

TIPS News



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Technology II Planning

Ric Matthews
 Coordinator, Technology II
 California Community Colleges Chancellor's Office

For three years, the California Community Colleges (CCC) have had in place a system-wide technology plan known as the Telecommunications and Technology Infrastructure Program (TTIP). The plan, and the budget associated with it, will run out in one year.

Chancellor Tom Nussbaum has asked Ric Matthews, biology faculty member from San Diego Miramar College and former technology chair

for the Statewide Academic Senate, to coordinate the development of a Technology II plan for the state. Through an intra-jurisdictional exchange, Matthews is on loan from San Diego Community College District to the California Community College's Chancellor's Office (CCCCO).

The Technology II plan is being developed in collaboration with the Technology and Telecommunica-

tions Advisory Committee (TTAC), a cross-section advisory committee. The committee consists of five faculty appointed by the Statewide Academic Senate, five CEO's appointed by their statewide organization, and one member from each of the following statewide groups: chief instructional officers, chief student services officers, chief information services officers, chief business officers, Cali-
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Copyright and Fair Use

Jose Michel
 Office of Distance Education
 California Community Colleges Chancellor's Office

The issue of copyright and fair use is based on access to information and products for educational use.

Individuals and companies developing educational materials specifically for the education market are entitled to protect their products, created to make a profit, otherwise they will go out of business.

In a free market, competition will determine the viability of products and reasonable costs. However, there are questions surrounding the use of

materials that are not specifically created for the educational market yet are of great value in the educational process. The quality of education is compromised if educators, and ultimately students, cannot have access to this material. It might be argued that educators should produce their own materials, and many do. However, production is costly and resources for education are limited.

If the use of copyrighted material does not violate the rights of the
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online

C O M M E N T A R Y

Effective Practices For Successful Videoconferences

Michael Bertsch
English Instructor, Butte College
Member, @ONE Project

Smart eCommunities use videoconferencing effectively. If educators expect to guide our clients in the uses of technology, we must use it effectively ourselves. We will always be able to improve our uses of technology as the technology itself continuously changes. This is the nature of telecommunications.

Videoconferencing by itself is not as effective as videoconferencing accompanied by e-mail, telephone, real time chat, web pages, and/or bulletin boards open for postings.

The following steps might be called windows of opportunity with respect to the workings of virtual organizations. If a window is missed, success will be compromised.

- Disseminate background materials between two and three weeks prior to the meeting. Encourage electronic discussion of these materials. Discussions may be encouraged by a moderator or by a chair by posting to an e-mailing list of open-ended questions geared to clarifying and generating problem statements. The moderator may then identify salient points generated during the electronic discussion, and either post them on a web page or to a listserv.
- During the meeting, use web pages, synchronous communications, and/or e-mail to hold sidebar discussions; one advantage of this is the ability to record these communications.
- Between one and five days following the meeting, distribute an executive summary which enumerates any action items, decisions, and/or task allocations developed during the meeting.
- Between seven and 15 days after the meeting, distribute the meeting's minutes for perusal.
- Between 15 and 30 days after the meeting, distribute any follow-up materials, reminding the receivers of the next meeting.
- Using the listserv, stay in contact with the entire group once a week.
- During the meeting, divert to a listserv (if available) extended discussions of points not on the agenda unless deemed to possess a high degree of saliency by the Chair.

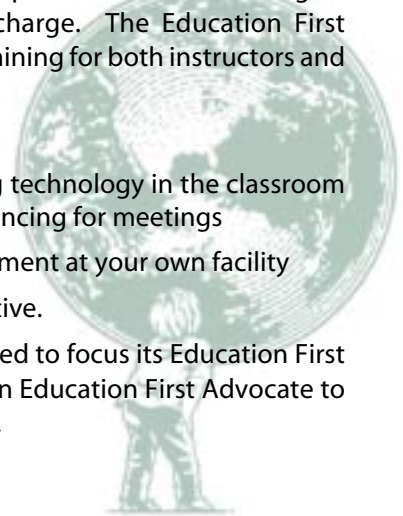
Videoconferencing Training and Support

Education First, a program from Pacific Bell, makes available workshops or hands-on training in videoconferencing for individual California community colleges at no charge. The Education First Advocates are experienced teachers who can work with you to customize training for both instructors and administrators.

These training sessions will:

- Allow faculty to address questions about the use of videoconferencing technology in the classroom and administrators to address the pros and cons of using videoconferencing for meetings
- Provide staff with the nuts and bolts of using videoconferencing equipment at your own facility
- Teach methods and techniques for making video meetings more effective.

