TECHNOLOGY MASTER PLAN 2005

PALOMAR COMMUNITY COLLEGE DISTRICT
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Technology Master Plan Task Force Website: http://www.palomar.edu/technologymasterplan/

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I. EXECUTIVE SUMMARY

In the fall of 2001 Palomar College initiated a strategic planning process to establish a vision, mission statement, goals and objectives and to set priorities for action in serving the District. One of those goals was to complete an educational and facilities master plan for the District. This goal was completed in August 2003 with the publication of the Palomar Community College District Master Plan 2022. Another goal was to implement and update the Technology Master Plan. The first Palomar College technology master plan was published in 1998 and laid the groundwork for moving Palomar onto the Information Superhighway. After five years on the Information Superhighway the District realized that it needed a new roadmap, an updated Technology Master Plan.

On November 4, 2003 the Palomar College Strategic Planning Council formed the Technology Master Plan Task Force (TMPTF) to develop a comprehensive, District-wide technology programs and services plan tied to the 20-year Educational and Facilities Master Plan. This plan, the Palomar Community College District Technology Master Plan 2005, has five major sections: the Executive Summary, Background, Goals and Objectives, Situation Analysis, and Recommendations.

The *Background Section* contains necessary history and demographic information relevant to technology planning. Enrollment trends, participation rates, and free-flow analyses together indicate that the Palomar Community College District is expected to enroll nearly 50,000 students by the year 2022. The major *Goals and Objectives* of this plan included an update of the existing Technology Master Plan, a long-range technology budget plan and a review of the current committee and organizational structure related to technology in order to serve those 50,000 students. In our quest to reach those goals and objectives the TMPTF conducted a *Situation Analysis* that included a study of the current status of technology and technology planning at Palomar and the gathering of primary data on technology and technology use via campus-wide focus groups.

Based on the primary and secondary data gathered, including the suggestions from the focus groups, the TMPTF has several recommendations. The *Recommendations* include the formation of a Governance level Technology Council, the implementation of the Technology Plan, the alignment of the plan with the Strategic Plan, the creation of processes for addressing the need for proven and cutting edge technology and the organizational structure with regard to technology, the creation of specific budget lines for technology, both hardware and software, and technology support, and a commitment of funds for innovation.

The District is encouraged to continue the work of the TMPTF by approving this plan, creating the Technology Resources Council (TRC) and directing this Council to proceed with the recommendations as defined in this Technology Master Plan, and ensuring that the necessary resources are allocated to implement the recommendations presented in the Technology Master Plan 2005.

II. BACKGROUND

Introduction

The primary missions of the California Community Colleges are "to offer academic and vocational education at the lower division level for both recent high school graduates and those returning to school. Another primary mission is to advance California's economic growth and global competitiveness through education, training, and services that contribute to continuous workforce improvement." (Chancellor's website http://www.cccco.edu) The Board of Governors provides the leadership and direction in the continuing development of the California Community Colleges to fulfill these primary system-wide missions. Through its strategic planning process however, each district establishes its own vision, mission, goals and objectives in order to fulfill the promise of opportunity for students residing in its district as defined under California's Master Plan for Higher Education.

Strategic planning is a process whereby an institution determines its long-term goals and objectives and then identifies the best approach to achieving those objectives. It is a continual process where performance is monitored against identified goals and objectives and activities are adjusted to accomplish the desired results. Increasing enrollments and decreasing funding have raised the demand and need for strategic planning in higher education, especially with regard to technology, which is constantly changing and requires significant funding commitments. Therefore, a technology plan is vital to the effective operation of the district and attainment of its strategic goals and objectives.

Strategic Planning at Palomar

In the fall of 2001 Palomar College initiated a strategic planning process to establish a vision, mission statement, goals and objectives and to set priorities for action in serving the District. The Strategic Planning Task Force was assembled in September, 2001. Individuals from all constituency groups were invited to participate in the process. Initially the Strategic Planning Task Force had 73 members. There were two primary components in the planning process:

- One component addressed the development of a vision, mission, and values for the College.
- The other component was information gathering in nature and included an internal and external scan that led to the establishment of five primary goals for the District to be accomplished over a three-year period.

In the effort to establish these five primary goals, over 350 faculty, staff, and administrators attended a half-day planning session. This planning session identified specific objectives for attainment of the College's strategic goals. The feedback gathered at this planning session was used in determining questions for a campus-wide

survey. The results of the survey were used to identify and prioritize the objectives for the strategic plan. The five primary goals focused on:

1) Student Success
2) Teaching and Learning Excellence
3) Organizational and Professional Development
4) Facilities Improvement
5) Resource Management

The outcome was the creation of the Strategic Plan 2005 (SP2005) and Palomar's current governance structure, which defines specific councils that report directly to an overall Strategic Planning Council (SPC). Palomar College established its *Vision: Learning for Success* as part of its Strategic Plan 2005. That vision continues to guide the planning process. Palomar is in the process of updating Strategic Plan 2005 and anticipates finalizing Strategic Plan 2009 in the fall of 2005.

There are two sub-goals identified in SP2005 under Resource Management relating to technology:

1) Develop and implement a long-range budget plan for computer hardware and software upgrades and/or replacement
2) Update and implement the Technology Master Plan

These sub-goals were then incorporated into the 2003-2004 Annual Implementation Plan developed by the Strategic Planning Council. As a response to this Annual Implementation Plan (AIP) the Technology Master Plan Taskforce (TMPTF) was formed.

On November 4, 2003 the Palomar College Strategic Planning Council formed the Technology Master Plan Task Force (TMPTF) to develop a comprehensive, District-wide technology programs and services plan tied to the 20-year Educational and Facilities Master Plan. This plan was to include an assessment of the current state of technology within the Palomar Community College District as well as a long-term plan for technology resource allocation, including staffing, equipment replacement, facilities, and funding that will facilitate educational and administrative innovation and learning outcomes assessment.

In order to understand the process followed by the TMPTF it is necessary to first understand the master planning process at Palomar College.

Master Planning at Palomar

On November 20, 2001 the Educational and Facilities Master Plan Task Force was approved by the President's Advisory Council. The task force was charged with developing a comprehensive District-wide educational programs and services plan tied to the 20-year facilities master plan. The goal was to produce the *Palomar Community*

College District Educational and Facilities Master Plan 2022 by June, 2003. The task force was co-chaired by a faculty member appointed by the Faculty Senate and an administrator appointed by the Superintendent/President. All campus constituency groups were represented. In addition, interested community members and at least one employee of Spencer/Hoskins Associates (a consulting group hired to assist with the development of the master plan) attended the meetings on a regular basis. All agendas, minutes, reports, presentations, and draft documents were published on the Educational and Facilities Master Plan Task Force Website http://www.palomar.edu/masterplan/ .

The *Palomar Community College District Master Plan 2022* was intended primarily to assist the Palomar Community College District in planning for the growth and change of its educational programs and facilities needs until the year 2022. This document was written for those concerned with the interrelationship between the educational process and the technology needed to support the educational process at Palomar College. Therefore, local and state planning agencies, local and state governments, local and state educational institutions, local taxpayers, and students, faculty, and staff of Palomar Community College District have found this document of interest.

Technology Master Planning at Palomar

The first Palomar College technology master plan was published in 1998 and laid the groundwork for moving Palomar onto the Information Superhighway. (The 1998 *Palomar Community College District Information Technology Master Plan* can be found on the Internet at http://www.palomar.edu/at/tmp1.htm) This master plan was developed to "Determine how the District will collect, create, access, disseminate, store, and, most important, use information to enhance student learning and what changes meeting this goal will necessitate." The plan was later updated and approved by the District's Governing Board in March, 2001. Five years later, in the year 2003, technology, and especially information technology, had changed significantly. It was now time to update the Technology Master Plan.

Following the model created for the Educational and Facilities Master Plan, the technology master planning process began with a look at district demographics and future needs. Next the task force discussed several different ways of gathering additional information on the current status of technology at Palomar.

To summarize the current technology at Palomar College, an inventory of District hardware and software was compiled. To gather data on the use of this technology, a series of focus groups were conducted with the faculty, staff, and administrators. In collaboration with the Office of Instructional Research and Planning (IR&P), the task force created a series of questions that became the basis for 11 technology focus groups. During these focus groups, over 200 Palomar College faculty, staff and administrators gave their input.

The raw data (Appendix B) from the focus groups was summarized and organized into themes by the Palomar College IR&P:

- Use of technology
- Access to technology – including purchasing and updating
- Overall assessment of technology at Palomar College
- Training and support for technology
- Technology needs and suggested areas of improvement
- Suggestions for improvement

(The focus group questions can be found in Appendix A.)

The members of the Technology Master Plan Task Force were then assigned to writing teams that reflected each of the six topic areas. The co-chairs then integrated the products from the writing teams with all of the other data gathered into one comprehensive document resulting in the *Palomar College Technology Master Plan 2005*.

Enrollment Projections and Student Demographics

The Palomar Community College District encompasses an area of more than 2,550 square miles. The size of the district and its enrollment potential should influence how Palomar plans for and uses technology to ensure student access and support. Further, student demographics should be considered when developing technology plans. This section briefly reviews the potential enrollment growth of the District over the next twenty years and provides an overview of the current student demographics.

