboration protocols - reporting relationships and organizational structures - standards of service or quality assurance criteria.

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Organizational Development and Human Resource Management (continued)		
<ul style="list-style-type: none"> • There is no mechanism for managing competency-based human resource data aligned to student learning standards, district strategic goals, and school improvement priorities. • The <i>Information Technology Plan</i> recommended district-wide coordination of staff development which would include the tracking of baseline technology proficiencies. • The <i>Information Technology Plan</i> noted a need to market staff development activities since many staff are not aware of the technology-related staff development opportunities available within the district or from external providers. 	<p>Develop as part of a district-wide decision-support system, the capacity to store, manage, and query personnel and competency-based human resource data linked to standards, strategic goals, and improvement priorities.</p>	<p>Ensure that the application accommodates competency-based human resource information, as well as, traditional personnel data. The HR modules should include competency-based components such as: staff competencies and performance levels, job descriptions, recruitment/selection criteria, staff development programs/activities, supervision/evaluation templates and data, individual staff development plans, etc..</p>

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Technology Support Staffing		
<ul style="list-style-type: none"> • The district has established the cluster-level ITAF position (Information Technology Application Facilitator). Cluster administrators selected ITAFs. • The ITAFs were drawn from various roles. Some are teachers. Many are technology integration specialists. The functions and responsibilities of this new position have recently been clarified. • It has been emphasized by district leadership that ITAFs need to build capacity within clusters, not provide it. It is felt that they must formulate resources and identify key staff, be managers, not doers. • Currently, technology advisory positions exist in cluster offices, exclusive of the newly established ITAF positions. The interdependencies between the new ITAFs and technology advisors have not yet been defined. 	<p>Continue to clarify the role of the new ITAF position and define their relationship to the cluster, Instructional Technology Branch, and schools they serve.</p>	<p>Document the outcomes of ITAF worksessions defining roles and relationships. Share results throughout the district so all constituencies have a clearer understanding of the various technology support services available, how they are accessed, and expectations for service quality.</p> <p>Establish a protocol for resolving conflicts and addressing issues relative to the ongoing implementation of the ITAF program.</p>

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Technology Support Staffing (continued)		
<ul style="list-style-type: none"> • Many schools have a person who serves as a technology coordinator or liaison but the functions and responsibilities are not clearly defined and vary greatly. At the elementary school site level, there is typically one person, often part-time, that assists with technology. This may be a Title I staff member, a paid aide, an Instructional Support Service Assistant (ISSA), parent volunteer, or teacher “magnet”. • At the high school level, many sites have a teacher or former teacher designated as a technology support staff person. • <i>An Information Technology Plan Stage</i> One goal was to have at least one person in each school or center trained to the level of being able to train others in: network administration and technical support, the use of all classroom applications, and each major district application (e.g., SIS, IFS, etc.). • School library/media staff and aides have exceptional training opportunities. However, with some exceptions, this training does not focus on the use of learning technologies and the training is not mandatory. 	<p>Establish guidelines for school-based technology support services.</p>	<p>Establish guidelines based on variable criteria such as: school size, staff and student population, type of technology-supported learning environments, anticipated level of access to technology resources, etc..</p> <p>Provide multiple models for school-based technology within “acceptable parameters of variation” to enable schools to exercise flexibility in meeting their growing technology support needs.</p> <p>Provide sample competency-based job descriptions for school-based technology support staff to assist school leadership in building a technology team. Often schools need to repurpose and grow the technology skills for their support staff. Competency-based job descriptions that include performance levels, can help guide the ongoing training and development process.</p>

Human Resource Management and Development		
Key Findings	Recommendations	Implementation Approaches
Technology Support Staffing (continued)		
<ul style="list-style-type: none"> • The role of the school librarian is defined and requires state certification. • A library/media aide must pass twenty-five (25) competencies for certification. • Approximately four-hundred elementary schools have no trained or certified library/media staffing. Most have a three-hour per-day aide. • Decisions regarding library/media staff positions are site-based. • Recruiting technology support staff is becoming more difficult as demand exceeds supply. Industry draws talent and developed technology expertise away from the school system. 	(See Recommendations on previous page.)	(See Implementation Approaches on previous page.)

Technology Enhanced Learning Environments		
Key Findings	Recommendations	Implementation Approaches
Equity of Technology Resources		
<ul style="list-style-type: none"> • Equity is understood by many LAUSD staff as being more than an equipment issue. Access to equipment and to instruction that utilizes the equipment effectively are the critical variables. • There are significant inequities of student access to technology and to instructors trained in curriculum/technology integration among schools and clusters in LAUSD. • It is perceived that some schools with adequate quantities of computers, peripherals, and printers are not using these to their maximum potential. • The distribution of technology funding resources across the district is uneven. Entitlement grant funds and other resources for technology are available to some schools but not others. • A survey instrument is distributed annually to each school to gather district-wide information on the quantity and functionality of existing technology resources. Not every school responds in a timely fashion, but much useful information is obtained. 	<p>Develop a procurement and allocation program and schedule, within the parameters of anticipated resources, for instructional computers and peripherals that addresses equity of technology access throughout the district.</p>	<p>Define and embrace approved “critical mass” configurations for classrooms and learning environments at all levels. (Critical mass is defined as that level of technology infusion sufficient for measurable gains in student performance.)</p> <p>Analyze school and cluster progress toward critical mass utilizing an inventory database populated by an on-line, school-based survey template.</p> <p>Place the district-wide inventory database on-line with electronic search capabilities by each school office.</p> <p>Create cluster- and district-level reports from both the inventory database and procurement system that depict the distribution of quality resources, provide schools and clusters with comparative data, and flag inequities.</p> <p>Involve principals, cluster leadership, and ITAFs in the design of useful reports.</p> <p>Assign the task of auditing and monitoring equitable access to technology resources at the cluster level.</p>

