

# Needs Assessment

## **Assessment Process:**

A comprehensive needs assessment process and analysis of the current technology environment was conducted in the fall of 2006. The needs assessment was divided into four (4) areas: Campus Technology, District Technology, Information Capital Portfolio Analysis and Professional Development and utilized a wide variety of tools including District System Equipment Inventory with Purchase Date, Campus Equipment and Peripheral Inventory, Campus Software Inventory, Three year STaR chart Longitudinal Assessment, Principal Surveys, library Technology Assessment, Classroom Standard Model and New Campus Classroom Standard Model.

## **Existing Conditions:**

### **INFRASTRUCTURE AND TELECOMMUNICATIONS:**

Pasadena Independent School District has a fiber optic wide area network that connects all district campuses and buildings with built-in multiple direction redundancy. In addition, a second Network Operations Center will be available so that in case of an emergency (such as a hurricane) the district has a second management center. Each campus has classrooms with three data drops (new construction standard is six, as well as a library/media center with Internet connected computers stations and access to electronic collection catalogs. As of 2007, there are over 17,300 computers in the district, 6 or fewer years old. The 2007 student to computer ratio is on average 4:1.

All district enterprise level applications are connected to a SAN with disk-to-disk-to-tape back up processes. All employees have remote access to network applications which includes student information systems, grade book, email, business applications, special education, and data warehouse reporting.

Cisco IP Telephony serves as the base telecommunication services. Integrated with this are applications for parent notifications, broadcast, intercom, recording, bell scheduling, and voice mail services. All surveillance cameras in district are connected to the network.

### **TEACHING AND LEARNING:**

Information gathered from the campus School Technology and Readiness charts in 2004-2005 indicated that 83% of elementary schools were Developing Tech and 17% were Advanced Tech and out of 11 intermediate schools 90% were Developing Tech and 10% were Early Tech. Of the five high schools, 60% were Developing Tech and 40% were Advanced Tech. In 2005-2006, over 85% of the teachers completed the STaR chart for teachers. Thirty-nine of the fifty-five campuses had 100% participation. In the fall of 2006, 100% of the teachers completed the STaR chart for teachers and 100% of the district campuses completed the campus STaR Chart. This data will be used to provide effective technology professional development that addresses the needs of each individual campus. These results will be used as technology grant opportunities are reviewed.

The Pasadena Virtual School has been established to enable students to take high school courses online, on their own time, wherever access is available to the Internet and a computer. Online learning, the concept of teaching by delivering curriculum to a student via a computer and the Internet, helps students to master course content, as well as develop communication, collaboration, and creative problem-solving skills. Pasadena Virtual School offers BCIS-A, BCIS-B Government, English IV B, and Astronomy. Future courses include: Economics, World Geography, Advanced Algebra, Math Models, Math Models, Web Mastering, Health, and US History.

In order to provide equity and access, the district has provided Assistive Technology Specialists. As part of the Special Education division, this staff is trained to help students and teachers acquire the appropriate technology so that all students can utilize technology to learn.

The Director of Career and Technical Education (CTE) has evaluated the current status of the CTE program by visiting all the campuses, working with the CTE teachers, and meeting with business community members. CTE introduced new programs, such as the Cisco Networking

Academy and Hospitality Services & Travel Academy (two high schools) to expand the secondary courses and training already being offered. A goal is to have all career and technology courses be associated with an industry certification or license.

The district uses Horizons by Dynix as its automated library system. It is a web based system that was implemented in 2003. Both the library catalog and district provided online resources are available to all students, teachers, parents, and staff from campus and from home. Librarians have regular training on the library system

and on the online resources. In addition, librarians are trained on upgrades and enhancements as they occur in both the library system and the online resources. Librarians are also provided additional training on other components such as Blackboard and Excel.

### **EDUCATOR PREPARATION AND DEVELOPMENT:**

Technology staff development has been a primary focus in order to integrate technology into the curriculum and instruction. A District Technology Course Catalog outlines workshops available on the district web site. The district provides face-to-face, computer-based, or web based instruction. Three categories of workshops have been designed to meet the needs of teachers and administrators:

\*Awareness - skills needed for staff to manage their needs, such as Basic Operations of Computers, Email, Use of the Internet, Internet Searches, and Technology Planning, Policies, and Procedures.

\*Application - skills needed for the staff to acquire the productivity skills they would need for word processing, spreadsheets, databases, thinking maps, and web design.

\*Integration - skills needed to provide teachers with resources and modeling on how to infuse the technology and the Internet into the curriculum and instruction.