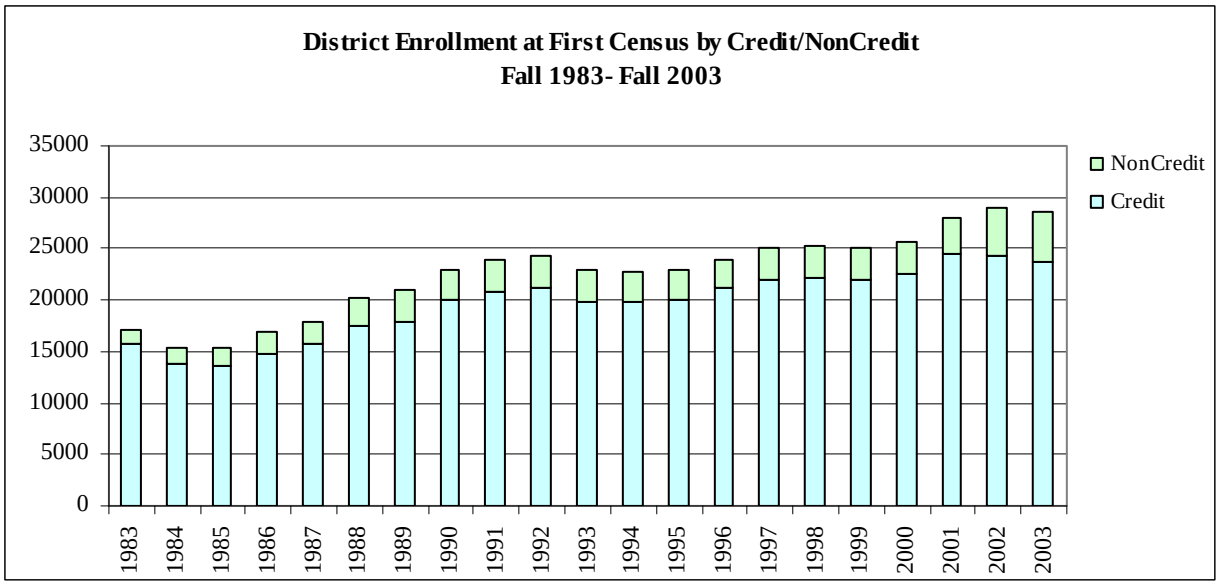
Enrollment Growth:

Palomar currently enrolls about 30,000 students each semester. In 2002, as part of the District's master planning efforts, the Educational and Facilities Master Planning Task Force completed a study of growth. One of the basic questions answered in this study was, "What will be the potential enrollment in 2022?" The four factors examined by the Task Force to arrive at an enrollment target for planning purposes include:

1) Past enrollment trends
2) Adult population projections
3) Participation rates
4) Free-flow

The outcomes of the study of growth are summarized below.

Enrollment Trends and Population Projections—The accompanying graph indicates that the total enrollment at Palomar has continued to increase over time. In the recent time period of 1998 to 2003, enrollment has increased by 13%.



A review of the forecasts completed by the San Diego Association of Government (SANDAG) reveals that the adult population residing within the District's service area will increase to almost 700,000 by the year 2020. This reflects 76% growth from the year 2000. This increase in population will result in an increasing need for a well-educated and skilled workforce. Thus, enrollment at Palomar should continue to increase over time.

Participation Rates and Free Flow—To estimate how many students Palomar might expect to serve from this increasing population, the study of growth included an examination of the participation rates within the district. California Post Secondary Education Committee (CPEC) defines a participation rate as "enrollment divided by [adult] population multiplied by 100." Basically, this number tells you how many students enroll at the district per 1,000 adults in the local population.

It is difficult to determine how participation rates will change over the next twenty years. At the time of the study, the District's participation rate was 47 per 1,000 adults in the population. For planning purposes, the District has set as its goal to increase the participation rate to 60 per 1,000.

Another factor that influences enrollment is free-flow. Free-flow is the phenomenon of students who live within the boundaries of one district while attending a community college in another district. The study of growth showed that Palomar experiences a net gain of about 480 students through free-flow.

Projected Enrollment—Using SANDAG's adult population projections, assuming a participation rate of 60 per 1,000 adults, and adjusting for free flow, the study of growth concluded that the expected enrollment at Palomar could increase by over 50% to 47,500 by 2022. Planning to accommodate this increasing enrollment is critical. As

enrollment continues to grow, the demand for the interaction and use of technology to facilitate access, instruction, and support may increase as well.

District Demographics

The accompanying table provides a demographic profile of the students attending Palomar College. The median age of our student population is 24 and the diversity in terms of ethnicity is evident. As indicated in this table, a majority of students take classes for credit. However, the noncredit population at Palomar is significant. Finally, part-time students (students enrolled in less than 12 units) make up 68% of the credit population.

Palomar College Student Demographics Census Fall 2003

Category	#	%
Gender		
Female	15,217	53.2
Male	13,380	46.8
Total	28,597	100.0
Age		
Mean	32 yrs	
Median	24 yrs	
Total		
Ethnicity		
African American	899	3.2
American Indian	352	1.3
Asian/Pac Islander	1,581	5.7
White, NonHispanic	15,339	55.4
Hispanic	6,952	25.1
Filipino	768	2.8
Unknown	2,706	9.8
Total	27,698	100.0
Credit Status		
Credit	23,813	83.3
NonCredit	4,784	16.7
Total	28,597	100.0
Full/Part-time Status Credit Students		
Full-time	7,499	31.5
Part-time	16,314	68.5
Total	23,813	100.0

Demographics and Course Taking Patterns of Online Students—In Fall 1998 Palomar College began offering instruction online (i.e. on the Internet). By Fall 2003, the college offered 145 sections of online instruction covering 70 courses within 23 disciplines. During Fall 2003, 1,724 or 6% of Palomar students enrolled in at least one online course.

In general, students who take online courses are older and have a higher cumulative GPA than students who enroll in the same courses on campus (peer courses). The percent of online students who are White, Non-Hispanic is higher than students enrolled in on-campus peer courses. Conversely, the percent of online students who are Hispanic is lower than that of their on-campus peer counterparts. Finally, online students carry a slightly lower unit load than students enrolled in on-campus peer courses.

A review of online course-taking patterns indicates that most students (80%) enroll in only one online course. Further, in Fall 2003, 68% of the students taking online courses enrolled on-campus courses as well. As the online offerings grow, enrollment in online courses will grow. However, for now, it appears that most students who enroll in online courses do so to supplement the courses that they are taking on campus.

This background information regarding the planning and governance process at Palomar College along with enrollment projections and student demographics information is the basis for establishing the goals and objectives for the Technology Master Plan.

III. GOALS AND OBJECTIVES

The following goals were identified during the initial meetings of the TMPTF.

- To achieve the mission and goals of the college as defined in the Strategic Plan
- To update the Technology Master Plan 2001
- To develop and implement a long-range budget plan for technology needs
- To ensure that an appropriate allocation of resources be included in the district fiscal plan for the implementation of the updated Technology Master Plan
- To develop and implement an environment that supports and encourages a review of the use of proven and cutting edge technology
- To review and improve upon the current committee and organizational structure with regard to technology related decision making
- To develop guidelines and support for adequate training in the use of technology in the workplace for all district employees

IV. SITUATION ANALYSIS

In an attempt to move the Task Force closer to our goals and objectives, we conducted a situational analysis that attempted to assess the current status of technology at Palomar using existing inventories and campus-wide focus groups.

Definition of Technology

For purposes of this plan, technology has been defined as anything related to electronic devices or associated software used in the performance of job-related duties in the classroom, labs or office environments.

The Current Status of Technology at Palomar College

Inventory

As might be expected, Palomar College's current technology inventory is quite massive. TMPTF requested and acquired inventory records from the District's Inventory Control Technician. The inventory records provided consisted of over 300 spreadsheet pages listing all District hardware and software as of July 2005. TMPTF then created summary spreadsheets based upon these records and information from other personnel involved in acquiring and maintaining district software and hardware inventory. The summarized spreadsheets, which are presented in Appendix C, have not been verified as to whether or not the items still exist or are in satisfactory working condition.

Organization/Support

The process by which technology decisions are made at Palomar College can be quite cumbersome and time consuming. Currently, there are several technology committees at Palomar College. Each has a defined responsibility and some meet only as needed, usually when "new" funds (e.g., Block Grant or Lottery) have been identified. The responsibilities of each are as follows:

- The Technology Master Plan Task Force which was created with the expressed task of writing a technology plan that is aligned with the college's strategic plan
- The Computer Coordinating Committee which most recently has been tasked with the prioritizing of purchase requests of new and replacement computers for faculty
- The Technology Committee which most recently has been responsible for the prioritizing of new and replacement of classroom and laboratory computers.

In addition, the Faculty Senate, due to its primary responsibility for Academic and Professional Matters, created an Academic Technology sub-committee to be responsible for the coordination of faculty interests in all areas of academic technology and to act as an advisor to the Senate on matters related to technology used in the classroom. However, this Senate Sub-committee has never been convened. Furthermore, the recent approval of the Faculty Contract includes a provision for the creation of a Joint Committee on the Impact of Technology, to consist of Palomar Faculty Federation (PFF), Faculty Senate and District manager members. This Joint Committee is expected to be created and convened during the fall 2005 semester.