Technology Enhanced Learning Environments		
Key Findings	Recommendations	Implementation Approaches
Equity of Technology Resources (continued)		
<ul style="list-style-type: none"> • Efforts in providing teacher training have included numerous low/no-cost options located in various highly accessible centers throughout the district. • Individual schools have purchasing discretion within their operating budgets. Schools that are advanced technologically target more funds for technology purchases and teacher training and are proactive in writing grants. • Principals play a pivotal role in advancing the acquisition of technology resources within their buildings. 	<p>(See Recommendations on previous page.)</p>	<p>(See Implementation Approaches on previous page.)</p>
<ul style="list-style-type: none"> • Home access to technology resources is a long-term district priority. • No efforts have been made to provide student access to computing equipment outside of school buildings. 	<p>Establish electronic access to appropriate informational and learning resources at school from home and community centers.</p>	<p>Determine appropriate instructional resources to be made available for after-hours student access and for community access.</p> <p>Initially prioritize resources to address improved literacy skills.</p> <p>Develop web-based strategies for community access and dissemination.</p> <p>Communicate the need for expanded home/school communication linkages to families and community centers and the availability of resources.</p> <p>Maintain and improve web sites and monitor access.</p>

Technology Enhanced Learning Environments

Key Findings	Recommendations	Implementation Approaches
Learning Environments		
<ul style="list-style-type: none"> • The class-size reduction initiative has caused a classroom shortage in many elementary facilities, resulting in the dismantling of computer labs. In most cases, these resources have been distributed among classrooms. • Although in a district of this size all configurations are likely to be found, there appears to be a trend of placing computers in lab environments at the secondary level and computers within individual classrooms at the elementary level. • In general, given sufficient quantities of resources, staff of the Instructional Technology Branch are more supportive of computers being located in classrooms rather than in labs. • Pilot programs exist within select elementary schools where classrooms have four to five modern computers each. 	<p>Continue to place computers in classrooms according to guidelines established in the district, school, and cluster level plans, purchasing new computers to the extent possible and maintaining labs only when appropriate to learning needs and teaching styles of the grade level/ discipline.</p>	<p>Develop master procurement/ allocation plan for achieving the goal of one computer for every five students (State of California recommended guidelines), the equipment to be located predominantly in classrooms and the library/media center, while simultaneously upgrading or replacing equipment that is no longer useful.</p> <p>Incorporate design templates presented in the <i>Technology Enriched Learning Environments</i> document that support the variety of learning/teaching needs at the elementary, middle, and high schools, and for school libraries.</p> <p>Align and maintain computer lab environments with the instructional needs of the school.</p> <p>Reconfigure layouts of computer labs, as needed, to create improved cooperative learning environments.</p>

Technology Enhanced Learning Environments		
Key Findings	Recommendations	Implementation Approaches
Learning Environments (continued)		
<ul style="list-style-type: none"> • There have been several initiatives that provided computing equipment to teachers outside of school buildings. • The Mathematics and Science Engineering Enhancement Model (MSEEM) combined National Guard and Eisenhower funding to provide two math/science teachers per middle school with laptops equipped with modems and also some training. • The LEARN initiative, in support of site-based management, provided a laptop and training to a teacher and an administrator in each school. • The Technology Literacy Challenge Grant (TLCG), now in its 3rd year, provided laptops to teachers in 45 middle schools. This program will be extended into the elementary schools in the upcoming year. The TLCG has not yet been evaluated in terms of benefits or learning outcomes. 	<p>Expand availability of portable computers to as many teachers as possible.</p>	<p>Communicate recommended choices for portable computers and built-in software. Negotiate favorable pricing from vendors.</p> <p>Research interest in and feasibility of incentive approaches for teachers such as:</p> <ul style="list-style-type: none"> - payroll deduction for purchase plan - shared cost between teachers and LAUSD - teacher loan programs at school-sites - lease/purchase options for teachers - free computer to teachers who acquire all staff technology competencies identified for their position. <p>Adopt one or more of the above options.</p>
<ul style="list-style-type: none"> • ITAFs mentioned the wide-spread use of graphing calculators within middle and high schools, but noted limited use of other low-cost desktop computing devices, such as GeoBook, AlphaSmart, Laser PC5, and DreamWriter products. 	<p>Communicate information to principals and teachers regarding low-cost desktop computing devices and their potential application to learning standards.</p>	<p>Coordinate vendor demonstrations of this equipment at convenient sites throughout the district. (See Section <i>Curriculum and Learning Standards</i>, recommendation 3, page 5).</p> <p>Include information regarding desktop computing devices in <i>Technology Enhanced Learning Environments</i> document and make available to all school staff via web-site.</p>