Teachers are expected to complete the Awareness level courses within the first year they receive a computer. In the second year, they are required to begin the integration process. Since staff development was a large part of all the grants we have received, many of the teachers have completed the above requirements.

Workshops are provided via the six district Instructional Technology Specialists, outside resources, or one of the fifty-four campus technology liaisons. The campus technology liaison is a certified teacher or librarian, who contracts to perform eighty hours of campus technology staff development outside the regularly scheduled workday. The technology liaison position was designed to have campus-level assistance with software and pedagogy. They are not assigned any technical duty, as the district has its own Network and Technical support team. The district

Instructional Technology Specialists are responsible for training and working with the campus technology liaisons. The Instructional Technology Specialists work within one high school strand (the high school and all intermediate and elementary schools that feed to that high school). This model of train-the-trainer has proven highly effective in the number of workshops provided and in cost. In 2004-2005, thirty-three technology liaisons and the Instructional Technology Department became Texas Teacher Technology Certified through the Region XI ESC program. For the 2005-2006 school year, the Instructional Technology Department developed its own Pasadena Technology Competency program to demonstrate educator technology proficiency.

In 2004-2005, PISD performed, or hired outside resources to complete, over 650+ technology workshops. This has grown from a mere 103 technology workshops in 1995 and has increased every year. Staff members can also request any workshop they need, and the district will either provide the training or hire someone from outside the district to perform the training. In 2004-2005, the focus has been integration into instruction and the curriculum. In 2004-2005, the Technology Applications TEKS instructional timelines were developed for Pre-Kindergarten through eighth grade and posted on the district website. During 2005-2006, the technology specialists and the campus technology liaisons provided over 950 workshops with a technology emphasis.

### **ADMINISTRATION AND SUPPORT:**

Administrative applications used within the district to promote productivity, efficiency and support include web based Student Management System, Business Services System, Email, Health Management, Special Education, Grade Book, Textbook, Library Automation, Transportation, Work Order Services, and Data Reporting Services. The Technology Services Department consists of the Network Services support, the Technical Services support, the Student and Business Application Services support, and Cabling Infrastructure Services support.

The budget presented in this plan includes funding for infrastructure (technology and human), desktop replacements, mobile laptop initiatives, and further administrative application upgrades, initiatives and support.

### **Technology Needs:**

From this data and other assessments such as the campus and teacher STaR charts, the following needs were identified:

Campus Technology Assessment - Needs

District Equipment Inventory - Develop Ongoing refresh plan past bond and add network electronics, servers and communication components.

Campus Equipment Inventory - Insure the minimal technology level acceptable to support technology integration and TA TEKS is available in ALL classrooms.

Campus Peripheral Inventory - Insure the minimal technology level acceptable to support technology integration and TA TEKS is available in ALL classrooms.

Campus Software Inventory - Develop a base level Instructional Load set that is available on all instructional workstations. Develop an assessment and approval process for additional software for workstations.

Campus Technology Comparison - Large gap between campus technology capabilities.

New Campus Technology Design Standard including Classroom Design - Update the design to include student access, online assessment and video broadcasting.

Existing Campus Technology Design Standard including Classroom Design - Update the existing campus design to equal the new campus designs.

Library Technology Assessment - Address the design and define the strategy for student access to technology in the library for research, core curriculum and collaboration. Plan for the expansion and update of the LMS to support 21st century library needs to manage digital resources.

Three Year STaR chart Longitudinal Assessment - Determine the target level in each focus area of the STaR that the district identifies as the target within the next three years and develop strategies to support those performance objectives.

Principal Surveys - Need for more instructional support.

District Technology Assessment - Needs

Information Capital support of Core Processes - Continue to implement Information Systems to support business processes and increase analytical capabilities of systems.

- Develop a strategy to implement information management systems in curriculum, instruction, assessment and PD to support efficient and effective operations and to provide information for data driven decision making.

Evaluated Technology Plan alignment and integration into the District and Campus Improvement Plans - Increase the alignment of technology to support key district goals and objectives. Work with the district and campus to evaluate and integrate technology as a key strategy to support their objectives.

Peer to Peer Assessment of Technology and Systems to comparable districts. - Further evaluate the need for increased instructional technology support.

- Develop strategy for student access/assessment and determine mobile computing role in that strategy and plan accordingly.

- Increase bandwidth to support more functionality for student computing.

Infrastructure Assessment - No Current Need

LAN/WAN Assessment - Standardize technology capability at all campuses to allow for equal access to services.

Internet Access - Increase Internet bandwidth.

Telecommunications Assessment - No Current Need

Disaster Recovery - Develop design for DR plan including data backup and restore, server restore and hosting locations.

Software Portfolio - Develop a strategy to standardize software.