Decision-making Process to Acquire Technology

Data was collected to determine the various steps involved in the actual identification of a technology need, the request, approval, purchase and implementation. TMPTF has attempted to chart the flow of these multiple stages currently used in the decision-making process with regard to technology acquisition at Palomar College. TMPTF has determined that there are basically three steps or tiers with regard to the current process of acquiring technology:

- Tier A - How/Where it Begins (identifying the need)
- Tier B - Approval Process
- Tier C - Purchase and Installation

TMPTF has created tables to present the flow within each of the three tiers, which follow this discussion. In addition, TMPTF has attempted to identify the time period involved to complete each of the tiers, which is noted at the bottom of each table presented. While each tier appears to represent a process that has a beginning and end, it is important to point out that many times technology requests are sent back to previous tiers after having moved from one tier to the next further extending the time period involved between identifying a need, acquiring, and installing technology.

TMPTF has determined that at a minimum the time period between identifying a need and actually having the technology installed is six months and many times significantly longer.

Table 1: Tier A – How/where it Begins

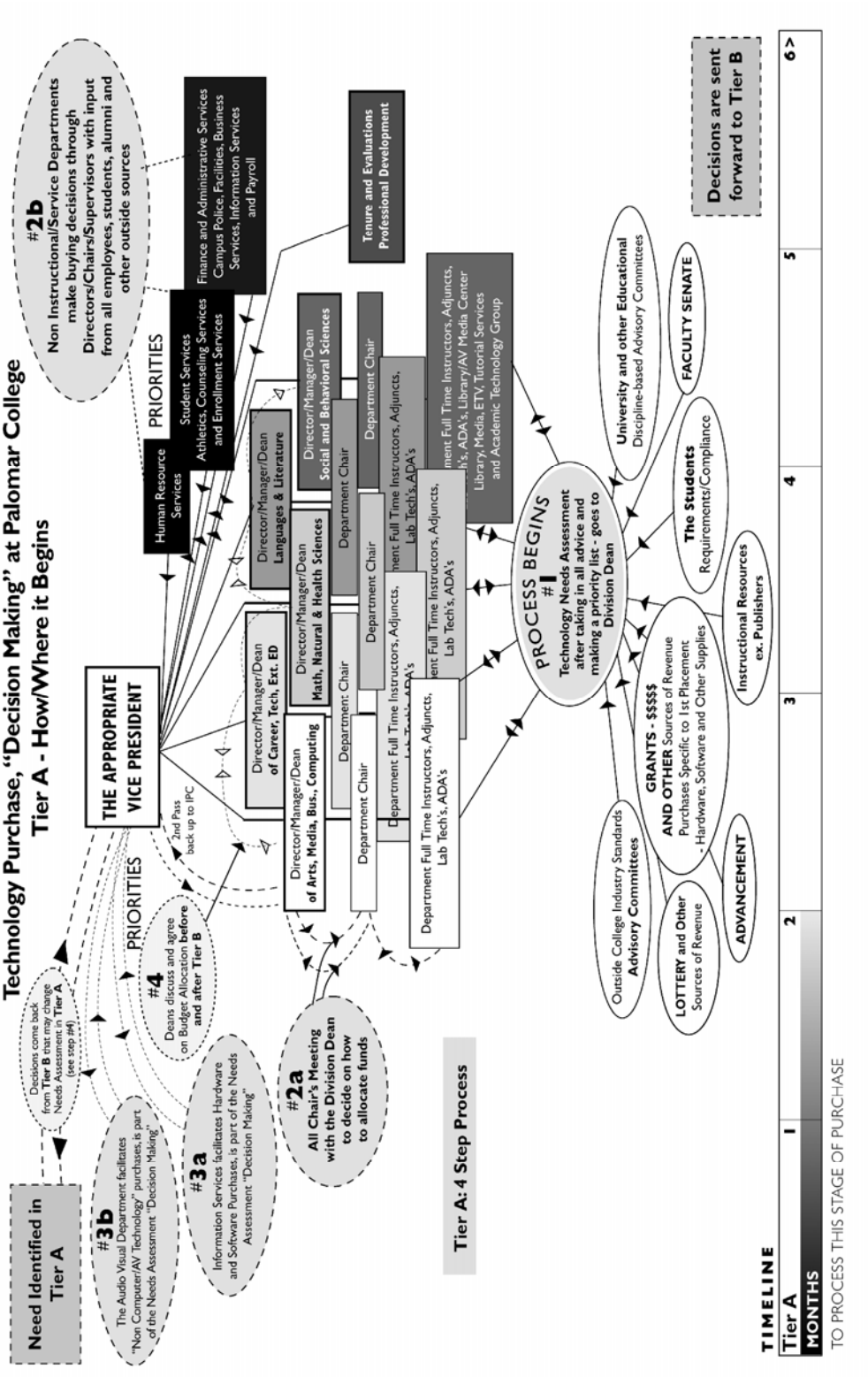


Table 2: Tier B – Approval Process

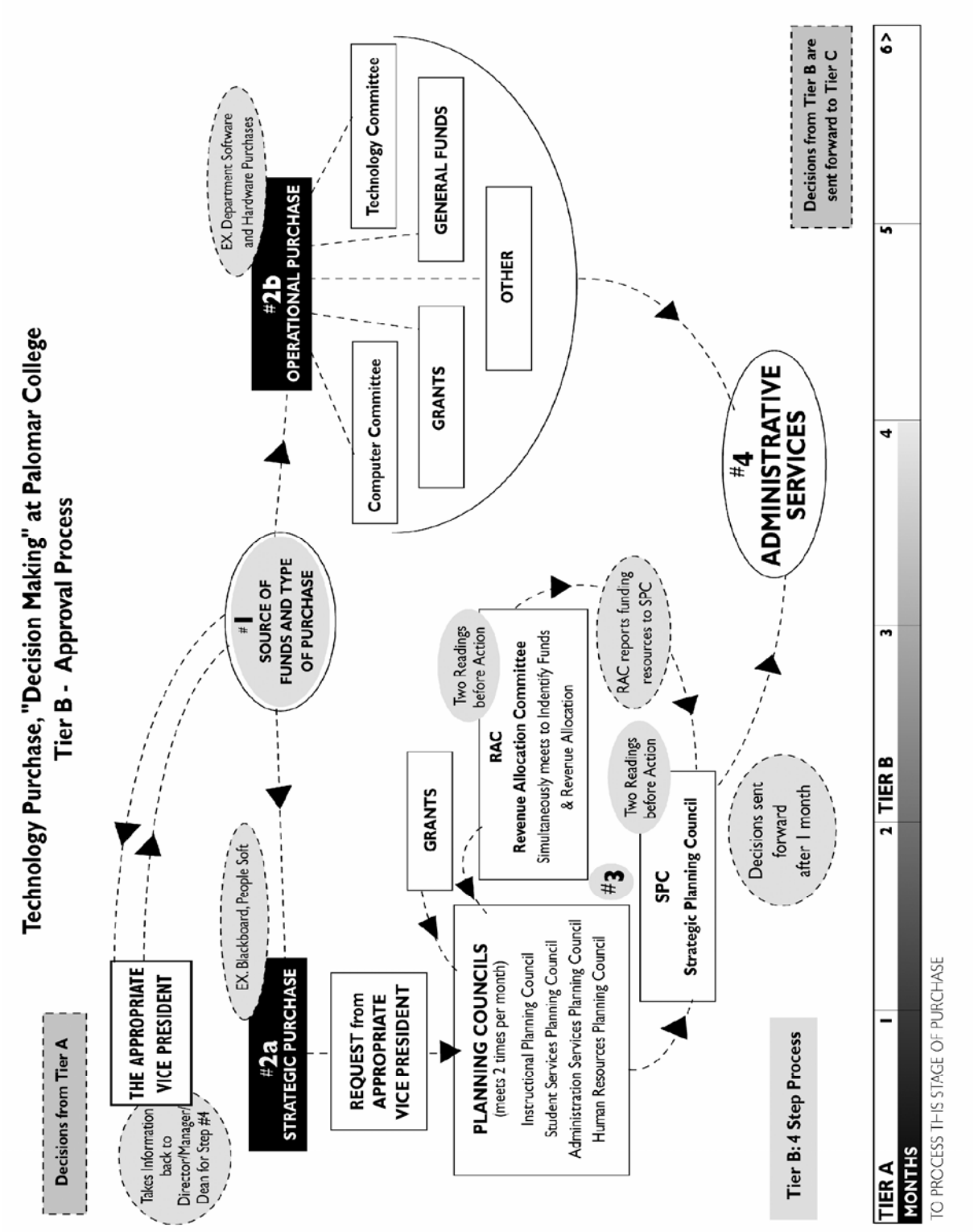
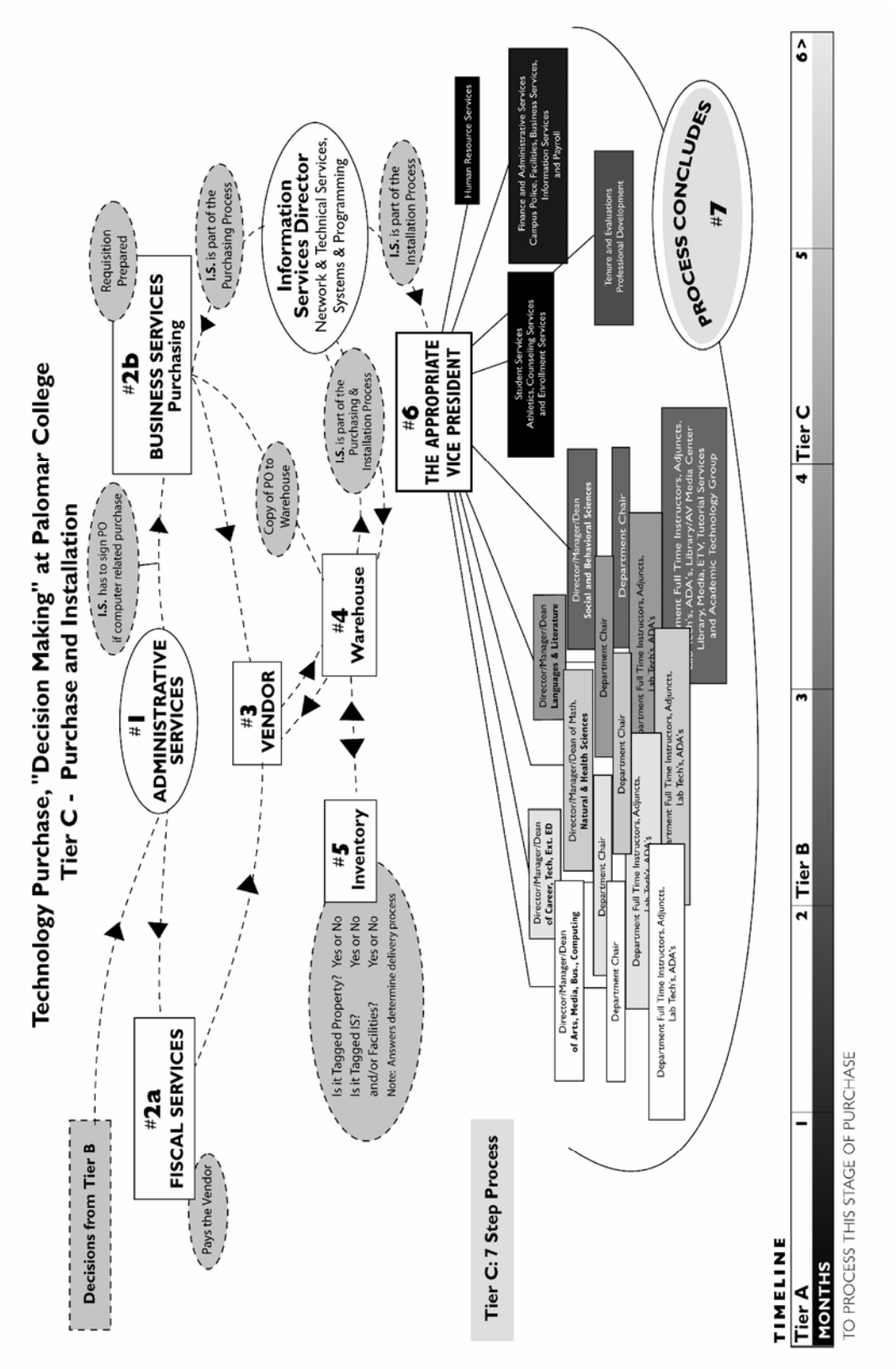