Technology Enhanced Learning Environments

Key Findings	Recommendations	Implementation Approaches
Libraries		
<ul style="list-style-type: none"> • In general, school libraries have not been involved significantly in past technology planning efforts and are often ignored with respect to instructional computing resources. • The vision of libraries serving as information resource centers for schools and developing “information literacy” among students and staff is prevalent among secondary school librarians. • Elementary school libraries are neither funded nor staffed to serve as information resource centers for the schools. Some elementary schools have no library. In some others, numerous educational and building management activities in elementary schools are dependent upon the library space for their operation. • Decisions regarding the equipping and staffing of school libraries are site-based. • A model school library has been established. The model includes eight computers (one for the specialist, one for circulation, and six for students). 	<p>Implement model school libraries throughout the district, transforming libraries over time to serve as information resource centers for students and staff.</p>	<p>Emphasize to school leadership throughout the district the important role school libraries serve as information resource centers.</p> <p>Convene a task force of library/media staff and administration to periodically review and maintain standards and models for school libraries that align with the districts’ learning standards and include technology.</p> <p>Utilize model configurations of technology-enriched learning environments for school libraries.</p> <p>In each school library, install a server and a host of computers along with a wide selection of software for distribution to classrooms.</p> <p>As school buildings become networked, ensure that the school library receives priority for being connected to all classrooms.</p> <p>Ensure that district-wide professional development plans and programs target school librarians in order to prepare them to:</p> <ul style="list-style-type: none"> - manage technology rich information resources - train teachers and students to use technology resources appropriately for research

Technology Enhanced Learning Environments		
Key Findings	Recommendations	Implementation Approaches
Libraries (continued)		
<ul style="list-style-type: none"> • Efforts for automating secondary school libraries have been ongoing for over a decade. Eighty percent (80%) of secondary schools have been automated and are Y2K compliant. • There is no single library management system implemented consistently across the district. Alexandria, Xerox, and Electra have been popular selections by many schools. Current library systems for the most part function independently. • No specifications or guidelines exist for schools investigating the purchase of library management applications. 	<p>Complete automation efforts in all school libraries, migrating ultimately to the establishment of a comprehensive media management system that:</p> <ul style="list-style-type: none"> - operates over LAUSDnet - includes the functions of acquisitions control, cataloging, circulation, on-line catalog - provides access to off-site libraries and information services. 	<p>Develop guidelines and sample specifications for schools investigating library management applications.</p> <p>Develop and implement a plan and timetable for automation of all school libraries.</p> <p>Connect as many schools as possible to L.A.'s public library system and to accessible university library systems.</p> <p>Assess existing libraries' hardware, software, Internet access, structural, electrical, and training needs related to incorporating a comprehensive media management system.</p> <p>Develop a district-wide plan and timetable for establishing a comprehensive media management system.</p>
<ul style="list-style-type: none"> • The CD-ROM, "Focus on Books" is a unique and valuable resource on student literature. Seven-thousand (7,000) new books have been processed and referenced for the CD-ROM project. • The Educational Instructional Materials (EIM program) is a joint project with XEROX Corporation that provides an on-line library. • The Digital Library (14 schools) includes a particular computer, used in math and language arts only, over the Internet to parents. Site license is \$3,000 per year. 	<p>Expand successful models and practices regarding library-based resources.</p>	<p>Assess success and replicability of existing models, practices, and limited initiatives related to library-based resources.</p> <p>Design resources to be Web-enabled and accessible by all school sites and, as appropriate, from homes and community centers.</p>

Technology Enhanced Learning Environments		
Key Findings	Recommendations	Implementation Approaches
Facilities		
<ul style="list-style-type: none"> • A comprehensive bond (BB) has been passed for the upgrade of school facilities (approx. 2.5 billion) addressing network infrastructure (voice, video, and data), electrical supply, asbestos, security, intercom/alarm, and HVAC issues at all 668 schools. • There are concerns that BB technical specifications/guidelines may not keep pace with new and emerging technologies as implementation continues over the next few years. The need to continuously update the Proposition BB Oversight Committee was mentioned as an example of this concern. • At this time, most older schools are in great need of enhancement and yet other newer facilities are in good condition. • The physical space does not exist in many schools to effectively accommodate special education needs. This could potentially limit the availability of, and access to, resources in some buildings. 	<p>Ensure that guidelines for school facilities upgrades are current and will accommodate appropriate instructional technology throughout school buildings and take into consideration differences in teaching and learning needs among elementary, middle, and high school students and for special programs.</p>	<p>Ensure that guidelines for school construction will:</p> <ul style="list-style-type: none"> - provide adequate power and network outlets in every classroom - accommodate specific classroom and program learning environment needs specific to each building - accommodate the different teaching and learning needs between the elementary, middle, and high school students. <p>Establish a standards setting committee (See Technology Standards, Recommendation 1, p. 13) that will regularly inform and update the BB Task Force on issues of technology standards and appropriate school configurations.</p> <p>Help schools determine the appropriate placement of network components in order to provide the best environment at the least cost.</p>

Technology Enhanced Learning Environments

Key Findings	Recommendations	Implementation Approaches
Facilities (continued)		
<ul style="list-style-type: none"> • Included in the bond is all school wiring, CAT-5 with fiber optic backbone. Servers are not included. Switches are included. This bond is approximately in its third year of seven. • Decisions regarding desktop hardware for classrooms have not yet been finalized. • Schools within LAUSD continue to embrace both Windows and Macintosh platforms. • Many schools are still using older equipment such as Apple IIEs, LCIIIs, and LCIIIs, few of which have CD-ROM drives. • The "BB" initiative requires six drops per classroom (5 computer, 1 printer). There is currently no requirement for drops in non-instructional school spaces, such as guidance and health offices. 	<p>(See Recommendations on previous page.)</p>	<p>Consider the establishment of cluster level technology support teams that will conduct an on-site visit to each school and review its technology requirements in advance of scheduled facilities/technology upgrade.</p> <p>Provide web-based guidelines and necessary funds to enable schools to protect their networking components environmentally.</p>