Table 3: Tier C – Purchase and Installation



Primary Data

Primary data was gathered in an attempt to gain as a broad of a spectrum of campus constituency as possible. As mentioned earlier in this document, TMPTF, in cooperation with the Palomar College Office of Institutional Research and Planning (IR&P), created a series of questions that became the basis for 11 technology focus groups involving over 200 Palomar College faculty, staff, and administrators (See Appendix A). In addition, individuals that work primarily with technology e.g., laboratory technicians were consulted to gather data related to the current status of technology at Palomar. This data was then combined with the focus groups data, analyzed and organized.

The data was then summarized into themes by the Palomar College Office IR&P and then presented to the focus groups. (The focus group summary document can be found in Appendix B.) The following six themes were summarized by IR&P from the raw data gathered in the focus groups:

- Use of technology
- Access to technology – including purchasing and updating
- Overall assessment of technology at Palomar College
- Training and support for technology
- Technology needs and suggested areas of improvement
- Suggestions for improvement

This section of the Technology Master Plan will discuss the results from four of the six themes covered by our focus groups: access to technology, assessment of technology, technology training, and technology support. Recommendations suggested during the research gathering process have been included in each of the area findings discussions. The use of technology has been discussed in the Current Status of Technology at Palomar College. Overall recommendations for improvement and suggestions on where to go from here are specifically addressed in the Strategic Action section of this plan. Following that discussion the plan addresses one of the most critical aspects of this plan: the need for a commitment of financial resources by identifying budgeting resources to meet the ever-changing and increasing demands for technology replacement and acquisition.

Access to Technology

The majority of respondents in the focus groups found out about what technology is available for them through professional development workshops, Academic Technology Department, general email distributions, research and discussion with colleagues, Information Services website and Help Desk; and AV website. Some respondents stated they check with the warehouse or inventory areas to see what equipment is available, talk with students, attend planning council meetings, talk with vendors, and talk with lab technicians.

When asked what process and procedures they would follow to request a new technology that Palomar did not offer, most respondents stated that they would contact Information Services, call vendors for information and demonstration, discuss the technology purchase with the Dean, and research grants specific to their areas. Some respondents stated that their advisory committees guide them in the kinds of technology they need for their programs, they work through the existing budget development process, they discuss their technology needs with Academic Technology and AV departments, and/or they request funding from the President's Association. Also, they work with the California Community College System's Chancellor's office or other grant funded projects as well as the Foundation. They consolidate their resources, they discuss technology with members of their professional organizations, they access information through ListServs, and they prepare a cost benefit analysis proposal. Several groups stated a frustration with their lack of knowledge in technology and not knowing what, when, or how to ask for what is needed.

Assessment of Technology

The assessment of technology at Palomar College falls into two main areas:

- The first is the assessment of the impact of instructional technology on students, the learning experience, and teaching methodologies.
- The second is the means by which Palomar College employees assess new or existing technology as it pertains to carrying out their work (including the identification and selection of appropriate technologies, and the ongoing evaluation of existing technologies).

Participants agreed that technology used in the classroom or for auxiliary instructional purposes adds to the learning environment in many ways. For students, it can simplify, extend, and improve access to classes, services, and content, as well as enhance the learning experience. This occurs by

- Expanding the different ways students may access courses and course-based resources (through the use of tools such as web-based courseware, videos, online presentations, etc.)
- Optimizing the availability of and access to learning resources (such as web-based library materials)
- Improving the perceived value of courses

In addition to improving access to and availability of learning opportunities and resources, participants concur that technologies adopted and their uses must also enhance the learning and teaching experiences. This occurs by

- being relevant to real-world applications, including workforce readiness
- remaining engaging
- responding and adapting quickly to differences and/or changes in learning and teaching styles
- facilitating communication between instructors and students
- facilitating student academic success and retention

Assessment helps to achieve all of the above by identifying and evaluating resources that are relevant and applicable to the area of implementation (academic, vocational, and support) and the audience (students, instructors, and support staff). However, to be credible, assessment of the technologies being employed or considered must

- assist in identifying issues or concerns that may impact the effective application of a technology, including the impact suggested or anticipated by vendors, as well as the actual observed or measured impact on Palomar College, including
    - users' skill levels, learning curves, and comfort levels
    - training required or needed
    - time involved to implement or employ
    - appropriateness of the technology for the application
    - cost-effectiveness
    - frequency of changes to the technology
- clearly identify what is working and what isn't, and why
- provide immediate feedback
- lead to real action – have access to budgeting and prioritizing of needs

Campus constituencies all agree that the formal assessment of instructional technology is important. There is a sense that technology can impact students in positive ways, and may even help them "do better," but the methods currently employed to assess the effectiveness of technology are informal and ad hoc rather than planned and systematic:

- trial and error
- careful observation of student interaction and use
- student surveys
- pilot tests with small groups
- voluntary feedback.

Respondents indicated that little statistical data or evaluative results have been gathered to support these anecdotal claims. An example of this is that limited studies of online courses have been done to evaluate the retention and success rates compared to similar classes offered on campus, but these studies were descriptive and provided basic information for comparison rather than an in-depth study of why online courses are successful or not. *(see report, "Evaluation of Online Courses at Palomar College" prepared by the Office of Institutional Research and Planning, June 7, 2004.* This report can be found on the Internet at http://www.palomar.edu/irp/briefs/Evaluation%20of%20Online%20Couses%20July%20'01.pdf*).*

All agreed that instructional and related technologies are important tools that assist Palomar College in fulfilling its educational mission. As such, there needs to be a systematic, consistent, and meaningful process by which these technologies are identified, selected, implemented, evaluated, and updated.