Technology Enhanced Learning Environments		
Key Findings	Recommendations	Implementation Approaches
Facilities (continued)		
<ul style="list-style-type: none"> • LAUSDnet provides an extensive WAN for the district, with over 70,000 users. • Band width providing access to the district Internet service varies significantly among schools and clusters. • A separate network, distinct from LAUSDnet, may be needed to deliver interactive video district-wide. • Some clusters have taken full advantage of Universal Service Fund (E-rate) discounts to connect schools to the Internet with robust band width. Many schools still rely upon dial-up modem access to connect to the WWW. 	<p>Contract for an external audit of LAUSDnet in light of anticipated needs for delivery of efficient Internet access for all schools and interactive video district-wide.</p>	<p>Secure an audit report, with action plan and associated budget, that identifies requirements and procedures to delivery efficient Internet access and interactive video either through LAUSDnet or a separate network.</p> <p>Review audit report recommendations and develop a strategy to ensure capacity for delivery of interactive video district-wide.</p>
<ul style="list-style-type: none"> • T-1 lines are being brought to schools some of which have no LAN in place to tie in. Coordination of installation and availability of end-user equipment has been erratic. Schedules and roll-out information have not been effectively communicated to schools. • Access to the Internet for research, participation in on-line projects, and communications with "field experts" is limited to the school library or computer lab in many schools. 	<p>Continue installation of wiring and equipment for voice, video, and data LANs in all schools, with drops in the library, computer lab, administrative offices, and classrooms.</p>	<p>Prepare a schedule for the installation of wiring and equipment for voice, video, data LANs for all schools that do not have this that coordinates effectively with the availability of T-1 lines that connect to the district WAN.</p> <p>Establish teams that conduct site-visits to schools in advance of LAN installation to work with building leadership in identifying appropriate location for networking equipment and drops into classrooms, libraries, and other areas.</p>

Technology Enhanced Learning Environments		
Key Findings	Recommendations	Implementation Approaches
Facilities (continued)		
<ul style="list-style-type: none"> • With the development of an <i>Information Technology Plan</i>, LAUSD addressed numerous facilities variables which will be considered during planning for instructional technologies. • Security of technology equipment is considered a major problem for many schools. • LAUSD self-insures technology equipment against theft and vandalism. Stolen or damaged equipment often cannot be replaced within a budget cycle. 	<p>Ensure that security of technology equipment is addressed in guidelines for new construction and in BB funded renovations. In existing buildings, find ways to increase the security of technology in classrooms and labs, especially after school hours.</p>	<p>Authorize and allocate funding to allow schools to upgrade their security systems to incorporate protection for computers, peripherals, and other technologies wherever possible.</p> <p>Improve the security of technology by:</p> <ul style="list-style-type: none"> - installing theft deterrent devices on computers in classrooms - expanding intrusion alarm systems with more zones and adding dial-up capabilities to security staff/central control - ensure that video surveillance covers all areas in which newly acquired technology is concentrated.

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Technology Standards		
<ul style="list-style-type: none"> • There is much support at all levels for the establishment of technology standards, but standards that take into account the specific educational requirements of users. • If LAUSD were to establish comprehensive mandatory district-wide technology standards, it would be, under most circumstances, required to provide funding to support them. • There has not been one organizational structure that effectively deals with technology standards. Separate organizations have been independently involved to date. Accordingly, a variety of systems and applications have been acquired and adopted throughout LAUSD. • The establishment of standards in some cases has been detrimental to ongoing successful practices. • Desktop standards are provided to schools regarding models and approved vendors. However, there has been no collaboration between ITD and the Instructional Technology Branch in the development and maintenance of standards. 	<p>Establish an integrated standard-setting committee of representative stakeholders and adopt a process for setting and reviewing standards for all major technology components, including networks, peripherals, and system software.</p>	<p>Create a technology standards development process that:</p> <ul style="list-style-type: none"> - includes activities that communicate to all stakeholders the need and benefits for standardization within parameters - allows for participation through representation by all user groups - involves vendor representatives - addresses periodic revisions that are necessitated because of technology market advances <p>Define standards for network and workstation hardware (PC and Mac) , software, and upgrades that address both technical capability and minimum capacity of equipment at classroom and building levels to help ensure equity of access across schools and to facilitate training and support.</p> <p>Design a policy that allows waivers to standards in defined situations that warrant variation, such as specific teaching situations, ongoing successful practices, support of new technology pilots.</p> <p>Assign the function of oversight of technology standards to a specific person or role within the organization.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Technology Standards (continued)		
<ul style="list-style-type: none"> ITD has a set of technology standards regarding school networks. Updated standards for communications and network architecture, network components, switch systems, hardware and operating systems, and desktop hardware and software were identified in the recent Information Technology Plan . The <i>Information Technology Plan</i> provides standards for PC compatible desktop hardware and software as well as specific considerations for classroom workstations relative to their instructional functionality. There is no effective universal mechanism for communication of technology standards that are proposed or exist. 	<p>Define and communicate minimum capabilities for workstations that are aligned with teaching and curriculum strategies identifies in district and state learning standards for students.</p>	<p>Align instructional technology with teaching/learning environments at various grade levels and in various disciplines.</p> <p>Maintain real-time updates to all standards and have these available on-line through LAUSDnet.</p> <p>Have the web-site organized so that standards are easily referenced by all users. Separate instructional from administrative, as needed.</p> <p>Allow for comments to be logged regarding the site, any standard, and its applicability to specific situations. Utilize the comments to continually improve the site and to consider as input for upgrading of standards.</p>
<ul style="list-style-type: none"> There is no mechanism in place for encouraging compliance to standards that may exist nor any effective means of enforcing the standards. 	<p>Support adherence to standards by providing guidance and on-site access to resources for school staff on the purchase of hardware and software suitable to their teaching needs and students' learning needs.</p>	<p>Define a benchmarking process that allows vendors to qualify specific products against LAUSD standards, where applicable.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Equity		
<ul style="list-style-type: none"> • There is concern from many stakeholders about the inequity of access to technology resources within and among schools. • Obstacles to equitable access within and among schools have been identified as (a) lack of availability or access to quality equipment, (b) variance in availability of funding sources, (c) priorities of site leadership, and (d) lack of technology-related staff development. • Some programs and schools populations have funding opportunities that are not available to other schools. 	<p>Establish district-wide policies and guidelines regarding critical mass of technology resources at the school and classroom levels to help ensure equity of access by all students within and among schools.</p>	<p>To ensure a systems approach to defining critical mass, develop a school-level rubric for assessing inter-related elements of technology integration: hardware, software, network capacity, and facilities; technology support staffing; degree of curriculum integration; impact of technology integration related staff development.</p> <p>Have schools self-assess their status regarding technology critical mass and access through use of the rubric, and communicate results to cluster and district levels.</p> <p>Develop policies for dealing with obsolete equipment.</p>
Policies		
<ul style="list-style-type: none"> • There are no well defined methodologies or organizational structures in place for establishing and enforcing technology-related policies and procedures throughout the district. • A district-wide Technology Steering Committee currently deals with these and related issues. 	<p>Empower the Technology Steering Committee or a subcommittee of representative stakeholders to establish a process for reviewing and setting technology related policies and procedures for the district.</p>	<p>Ensure that the organizational body that deals with technology related policies and procedures has, as the foundation of its decisions, the district's core mission - the instruction of students.</p> <p>Ensure that policies and procedures are continually updated and effectively communicated to all staff.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Policies (continued)		
<ul style="list-style-type: none"> Schools vary in their policies and procedures governing student access to computers in libraries, labs, classrooms during free periods, lunch, after school, and when school is not in session. Some schools encourage access and use; other schools have difficulty increasing access due to supervision or security issues. 	<p>Consider policies and procedures at the school level for increasing student access to computers in libraries, labs, and classrooms throughout the school day and after school hours.</p>	<p>Provide funding, at the district level, for increased opportunities for student access throughout the school day and beyond.</p> <p>Develop multiple strategies for monitoring, supervising, and securing computer use that supports and encourages maximization of student access.</p> <p>Include strategies that increase available technology and also monitoring and supervision of that technology (by volunteers, students, paid aides, etc.)</p> <p>Develop strategies for sharing and communication of current best practices for expansion of student access to technology resources.</p>