Technology Training

Employees have undertaken and are exposed to a variety of formal and informal technology training including the following: Professional Development (PD) workshops, Academic Technology (AT) workshops, Information Services (IS) workshops, conferences, free training from vendors, self-training, formal and informal on-the-job training and cross-training, observation of "techies," mentors, cheat-sheets, and web resources.

Feedback regarding PD and AT workshops was very positive. Concerns were raised about the quality of the onsite PeopleSoft training (during the transition) being too late, not being taught by competent trainers and too much being taught in each session with no follow-up to reinforce skills. Additionally, specially singled out for concern was the level of training and support available for the use of AV equipment.

These were issues that emerged with regard to technology training in general:

- A desire for more training in technology
- The difficulty of finding time to get away from work to attend training
- Lack of funds for training – for example, the need for funds to keep instructors' certifications current – some instructors getting certified off-campus with no compensation
- The need for regular PeopleSoft training
- The need for more testing and training before a product or technology goes "live"
- The need for traveling resources or list of "experts" to get answers to specific technology questions.
- The need for systematic training of new employees
- Need for training at the Escondido Center

There are formal programs supporting Professional Development for faculty (http://www.palomar.edu/pd) and Professional Growth for classified employees (http://www.palomar.edu/hr/pgclassified/), with supporting budgets (however limited), but they are comprised of a very broad range of training possibilities, left to the discretion of the individual. There is no systematic approach to training in general and technology training specifically at the College.

There is HR orientation training when an employee is hired, some of which deals with technology issues. In fact, the need for technical human resources or operational/procedural training, and the need for technology training overlap to such an extent, that they should probably be regarded as essentially part of the same thing.

There is orientation day training for faculty once per year before the beginning of the fall semester where contract and adjunct faculty members are exposed to a "What's New in Technology" session from Academic Technology, and a "Nuts and Bolts" session conducted by the instructional deans. Orientation training is repeated for adjunct faculty before the beginning of the Spring semester.

There are ad hoc training opportunities for some campus technology systems which are sometimes offered as the systems are put in place, such as the recent Curricunet training, the PeopleSoft 8 training, and Excel/budget development training, but often systems are "rolled out" or adopted without training.

There are AT and other PD workshops mentioned above, primarily aimed at faculty but also inclusive of staff, and the resources each organization publishes on their web sites. There are also the many daily opportunities for training over the Internet or through the interaction of co-workers mentioned above. However, there is no formal training program in office productivity software, though ad hoc sessions in Word, Excel, and Outlook occur from time to time.

In the past there was use of a computer based training system in place for office productivity and other technology topics, called the "netG" system, but the District decided to cut the expense of this product in an effort to economize. There was also an automated FAQ system called "RightNowWeb" in place which contained certain questions typically asked by technology beginners, but here again the District elected to cut the cost for this system.

Concern was expressed that a training coordinator was hired for the District in the recent past, but the employee in that position left to take another job and the position has not been filled, again as an economy measure. When it was active, that position was located within the Human Resources Division.

Participants said that very little effort is made to utilize online training, CVC or @One statewide training, or campus resources such as the Educational Television department to deliver training to District employees in a systematic manner.

In summary, technology training occurs in a very haphazard fashion at Palomar College, when it does occur it is usually well received but many opportunities to use underutilized resources are missed because of a lack of overall coordination of training and available trainers; therefore, technology training is underutilized at Palomar College. Participants stated that a plan to provide consistent, focused training to District employees, along with a budget to support it, ought to be put in place.

Technology Support

The Focus Group findings in regards to technology support were as follows:

- The people who provide technology support are appreciated.
- Technology support services are fragmented between Academic Technology, Audio Visual, Information Services, and the lab technicians.
- Technology support should be timelier.
- Lab support personnel were appreciated and of value and those with such support did not want to lose it.
- Greater support was needed in the area of Audio Visual.

Focus Group Suggestions:

1. Utilize CCC Confer more effectively
2. Install telephones in every classroom and connect them to campus police
3. Standardize coding of transferable courses
4. Standardize coding of General Education courses
5. Increase the accessibility to laptop computers
6. Optimize the use of technology on campus
7. Make labs of the highest quality to compete with CSUSM and local high schools
8. Move to total cost of ownership model
9. Set aside funds for technology; include technology in categorical funds
10. Make technology a priority
11. Provide a central resource to contact for technology information
12. Provide a focused orientation/training system for users of PeopleSoft systems. There are some training documents at http://www.palomar.edu/training/PeopleSoft%20Upgrade%20Resource%20Page.htm, but these deal specifically with the upgrade to PeopleSoft 8 and are fairly superficial.
13. Provide a more systematic orientation/training for users of the Blackboard Learning Management System. Academic Technology offers a system of classes leading to proficiency in Blackboard, but participation is completely optional and many faculty members begin using Blackboard without receiving training on its technical use or "best practices" for online pedagogy. With the purchase of the Blackboard Enterprise system this becomes even more important.
14. Basic operating system instructions for new users or users of new computers. Palomar has invested heavily in technology hardware, but paid little attention to giving user's basic instruction in how to use the resources they receive. There is a need for basic OS training in Windows XP and, to a lesser extent, in Mac OS X. A universal problem identified is that when a faculty or staff member receives a new computer, a basic OS and networking practices orientation ought to go along with it.
15. Focused and complete training on the use of Office productivity software (i.e., Microsoft Office).
16. Information resources training. The library invests heavily in online databases and other electronic tools, but often faculty are unaware of their existence, not to mention their use. The library offers bibliographic instruction to meet some of this need, but the program needs to be delivered in a more convenient manner, perhaps online, with modules addressing:
    - Online database use
    - Online catalog use
    - Use of Persistent URLs for handouts, rather than printed
    - Web use and information reliability
    - Offsite passwords and student use of materials
    - General training in staff and student privacy issues and the security of data exposed on the web

17. Specific “What’s new” training when a new version of a product like Microsoft Office or Adobe Acrobat is “rolled out”
18. Specific and systematic training on the use of AV equipment, especially for faculty and especially digital projectors as they relate to computers in the classroom
19. Training on the use of District telephone services, voice over IP services, and the interface of VOIP with Outlook and Netmeeting
20. Training on the use of statewide initiatives and resources available to the faculty and staff, such as CCC Confer and the @One training system
21. Fill the training coordinator’s position and charge the training coordinator, in cooperation with the PD coordinator, the PD staff, Academic Technology, Information Services, and the HR office to create a technology training plan for Palomar College that will take into account the institutional and individual needs of the faculty, administrators, staff, and students
22. The plan ought to include strategies to
    - Provide a basic technology orientation to all employees
    - Provide new user orientations and training for new computer recipients
    - Expand and advertise training opportunities for District employees
    - Incorporate the idea of certification in the use of District systems
    - Provide systematic Office productivity training
    - Provide ongoing PeopleSoft training
23. Provide training in the use of the District phone system, with an emphasis on voice over IP and its integration with Office software
24. Take into account the level of computing expertise when building training plans
25. Provide training for staff and students in understanding access, security, and privacy issues
26. Develop tailored plans for administrators, faculty, staff and students with respect to what they need to know about eServices
27. Realize return on investment in the technology systems already invested by the District
28. Move as much training as possible online. The Blackboard system should be used by the training coordinator to manage the training curriculum for the various college constituencies.
29. Charge Academic Technology with the task of providing basic OS, academic uses of Office productivity software, and Blackboard training online where it is more conveniently available to faculty and staff
30. Charge the IS department with developing orientation/training materials on connectivity (web, dial-in, VPN), computing systems, disk space utilization, email policies, usage policies, and network procedures
31. Develop an online faculty user’s orientation—through use of a web site and orientation day activities to orient all users of the Blackboard system in basic procedures and best practices
32. Develop a similar system for student users
33. Use the ETV department to develop training videos on various technology topics relevant to District employees and then deliver these via intranet, CD or DVD

34. Charge Academic Technology and the training coordinator with the task of reviewing available Computer Based Training (CBT) software and deliver an evaluation with pricing to the president's cabinet.
35. Charge the AV department with developing training materials in the use of digital projectors, and have AV, IS, AT and ETV cooperate in creating training materials for the use of computing/display technologies in the classrooms.
36. In order to eliminate fragmentation and improve support responsiveness, TMPTF recommends that the responsibilities of the three departments (Academic Technology, Audio Visual, and Information Services) and the lab technician position be reviewed to identify areas of redundancy and/or overlap. The goal is to clearly identify each entity's area of responsibility and to clearly communicate to the users of technology what resources should be contacted for support. Elimination of redundancy would improve response time, avoid confusion, and help sustain consistency of support personnel. After clarification of responsibilities, multiple options should be made available to help the users of technology obtain better/quicker support and to help them evaluate new technology. Examples are
    - Single point of contact for all technology problems. The Help Desk should be responsible for redirecting the call to the appropriate resource.
    - Troubleshooting document. A technology problem table would be provided to determine what department to contact based on the symptoms of the problem.
    - Skills inventory. A report of the college's technology resources and their associated skills to help determine who to contact for a given problem.
    - Technology directory. A resource for submission of new technology evaluation requests and cost benefit analysis before and after incorporation in the district.
    - Testing environment. Provide all technicians with access to an environment that allows testing of new applications before they are purchased and can be used for cross training.
    - An organizational assessment is recommended to determine if the level of resources and funding is appropriate to support the needs of the District. The assessment should look at all components of the operation, such as resource scheduling, staff skills, scope of services, customer contact points, equipment inventory, supplies and materials, management and budget.
37. Establishment of a matrix organization structure that would provide for maximum efficiency of staff deployment in an environment where limited resources require technicians to work on multiple projects while also providing technology support. In other words, this would allow the district to move personnel where they are needed thus improving response time to problems and maximizing the use of technical resources.