<ul style="list-style-type: none"> Clear criteria do not exist for what is core district policy, cluster-level policy, and what is site-based policy in regard to instructional technology. Some LAUSD educators feel that district-wide policy should ensure that every school has the equivalent of a full-time (FTE = 1.0) instructional support staff person on site to provide vision and to facilitate technology integration in support of learning standards. 	<p>In collaboration with the Instructional Technology Branch, cluster and school leadership, ITD should develop and provide, for district-wide review, a set of criteria that determine which technology policies and decisions will be made at the district level and by whom, and which policies and decisions are cluster- and site-based.</p>	<p>Develop consensus, adopt criteria, and communicate it effectively system-wide along with articulation of those policies that have already been established and implemented.</p> <p>Establish and clearly define the collaborative process for developing and implementing technology policies and decision-making parameters to meet emerging needs.</p> <p>Develop on-line procedures that alert decision makers to new and amended policies.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Policies (continued)		
<ul style="list-style-type: none"> • There are no clear policies or guidelines regarding installation, upgrading, maintenance, and phasing out of equipment. 	<p>Develop clear policies and procedural guidelines regarding installation of new instructional technology equipment, upgrading and maintenance of older equipment, and phasing out of obsolete equipment</p>	<p>Organize a joint working group of Instructional Technology Branch and ITD staff to develop policies and guidelines for installation, upgrading, and maintenance of instructional technology equipment.</p> <p>Post policies and guidelines on a web-site accessible to all school and cluster staff.</p> <p>Define obsolescence for instructional computers and peripherals.</p> <p>Identify and communicate potential effective uses of older equipment to schools.</p> <p>Develop “use or move” procedures by which older equipment is relocated to interested schools/classrooms for the identified purposes, or else discarded.</p> <p>Gather and dispose of unusable equipment in environmentally safe manner.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Policies (continued)		
<ul style="list-style-type: none"> • Policies or guidelines regarding acceptance of donated equipment have not been developed. 	<p>Develop policies, guidelines, and standards for acceptance of donated equipment.</p>	<p>Communicate the need for policies and/or guidelines regarding acceptance of donated equipment to all schools and clusters.</p> <p>A Technology Standards Committee (See Technology Standards, Recommendation 1, p. 13) should identify LAUSD standards for acceptable computer and peripheral donations to schools and develop an appropriate communication for potential donors. Upgrade the donation standards periodically.</p> <p>Proactively distribute the communication to all businesses, agencies, and institutions in the region who could be potential donors.</p> <p>Require all schools and clusters to adhere to the policy/ guidelines for donated equipment.</p>
<ul style="list-style-type: none"> • A model policy on acceptable/ ethical use of the Internet and WWW has been developed, sent to all schools, and is available on the LAUSDnet home page. • A district-wide bulletin regarding software duplication and copyright issues has been provided to all schools and offices. • An ethics committee is currently engaged in identifying issues and establishing appropriate policies. 	<p>Review, upgrade, and communicate effectively, by various means to all schools and staff, an ethical and appropriate use policy.</p>	<p>Establish a process for periodically reviewing and upgrading the ethical and appropriate use policy.</p> <p>Develop strategies for communicating the ethical and appropriate use policy, including ongoing incorporation of policies into curricular activities and projects.</p> <p>Establish procedures for monitoring compliance to ethical and appropriate use policy.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Procurement		
<ul style="list-style-type: none"> Schools are concerned about technology obsolescence. LAUSD’s budgeting processes do not accommodate regular technology purchases base upon life cycle or upgrade strategies. There is no regularly budgeted instructional technology acquisition plan or schedule at the district- or cluster-levels. 	<p>Based upon the <i>Information Technology Plan</i> recommendations and an approved district <i>Instructional Technology Plan</i>, schedule and budget for technology acquisition and support on a regular basis.</p>	<p>Have instructional technology budgets developed for each school based upon</p> <ul style="list-style-type: none"> standards for desktop hardware and software critical mass decisions regarding recommended configurations for various learning environments the goal of achieving equity over time without restricting the capacity of progressive schools/programs to provide leadership in effective practices. <p>Ensure alignment among the district <i>Information Technology Plan</i>, the <i>Instructional Technology Plan</i>, and cluster and school level plans through established linkages of plan development and upgrade processes.</p>
<ul style="list-style-type: none"> Many schools have no on-site resources or guidance regarding instructional software purchases relative to what is available and appropriate. Purchases are sometimes made at the school level without adequate time for consideration of various options for hardware or software. The state has on-line evaluative resources and an informational clearinghouse for educational technology products. San Diego also has a comprehensive site. 	<p>Make informational and evaluative resources for aligning instructional software to priority student learning standards available on-line to all schools.</p>	<p>Make a variety of evaluative resources available. Over time, an instructional software web-site specific to LAUSD should be developed, maintained, and upgraded in real time.</p> <p>Negotiate blanket contracts for software and supplies that allow schools to order directly from vendor lists and catalogs at favorable discounts.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Procurement (continued)		
<ul style="list-style-type: none"> • Schools negotiate their own purchasing agreements with vendors for instructional software. School principals control the technology procurements for their buildings. • Principals are sometimes in the position of making key decisions in regard to technology acquisition without appropriate and timely resources to guide their decision making. • Technology procurement practices typically do not incorporate an effective system for checking against recommended standards. • LAUSDnet has been striving to build its capacity as an informational resource for procurement information. However, there is no single web-site that serves as a reliable resource for decision support for technology procurement. 	<p>Ensure adherence to standards by assigning to each school someone knowledgeable about technology who can support people during the purchasing process to ensure that</p> <ul style="list-style-type: none"> - appropriate technology purchases, compliant to standards, are made - software will be compatible with the hardware on which it is run and is suitable to teaching and learning needs - orders take advantage of any available group purchasing or licensing arrangements. 	<p>Develop a rules-based procurement system that will ensure that schools follow established standards on technology purchases.</p> <p>Consider having ITAFs work with schools within clusters to identify appropriate resource staff and informational resources to assist in acquisition.</p> <p>Consider having ITAFs work with responsible district-wide staff and LAUSDnet staff in communicating processes regarding adherence of technology purchases to established standards and for meeting specific educational requirements.</p> <p>Incorporate the technology resource acquisition process into the district decision support system being designed.</p>
<ul style="list-style-type: none"> • Current information on the status or availability of site licenses for instructional software is not uniformly communicated throughout the district. 	<p>Establish effective communications strategies for informing and updating schools, clusters, and programs about the status of district-wide site licenses for instructional software.</p>	<p>Identify Instructional Technology Branch personnel responsible for negotiating and monitoring the status of district-wide instructional software licenses.</p> <p>Establish a web-site for license status updates as well e-mail notification system for ITAFs to help guide purchasing within clusters.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Procurement (continued)		