V. TMPTF RECOMMENDATIONS

Educational Master Planning is essential to guide the overall process of planning and development at a district. An education master plan is designed to describe current programs and the direction these programs should take in the future. Combining an educational and technology plan provides the benefit of a master plan that determines a logical structure for ordered growth and change following general planning principles, while incorporating the flexibility to accommodate the unexpected changes of educational and technological development.

Formation of a Governance Level Technology Committee

The Technology Master Plan Task Force (TMPTF) recommends that several immediate actions be taken through the district's Governance Structure that streamlines the campus-wide technology committee structure by establishing a Technology Resources Committee (TRC) that reports directly to the Strategic Planning Council (SPC). (Appendix D: Governance Structure Request)

This Committee would consolidate and replace the Technology Master Plan Task Force (TMPTF), the Technology Committee, and the Computer Coordinating Committee. It is recommended that the Committee membership include constituency representation with one co-chair appointed by the Faculty Senate and the other co-chair appointed by the Superintendent/President. In addition**,** because large technology purchases will often need the aid of other fund-raising mechanism, it is suggested that membership of TRC also include a representative from the Palomar College Foundation. In light of the fact that faculty computer purchases from Block Grant Funds in recent years have been prioritized by the Computer Coordinating Committee, a primarily faculty membership committee, it is recommended that a working sub-group of TRC consisting primarily of TRC faculty members and chaired by one of the faculty members be tasked with prioritizing faculty computer purchases from Block Grant Funds.

Implementation of Technology Master Plan

TRC should be directed to annually review this plan and update the plan every three years in conjunction with the District's Strategic Plan. TRC should be directed to keep the following goals in mind as general guiding principles in generating, revising, and updating Palomar's Technology Plan and analyzing accomplishments through the Annual Implementation Plans process:

- Keep abreast of new technologies, equipment, software, and educational delivery methods and utilize the best of these to aid our students to become trained and competent in their areas of study using the tools, equipment, and software they will need in their world of work or continued study

- Provide the necessary resources to keep current with the effective use of technology and continue to reach for the cutting edge of technology where possible
- Assess the effectiveness of the technology being used on campus using valid assessment methods and use that assessment to base decisions on where to most effectively provide technology funding
- Create a structure that will allow for the different areas of technology support to work together in a healthy and more effective and efficient manner
- Regularly assess the effectiveness of various technologies in providing an improved learning environment and ease for students in accessing registration, counseling, library, and all other student services and suggest improvements through the TRC
- Determine the best use of its physical and personnel resources to include planning for technology innovation, timely upkeep and replacement of equipment and software, adequate personnel to aid faculty, staff, and students with their technology needs
- Provide and assess training delivery methods to provide adequate and timely training for faculty, staff, and students through many formats, including online, self-paced training
- Prioritize technology needs into the budgeting process and explore grants, donations, partnerships, and other sources to help finance our needs in technology

Mission and goals of the college as defined in the Strategic Plan

- Update the technology plan regularly (when District's Strategic Plan is updated) to improve technology effectiveness, use, and training at Palomar and all its educational sites. The plan must be flexible enough to allow for changes to include new innovations in technology; include one-year annual implementation plans regarding progress toward meeting our technology needs and goals; organizing and overseeing technology training for faculty, staff, and students; making recommendations to SPC regarding the best use of our current physical and personnel resources and needed purchases or expenditures; make recommendations regarding grants, partnerships, or donations to finance technology needs.

Proven and cutting edge technology

TRC should:

- Search out, test, and evaluate new technology, inviting faculty, staff, and students to provide feedback on the benefits or potential problems of incorporating new technologies or teaching methods into our course offerings
- Establish processes to make recommendations about prioritizing computer or other technology needs across the campus to best utilize state funds identified for instructional equipment and other sources of funds which can be used for new purchases, repair, or upgrades of technology equipment and software

- Develop a way to identify instructional needs and any technology that is appropriate to meet those needs
- Have regular assessment of the effectiveness of technology for both learning and instruction, using valid assessment tools and methods
- In response to the assessment findings, in addition to continuing to use technology where successful, identify new technologies that may be effective
- Determine the difference between "state of the art" versus "proven technology needs" and how the district might approach both
- Recommend that the Senate develop a valid instrument for assessing online and other distance education classes

Organization Structure

- Review the structure of the organization with regard to technology to determine whether it is effective and efficient
- Ensure that the structure encourages cooperation by establishing a process that ensures that technology information is shared and reduces redundancy of resources
- Review the responsibilities of AT, AV, ETV, IS and the lab technician position to clearly identify each entity's area of responsibility and to communicate that information to the users of technology, so they know which resources to contacted for support
- Recommend standards of operation for example by defining email quotas to include issues such as:
    - Disk storage allocation per mail box
    - Attachment size limit per message
    - Restricted file types and/or sizes, such as music, photographs, graphics, etc.
    - Timeline for eliminating old messages
    - Training for campus personnel on best practices in email management and document storage
- Determine and make recommendation accordingly as to the standard basic image on district computers

Budget

The Revenue Allocation Committee should be charged with identifying the current district-wide budget and actual expenditures for all technology needs at Palomar College.

TRC should identify the required resources needed to support technology at Palomar College, both "state of the art" and "proven technology" as a percentage of the total budget. The amount determined must include support for maintenance, replacement and research and development.

Working with RAC, TRC should ensure that budgets are adequately funded for the maintenance, replacement and research and development of technology. In addition, adequate budget line items for all District and department software and hardware licenses must be confirmed and where necessary, funded. Any excess in the amount required as compared to what is already funded for all technology needs should be phased in over a three-year period to allow the goals of the Technology Plan to be accomplished in accordance the district's three-year strategic planning process.

In addition, the District's Inventory Control Technician should be directed to audit the inventory records listing all District hardware and software to identify items that are no longer in existence, operating or meeting current technology needs.

Finally, TMPTF recommends that the proposed Bond measure include funds for technology and grants.

Innovation Funding

Technology is and will continue to constantly change. Therefore, TRC should make recommendations as to how to maximize resources in grant-funded programs, such as CCC Confer and CCCSAT and @ One resources district-wide. Also, identify required infrastructure to meet the technology needs of the district whether from general funds or other resources to include grants and general bond funds. The TRC should work with the SPC and the RAC to establish a funding mechanism to support and encourage innovation in the use of technology.

VI. Appendix A—Focus Group Instructions and Questions

Introduction:

- Welcome & thanks
- Quick overview of how the focus group will run, how long it will take, and what will be covered
- Definition of technology: In this focus group we would like to use a very broad definition of technology: Technology is anything related to electronic devices and associated software that you use or regularly come in contact with during your work here at Palomar. These devices include, but are not limited to computer hardware, computer software, telecommunications devices, audiovisual devices, and other instructional, industrial, or office equipment.
- Request to contribute as much as they can – even if the area asked about isn't specific to them – they may have insight from another perspective.
- First we are going to discuss instructional uses of technology
- Then we are going to cover similar topics, but relating the discussion to non-instructional uses of technology at Palomar

Questions:

Instructional uses:

Warm-up questions:

- Thinking about technology as a whole, including computers, hardware, software, audiovisual and any other equipment – what technology do you use in the classroom?
  - ❒ Hardware
  - ❒ Software
  - ❒ AV
  - ❒ Communications
  - ❒ Other
- How does the use of this technology add to the learning environment?
- Overall, what is your evaluation of instructional technology at Palomar College?
  - ❒ Hardware

- ❒ Software
- ❒ AV
- ❒ Communications
- ❒ Other
    - For example, the availability, processes for implementations etc.

- Are there any specific areas that you would like to see improved concerning any aspect of instructional technology?

<u>Access:</u>

- How do you find out about what technology Palomar College has for you to use in the classroom?

- If you discovered a technology that Palomar did not offer, but you wanted to use in the classroom – how would you go about implementing or requesting it? What process or procedure would you go through?

- Is there any technology specific to your discipline that you know of that Palomar does not provide for your use?

    - How do you know about it?

    - What research have conducted to gauge its' potential effectiveness?

- What is your experience in incorporating new technology into teaching your classes?

- What about existing technology – how do you go about purchasing and replacing or updating technology?

        - Clarify that this question is about existing technology, not new technology.

<u>Assessment:</u>

- Thinking back to the technology that you do currently use when you teach, what have you done in the past to assess the effectiveness of the technology that you use?

<u>Training & Support:</u>

- How would you rate your overall proficiency with classroom and instructional technology?

- What sort of instructional technology training have you had?

        - Where did you get this training?