<ul style="list-style-type: none"> • Clear standards have not been established and universally communicated that relate to non-instructional software used within schools. 	<p>Define minimum software standards for tool-based applications for students on each hardware platform and include as a minimum configuration.</p>	<p>Establish standards for applications with consideration of present installed base as well as future requirements.</p> <p>Phase-in standards for applications with acquisition of new equipment and should be communicated to all personnel involved with the design and delivery of staff development programs.</p>
<ul style="list-style-type: none"> • Information regarding total cost of operation of technology equipment has not been made available to schools and clusters. 	<p>Research and report on total cost of operation for educational technologies as applicable to educational settings.</p>	<p>Provide research report on total cost of operation to schools and clusters to assist in long term planning for technology.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Maintenance		
<ul style="list-style-type: none"> • There is no effective centralized maintenance system for instructional technologies. ITD is not perceived as the support mechanism for schools. They provide support for administrative systems. • For ITD customer support, there are no service level goals and staffing is inadequate for meeting demand. • Equipment is not able to be installed or repaired nor are system/software problems resolved in a timely fashion because internal staffing for set up and system maintenance is very limited. • System-wide network repairs happen in a timely fashion since they are critical to the district’s decision-making function. • Many staff feel that support of the infrastructure should be provided at the cluster level because of distance considerations for on-site service. 	<p>Research large district models for providing support for school/cluster end-user technologies. Consider models that decentralize specific customer support functions to the cluster and complex levels.</p>	<p>Develop an RFP to explore the most cost effective and appropriate options for maintenance and support functions for instructional technology.</p> <p>If the decision is made to provide instructional technology maintenance functions within LAUSD, develop an organization chart and plan for providing support for instructional technology at the district, cluster, and school levels.</p> <p>Develop an engineering plan and charter for the new help desk and customer support organization to include staffing and organization, professional training, service delivery and communications, and ongoing quality improvement processes.</p> <p>Align customer support services with standards, policies, guidelines, and recommendations about hardware, software, networks, etc. used to achieve the goals of the <i>Instructional Technology Plan</i>.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Maintenance (continued)		
<ul style="list-style-type: none"> Utilization of outsourced services to meet the demand for repairs and installation is necessary at the school level. Repairs on computing equipment are paid from a district-level budget. 	<p>Until a district/cluster-wide support system for instructional technologies can be established, improve timeliness of repair and maintenance of computers and other teaching aides by:</p> <ul style="list-style-type: none"> - negotiating more maintenance contracts that guarantee repair efficiency, provide loaned replacement equipment, allow tracking and policing of repairs, etc. - expand use of trained high-school students as technology support/ repair teams. 	<p>Develop an RFP to explore the best and most effective options for maintenance and support functions for instructional technologies.</p> <p>Provide schools and clusters with model service contracts .</p> <p>Develop and distribute a system for monitoring and supervising computer repairs, such as keeping a database of all repairs in order to flag computers that are repaired multiple times or are over a certain age, etc.</p>
<ul style="list-style-type: none"> Some schools have developed certified student repair services. Parts are available from Apple Computer. ITD is supportive of such programs. 	<p>Replicate student-supported repair service models to other complexes and clusters.</p>	<p>Explore currently successful models and research national models.</p> <p>Identify and document the guidelines and parameters for the establishment of success student supported repair systems.</p> <p>Assign responsibility for implementing replication/expansion of student</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Maintenance (continued)		
<ul style="list-style-type: none"> Preventive maintenance programs that accommodate hard drive maintenance, system software maintenance, upgrading, transitioning, and retirement of obsolete equipment do not exist. A system for inventory/accountability and tracking of location and repair records of technology equipment has not been established in schools, clusters, or district-wide. 	<p>Over time, establish a fixed asset management program as part of the district-wide decision system that:</p> <ul style="list-style-type: none"> stages/phases procurements tracks performance provides preventive maintenance uses inventory information for decision support 	<p>Establish a highly coordinated, fixed asset management plan and supporting database application to help avoid problems throughout the asset life-cycle, such as procuring more technology any one time than can be absorbed at the beginning of the life cycle and unplanned-for obsolescence at the end of the life cycle.</p> <p>Ensure that the fixed asset management program interfaces effectively with procurement components of the decision support system.</p>
District Planning		
<ul style="list-style-type: none"> No central planning services are available to help clusters and schools plan. The magnitude of the changes necessary to improve student performance require substantial changes in the ways that personnel, time, facilities, space, and other resources are employed. 	<p>Establish a permanent central planning structure to guide, develop, coordinate, implement, and monitor major district-wide planning efforts.</p>	<p>Establish a strategic framework and charter for a central planning office within LAUSD within Schools, Curriculum, and Instruction.</p> <p>Determine critical priorities for district-level planning.</p> <p>Develop research-based planning models and guidelines, and implementation, monitoring and evaluation systems to ensure quality, coordination, and accountability.</p> <p>Ensure that planning emphasizes the connections and interdependencies among all initiatives and their support of district-wide goals.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
District Planning (continued)		
<ul style="list-style-type: none"> • A Grants Assistance Office exists within the LAUSD organization. However, this office does not generally prepare grants. They disseminate information and coordinate some required activities. • Application for technology-related grants may be impeded because staff who would typically do the writing often have difficulty finding time within the scope of their regular work assignment. 	<p>Expand the capacity and functionality of the Grants Assistance Office to provide more guidance and technical assistance in the preparation of grants at the school, cluster, and district levels.</p>	<p>Establish criteria for determining high-leverage grant opportunities.</p> <p>Establish a web-site location for grant-related information. (See Section Curriculum and Learning Standards, Recommendation 9, page 12)</p> <p>Explore expansion of grant assistance personnel through a fee-for services arrangement funded by the district.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