- How satisfied are you with the training you received regarding the use of technology in the classroom?
    - Content
    - Availability
- Is there any other specific technology training that you would like?
- What do you like about the support that Palomar provides for your instructional use of technology?
- How could Palomar improve its support of instructional or classroom technology?
- Any additional comments about the use of technology in the classroom at Palomar College?

Now we are going to talk about non-instructional uses of technology at Palomar.

Non-instructional:

- Thinking about technology as a whole, including computers, hardware, software, audiovisual and any other equipment – what technology do you use to perform your non-instructional work at Palomar College?
    - ❒ Hardware
    - ❒ Software
    - ❒ AV
    - ❒ Communications
    - ❒ Other
- What type of work do you perform in the PeopleSoft system?
- Overall, how do you feel about the non-instructional technology at Palomar College?
    - ❒ Hardware
    - ❒ Software
    - ❒ AV
    - ❒ Communications
    - ❒ Other
        - Such as availability, access, ease of use, training etc.
- Are there any specific areas that you would like to see improved concerning any aspect of the technology you use in your job?

Access:

- How do you find out about what technology Palomar College has for you to use in your work?

- Is there any technology specific to your area (such as accounting or statistical software of hardware) that you know of that Palomar does not provide for your use?
    - How do you know about it?

- What is your experience in incorporating new technology into the way you perform your work at Palomar?

- What about existing technology – how do you go about purchasing and replacing or updating technology?
    *** this question just for people who are likely to purchase technology.

Assessment:

- Thinking back to the technology that you do currently use at work, what have you done in the past to assess the effectiveness of this technology?

    *** this question is for Administrators only

Training & Support:

- How would you rate your overall proficiency with workplace technology?
- What sort of training have you had?

    - Where did you get this training?

- How satisfied are you with the training you received regarding the use of this technology?

    - Content

    - Availability

- What do you like about the support that Palomar provides for your use of technology?

- How could Palomar improve its support of the technology you use at work?

    - Any additional comments about any aspect of technology at Palomar College?

VII. Appendix B—Summary of Responses to Focus Group Questions

Summary
Technology Master Plan Task Force
Focus Groups – Spring 2005

(Focus Group Data Summary created by the Office of Institutional Research & Planning, 4/4/05)

During early Spring 2005 the Technology Master Plan Task Force (TMPTF) conducted 11 focus groups with staff and faculty at Palomar College to garner data for use in the Technology Master Plan. The focus group covered use, access, training, support, evaluation and assessment of both instructional and non-instructional technology at Palomar College. The questions were developed during Fall 2004 by the task force with the assistance of the Office of Institutional Research & Planning and were piloted before the commencement of the focus groups.

In an effort to obtain input from a wide and varied sample of employees of all Palomar constituency groups, the focus groups were incorporated into existing regular College meetings. The final sample consisted of members of the Instructional Planning Council, Student Services Planning Counsel, Administrative Services Planning Council, Counseling, technical staff from all areas of the college, and key personnel from the Divisions of Language and Literature, Arts, Media, Business and Computing Systems, Career, Technical & Extended Education, and Social & Behavioral Sciences including the Library.

The focus groups were facilitated by one of the TMPTF co-chairs, Dr. Bonnie Ann Dowd and Dr. Mark Vernoy, as well as task force members Don Sullins, and Lynda Halttunen, and recorded on flipchart, laptop computer and/or shorthand notes. Some meetings were also tape recorded.

The following definition of technology was developed and presented to the focus group participants at the beginning of each focus group session. This definition was also displayed on a flipchart or whiteboard in the focus group room so participants could refer to it at any stage during the group.

> *"In this focus group we would like to use a very broad definition of technology: Technology is anything related to electronic devices and associated software that you use or regularly come in contact with during your work here at Palomar. These devices include, but are not limited to computer hardware, computer software, telecommunications devices, audiovisual devices, and other instructional, industrial, or office equipment."*

This summary has been divided into the broad areas of:

- Use
- Access – including purchasing and updating
- Assessment
- Training and Support
- Needs and areas of improvement
- Overall assessment of technology at Palomar College
- Suggestions for improvement

Instructional and non-instructional issues are addressed within each of these areas.

USE:

Thinking about technology as a whole, including computers, hardware, software, audiovisual and any other equipment – what technology do you use?

This was the first question asked of all the focus group participants and served the dual purposes of warming up the group, and stimulating thought and discussion about all kinds of technology in use at Palomar.

The following is not an exhaustive or complete list of ALL technology in use, but serves to reflect the breadth of the technology being used at Palomar. Technology used by many areas of the college is listed first and department-specific technology is called out separately.

Hardware: Computers (Mac & PC), scanners, printers, laptop computers (wireless), fax, computers with flat screens, copy machines, PDAs, electronic calculator, electronic marquee, microfilm reader; imaging system, scantron machine, alarm system, tape recorder

Police: computer; software; dispatch center with specific software mandated and contracted out; basic radios for dispatch center; RCS telecomm for UHF and VHF communication at 800 mghtz; manual finger-printing system; guns; pepper-ball guns

Student Services: specialized large-format printer; ID/PIC card hardware and software; cash register; credit card readers; cell phone; electronic locks for office;

Instructional: Tape players (language master machines > ESL), routers, Wireless access ports, Effects hardware, Pro Tools, wireless microphones, Radio broadcast equipment, Preoses (Printing technology), Screen printing technology, Photo and graphic printers, AVID, Power Tools, audio equipment, digital recording equipment, Headset communications systems, lighting controllers, Intelligent light, Color scrollers, MIDI, Smart Music, Electronic musical instruments, Synthesizers, Electronic keyboards, Table saw/band saw/hammers, etc., Voice recognition, screen readers- DRC, Kiln/foundry, IPod, Mannequin/ defibrillator, Ambulance, other medical items – EME, Fire, police, EMS communication devices, Life Sciences- microscopes, physiographs, mass spectrometer, meters/measuring machines, measuring machines, Drafting and

design equipment, CAD and pattern making equipment/software, sewing machines, Lithographic, printing press equipment, TV cameras, studio audio interfaces, cameras, Wireless microphones, amps, mixing boards,

Software: E-mail, internet, and internet services, Microsoft Office, PowerPoint, PeopleSoft, Payroll software, PrintShop, postage meter,

Instructional: Software simulations, electronic maps, archaeological materials on CD/DVD, SPSS, Producer, Data base searches, Track Star, Blackboard, voicemail, Dragon for tutoring.

Counseling: Net Meetings, Myers Briggs On- line, Eureka On-line, Assist, College source, Choices, Discover, Please Understand Me, SARS, Curricular Net

Library: programming, java, visual basic and program that runs it, Jgrass, Bluejay for help writing java programs, applets, other things to put on a web page, streaming media.

Language & Literature: Video Relay (telecommunications), ASL relies heavily on technology - Speech > visual presentations (taped and replay), Computer assisted software (communal language learning), Computer literacy software, Compass/placement testing

Participants were probed specifically about their use of the PeopleSoft system.

> ***What type of work do you perform in the PeopleSoft system?***
> Fiscal, Student look-up, Student accounts, Financial Aid, Registration, English assessment, Education Plans, Transcripts, Assessment Scores, Academic Holds, Probation Status, Early Alert, Job Data, PNSR, Enrollment Reports, HAN's, Subject Look-up, Search for a Facility, SIS, Schedule Build Worksheet

Audio Visual: Projectors, Digital cameras, video, still and film, Microphones, Video equipment, Projectors – data, overhead, and slide, film strips, TI presenters, Smartboards, Whiteboards, PC/TV converters, Sychroneyes, Mixer boards, Card readers, Firewires, UPS, VCRs, DVDs, CDs, Tablets (digitizing), Streaming videos, Green screen, Sound Boards, Audio boards, Lighting equipment, Studio equipment, Stereo speakers,

Counseling: Telenet, Video-Conferencing, Cyber Counseling, Screen readers, Voice recognition, Daisy readers, T.T.Y., Blackboard, Assisted Listening Devices, T.D.Y. CONYVET Wireless Connection with Mexico City

Infrastructure: T-1, data lines, Wireless network, mouse and keyboard, Network Attached Storage (NAS), UPS, Voice-Over I.P. phones, Test equipment for data lines/conductivity, software monitoring tools, servers, backup devices (essential, should

be top of the list), Virtual Network Connection (VNC, remote client), routers, switches, hubs, Sombe share, fiber

Clearly, there is a number and diversity of technology in use at Palomar College.

Access

Focus group participants were asked about the process by which they request and implement new technology and update or replace existing technology.

A theme emerged that there was no clearly understood and followed process for either the acquisition or replacement for technology. A variety of methods were employed that included: Whining and begging to the Dean, contacting IS for guidance, contacting vendors directly.

Many of the creative approaches centered on the funding of new or replacement technology. In the absence of budget allowances for these purchases, it was revealed that begging and hunting around for money to fund technology was the rule rather than the exception. It was suggested that Palomar College needs to:

- Plan for the purchase and maintenance of new and replacement technology
- Build these plans into the budget

Assessment: Technology and Learning:

The assessment of technology fell into two areas: the first was the assessment of the impact of instructional technology on students and the learning experience; the second was the means by which Palomar College employees assess new or existing technology as it pertains to carrying out their work.

When asked how the technology used in the classroom added to the learning environment, the following themes emerged:

- Technology simplifies, extends, and improves access to classes, services, and content for students
  - More ways to access classroom; blackboard, supplement with video lectures, PowerPoint presentations, web
  - Distance Education – increases the audience
  - Library web catalog more available
  - Extends services – coincides with the college's mission statement
  - Improves the perceived value of courses

- Enhances the learning and teaching experience
  - Foreign languages - Brings the culture of the country into the classroom more than lecturing can.
  - Provide a better simulation of real world experience
  - Increases students engagement which leads to greater success

    - Addresses the different learning styles of students
    - Allows a variety of teaching methods
    - Increases the ease of communication with students – e-mail and Blackboard

- Assists with assessment
    - Can make assessment/feedback immediate – (i.e. reviewing videos of performance/technique in coaching/athletics and child development)

- Essential for higher education and workplace readiness/skills
    - Some of the vocational areas (such as graphic communications) expressed the requirements of the workforce that graduates be trained and competent in the most current technology for their field.
    - Concern was expressed that students are coming from high schools with better technology than Palomar and are leaving Palomar to go to schools with better technology.

In addition to the benefits of technology in the classroom, there was discussion of the challenges faced by instructors to keep abreast of new technology and the fact that quite often the students were more skilled and comfortable with the use of technology than some instructors. On the flip side, it was discussed that some groups of students (such as older students) are not as proficient and comfortable with technology than others – what are the best ways for instructors to address the needs of all students with technology?

Concerns were also raised about the increasing use of and reliance of PowerPoint as a lecturing tool. The lack of assessment of its effectiveness and the skill with which it is used in the classroom were discussed.

There was also some concern over the shift toward reading from the screen and away from reading printed materials.

Participants were then probed as to how they measured the effectiveness for instructional technology.

What have you done in the past to assess the effectiveness of this technology in the classroom?

Those focus groups who discussed the assessment of instructional technology all agreed that it was important. There was a sense that technology was having a positive impact upon students as reflected in comments such as “Since using blackboard, the EHPS Department thinks students are doing better”, but no data or evaluation results to support them.

The methods currently being employed to assess the effectiveness of technology in the classroom were informal and ad hoc rather than planned and systematic, and included

trial and error and careful observation of student interaction and use. Some faculty reported using more formal evaluation of technology in the form of student surveys. Participants in the focus groups recognized that student observation was a valuable source of data, but it was clear that there was no process for the systematic evaluation of technology (instructional or non-instructional) and there was some interest in developing one.
Similarly there was no set process followed with regard to the assessment of new or replacement technology for non-instructional uses either. Once implemented, no consistent method for evaluating technology emerged. The techs reported piloting new technology with small groups and asking for faculty feedback.

Training & Support

Palomar College employees have undertaken and are exposed to a variety of formal and informal technology training including; PD workshops, ATG workshops, conferences, free training from vendors, self-training, formal and informal on-the-job training and cross-training, observation of "techies" and IT, mentors, cheat-sheets.

Feedback regarding PD and ATG workshops was very positive. Concerns were raised about the quality of the onsite PeopleSoft training (during the transition) being too late, not taught by competent trainers and too much being taught in each session with no follow-up to reinforce skills.

The issues that emerged with regard to training in general were:

- A desire for more training in technology
- The difficulty of finding time to get away from work to attend training
- Lack of funds for training – for example the need for funds to keep instructors' certifications current – some instructors getting certified off-campus with no compensation
- The need for regular PeopleSoft training
- The need for more testing and training before a product or technology goes "live"
- A traveling resource or list of "experts" would be helpful for answering specific questions.

When asked about the support provided for technology at Palomar College there was a great deal of appreciation for the people who provide technology support. There was some discussion about the fragmentation of technology support services provided (ATG, IT, AV and lab techs), but no clear feeling as to how this situation could be improved to better support users.

Participants spoke favorably of the support given by IS and ATG and were happy with the procedure for obtaining assistance although there was a general feeling that in some areas that the time delay for assistance was too long.
Consistency of support personnel also emerged as a strength. Specific areas across campus had a tech or support person that understood their unique situation or set up

and would help them when they needed it. There was an overall feeling that the consistency of support was of value, and those areas with such support recourse were loathe losing them.

A theme that did emerge with regard to support was a need for greater support in the area of AV. Participants had the following suggestions for the improvement of AV support.

- Faster response time for mounting/getting things working
- Projectors – bulb replacements need to be preordered.
- Adjuncts get no response from AV
- Lack of AV staff
- Difficulty returning equipment to AV for evening instructors
- Some question as to how to contact AV if equipment is not working?

Overall Assessment of Technology at Palomar College

Focus group participants were asked how they felt in general about both instructional and non-instructional technology at Palomar College. The overall feeling was that technology at Palomar College is sporadic – in some areas it is great and in other areas it is lacking.

The techs felt that Palomar's technology was barely adequate. They cited aging equipment, failing switches, servers with leaky memory, and inadequate back-up capabilities as examples.

Needs and Improvements

Desired technology that Palomar does not provide and areas that need improvement:

Techs:

- T-I connect
- Multi-media classrooms
- Tablet PC's
- Linksys

Counseling:

- Document imaging
- Degree audits
- Detailed GPA information
- List of evaluated courses
- Standardize Coding of transferable courses
- Standardized coding of General Ed courses
- Increased accessibility to laptops

Library:

- Availability of technology such as computer labs when library is not open or school is not in session.
- Single point of entry that includes the library that gives students access to online databases.
- Make technology more user-friendly with the reduction of security and the number of passwords that need to be used.

General technology needs and areas for improvement that emerged from a number of the focus groups were:

- Need for **planning for technology that is tied to resources**. This emerged as the overarching theme across of the focus groups. It was clear that there is a desire for better planning of purchasing, maintaining, upgrading, and replacing technology and that these plans need to be backed by funds.

- **Reduction/elimination of Spyware and Spam** – almost all of the focus groups contained some discussion of the frustrations and loss of productivity caused by the proliferation of Spam and Pop-Ups. Participants were sensitive to the complexity of the issue and the technical challenges involved in reducing Spam and Pop-ups, but there was consensus across groups that they were problems that needed to be addressed.
- To **expand the wireless infrastructure** and access across campus.
- To **increase the support for Macs** and Mac labs compared with PCs
- **Classrooms that are standardized with respect to technology** to enable instructors walk into any classroom and quickly access and use the technology to teach.
    - The need for **telephones in all classrooms** – for access to tech support and the campus police
    - The need for **TVs** in all classrooms
    - **Data projector**s in all classrooms
    - Off-site centers need to be better equipped

The techs groups added some additional "global" areas of need for improvement:

- Conduct yearly analysis of bandwidth requirements and provide funding
- On going standardization
- Planning on a district wide level
- Involve all areas in decision making
- District culture change – flexibility to change
- Support instructional and administrative blending
- Concerns regarding capacity of existing equipment

- TERB – evaluation process needs to be fully computerized

VIII. Appendix C—Inventory (hardware and software)

Because of the size of this appendix it has been placed in an excel file and can be found on the Internet at:

http://www.palomar.edu/technologymasterplan/

IX. Appendix D – Governance Structure Request

GOVERNANCE STRUCTURE GROUP REQUEST

Request submitted by: Technology Master Plan Task Force (Dr. Mark Vernoy and Dr. Bonnie Ann Dowd, Co-Chairs)	**Date: September 15, 2005**

Proposed Name of Requested Group: Technology Resources Council (TRC)

✓	**Council**		**Committee**		**Subcommittee**		**Task Force**

Action Requested:	✓	**Add**		**Delete**		**Change**

Role, Products, Reporting Relationships:

Role & Products – Implement the Technology Master Plan 2005 by developing processes for addressing the need for proven and cutting edge technology, streamlining the organization's structure with regard to technology, working with RAC & SPC in the creation of specific budget lines for technology, both hardware and software, and technology support and to identify funds for innovation. Annually review and update the plan every three years in conjunction with the District's Strategic Plan.

Reporting Relationship: Reports to the Strategic Planning Council

Meeting Schedule: 2nd and 4th Thursday, 2:00 pm to 3:30 pm

Co-Chairs: One Co-Chair appointed by the Faculty Senate
One Co-Chair appointed by the Superintendent/President

Members:
Vice President, Instruction (or designee)
Vice President, Student Services (or designee)
Vice President, Administrative Services (or designee)
One Instructional Dean – Appointed by the VPI
One Student Services Dean/Director – Appointed by the VP for Student Services
Director of Information Services
Academic Technology Coordinator
Academic Technology Supervisor
Network and Technical Services Manager
Systems Programing Manager
One Instructional Computer Lab Technician-Appointed by CCE/AFT
One Information Systems Network Specialist/Assistant-Appointed by CCE/AFT
One CAST Representative-Appointed by CAST
One AA Representative-Appointed by the Administrative Association
Seven Faculty Members Appointed by the Senate representing divisions (these seven faculty include the faculty co-chair.)
One Representative from ETV appointed by CCE/AFT
One Faculty Member Appointed by PFF
Media Supervisor (AV)