School-level Planning		
<ul style="list-style-type: none"> • Strategic school improvement plans are submitted annually and reviewed at the cluster level. Only some schools have a technology component in their school-based education plan. Considerations for technology vary significantly and often consist of hardware/software lists. • The Digital High School initiative from the State of California provides each high school with funding for both equipment and staff development. Technologies must be linked to learning standards. Schools need to provide a letter of intent and school technology plan, and complete extensive documentation for approval by the DSA. • A minority of schools have done some planning for the acquisition of technology hardware, software, and infrastructure but have not linked these efforts to high priority curriculum/instructional goals. • Schools with technology plans seek to integrate technology across the curriculum. However, due to scarce resources, this has been a very slow process. • Some school improvement plans use formats that are determined by the school; others are using cluster-based models. • District-wide standards, guidelines, and parameters are not available to facilitate or guide site-based planning processes. 	<p>Establish a district-wide model for school-based planning.</p>	<p>Provide schools with planning models, web-based templates, and materials to be used in the development of strategic school improvement plans that address priorities relative to: student achievement, curriculum, staff development, and technology integration.</p> <p>Ensure alignment of school goals with cluster and district priorities.</p> <p>Incorporate stakeholder input and research-based critical success factors in the development of standards and models for school improvement plans.</p> <p>Ensure accountability by developing school-level planning models that incorporate strategies for monitoring and evaluation of plan implementation</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
School-level Planning (continued)		
<ul style="list-style-type: none"> The quality and components of school-level technology planning vary considerably across the district. Many schools in LAUSD have done very little planning for technology integration due largely to lack of pending resources. 	<p>Develop models for recommended technology configurations from classrooms, computer labs, school libraries, and other resource areas; and, share with schools for use in technology planning.</p>	<p>Have model configurations take into account all factors that effect decision-making regarding technology system installation.</p> <p>Recommended configurations should be linked to learning environments specific to various disciplines and grade levels.</p>
<ul style="list-style-type: none"> Criteria and processes for evaluating school-level plans are not uniformly established nor implemented district-wide. 	<p>Establish criteria and processes for evaluating school level plans, providing feedback to each school, and addressing deficiencies.</p>	<p>Establish evaluation criteria that reflect district standards for school-level plans.</p> <p>Identify and assign responsibility for providing evaluative feedback and remediation support for school planning efforts.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Cluster- and Program-level Planning		
<ul style="list-style-type: none"> Some clusters have developed comprehensive strategic technology plans that serve to focus and guide the planning of schools and complexes within the cluster. Other clusters have not. Cluster- and program-level strategic planning and technology planning have not been uniformly established to determine high leverage improvement priorities in the delivery of support services and/or the performance of their major functions. Even those clusters and programs that do engage in planning often under utilize technology to access, analyze, and communicate accurate and timely data in their educational improvement and technology planning processes. 	<p>Develop planning standards, models, templates, and resources to guide cluster- and program-level educational improvement and technology planning efforts.</p>	<p>Provide cluster and program leadership with planning models, web-based templates, and materials to be used in the development of strategic improvement plans that address priorities relative to: student achievement, curriculum, staff development, and technology integration.</p> <p>Identify obstacles to full utilization of technology tools to support planning efforts at all levels.</p> <p>Develop strategies for full utilization of technology tools to address and eliminate identified obstacles.</p> <p>Ensure alignment of cluster and program goals with district priorities.</p> <p>Incorporate stakeholder input and research-based critical success factors in the development of standards and models for cluster and program plans.</p> <p>Ensure accountability by developing cluster and program planning models that incorporate strategies for monitoring and evaluation of plan implementation.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Community Learning		
<ul style="list-style-type: none"> Instructional technology resources are typically not made available to community members beyond the school day. Reasons include: (a) resources for security and supervision, (b) equipment not centralized, and (c) appropriate instructional applications not identified and not available. 	<p>Seek ways to increase the number of technology-based community learning programs and mutually-beneficial technology-focused formal relationships, allowing both the school population and the community-at-large to benefit from and contribute to available technology resources.</p>	<p>Develop and disseminate a catalog and web-based resources that describe in detail some exemplary national, regional, and local technology-based community learning programs.</p> <p>Establish guidelines and support for assisting schools and clusters in establishing programs that foster and encourage access to technology resources for after school programs in schools and throughout the community for children and adult community members.</p> <p>Plan and conduct a city-wide information and planning session, highlighting existing community learning programs, and how to successfully establish, fund, and market technology-based community learning programs.</p>
<ul style="list-style-type: none"> There is minimal coordination and publicizing of existing community programs, partnerships, and relationships among schools. UCLA has partnered with LAUSD in technology-related linkages to improve outreach to minorities and the community at-large. 	<p>Expand existing technology partnerships and promote new technology partnerships with higher education, business, and industry.</p>	<p>Plan and conduct a School Technology Partnership Summit that will focus educating school department personnel and community leadership on currently successful partnerships, expansion of existing relationships, and promoting new partnerships with higher education, business, and industry.</p>

Plan Implementation Issues		
Key Findings	Recommendations	Implementation Approaches
Community Learning (continued)		
<ul style="list-style-type: none"> • Efforts to promote collaboration between schools and outside agencies is compromised by limited technology resources. • District leadership has indicated a strong need for improved family outreach to support early intervention programs. 	<p>Enable sharing of data and information within and among school sites, health and service organizations, courts, and city and state agencies, as part of a comprehensive student database within the proposed decision support system.</p>	<p>Assess status of parent and community access needs as to hardware, software, and training.</p> <p>Increase access to hardware, software, the Internet, and training to address and facilitate parent and community needs, partnerships, and linkages with city and state agencies.</p> <p>Identify and address equipment, security, and technical issues associated with cross-agency sharing of data and information.</p>