Pacific Bell, in cooperation with @ONE and the Chancellor's Office, is prepared to focus its Education First program on the needs of community college customers in 1999. Contact an Education First Advocate to plan Flex Day activities or other on site training during the Spring Semester.



sample workshop:

Fundamentals of Videoconferencing

A typical workshop, "Fundamentals of Videoconferencing," allows your staff to explore the use of videoconferencing in education. This three to four hour workshop is an overview designed to increase the comfort level of staff members using this technology. In particular, this workshop will cover:

- An overview of compressed videoconferencing over ISDN
- Placing a call using a videoconference unit
- Receiving a call from another site
- Useful features of the Picture Tel Venue 2000
 - Pan tilt zoom camera
 - Camera pre-sets
 - Far end camera control
 - Document camera features
- Multi-directional microphone
- Volume control and mute
- Basic troubleshooting
- Videoconferencing for learning (how to effectively use this technology with students)
- Meetings and videoconferencing
- Multipoint videoconferences

Contact Information

To schedule and customize a free workshop or series of workshops geared to community college issues and curriculum, contact a local Pacific Bell Education First Advocate:

Beth Bustamante (Los Angeles)
213-975-2217
bethi@pacbell.net

Tom Holland (South Counties)
619-237-3978
holland@adnc.com

Mary Schrader Lasica (Valley & Northern CA)
916-972-4362
lasica@pacbell.net

Linda Uhrenholt (SF Bay Area)
510-824-9064
lindau@tdl.com

For more information on Pacific Bell's Education Advocate program, visit their web site at:

<http://www.kn.pacbell.com/edfirst>

TIPS_{on} *Accessibility*

Browsing the Web by Ear: Screen Reading Software

Marcia Norris
Training Specialist/Instructor,
High Tech Center Training Unit of the California Community Colleges

For individuals with visual impairment or learning disabilities, browsing the World Wide Web can be a daunting experience. Without seeing the screen, how can one possibly read a Web page? If text on the screen is not big enough to be seen clearly, what can be done to help magnify Web page contents as well as read it aloud? If one has a reading difficulty, how can he/she get help reading unfamiliar words?

The solution to these challenges lies with a specialized type of software tool called a screen reader. Screen reading tools convert text on the computer screen to information that can be spoken by a speech synthesizer. The needs of the target audience dictate the ways in which software developers design the capabilities of screen reader tools.

Screen Readers for Blind Users

Using a screen reader in a web-based environment can be very easy, or very complex, depending on the nature of the page which is being read. Screen readers read text. They cannot translate graphical images; most blind users browse the Web with images off. Most screen readers for the blind will automatically begin reading when a new screen of information appears. Once the screen content has been scanned by ear, then the search for links begins. The easiest way to do this is to use a command key, usually the Tab key. Pressing Enter once a link has been read takes the user to that link. Specialized reading commands also allow the user to further explore text on a line by line or word by word basis.

If the Web page has been thoughtfully designed, all important graphical elements will have ALT tags (HTML code for alternative text) that are brief text image descriptions that appear onscreen when graphics are

loaded by the browser. Screen readers can read ALT text if it is present, informing the visually impaired user about the graphical elements on a page. A limitation of most screen readers is that they read from left to right, moving down the screen line-by-line; they do not read columns. Frames can also be challenging for screen readers.

Currently, screen reader producers are working on ways to overcome these technical shortcomings by developing specialized techniques; e.g., reformatting a Web page, stripping out all graphics and columnar presentations while maintaining hierarchical page content; and putting up a go-to dialog box that contains a list of all frames for that page.

Screen Readers for Low Vision Users

Individuals with low vision need to have onscreen text and images magnified and may benefit from using a screen reader if they require very large magnification. Software programs which magnify the screen are intuitive and easy to use. Keystrokes allow the user to enlarge or reduce screen magnification on the fly.

Because not all the visual information can be seen at one time once screen content is enlarged, mouse movement is used to pan around the screen display. Low vision users must rely heavily on visual closure (mentally creating an image of the full screen based on the pieces viewed at high magnification) unless they are working on a very large monitor. For persons requiring text magnified more than six times its original size, it is recommended that a screen enlarging program which also supports its own screen reading capabilities be used. Most users who browse the Web at high magnification choose to work with graphic images turned off at the browser level because at large magnification images become an unrecognizable collage of pixels.



Screen Readers for Person With Learning Disabilities

The Learning Disabled (LD) user will want to see the text as it is being read by the screen reading software.

They will need to see the page just as it is, relying heavily on the any graphics present to augment or enhance the information presented in text form. Because ease of use is important for persons with persons with learning disabilities, the most widely used Web reader for LD Web surfer's functions with a very simple tool bar. The most recent version of this LD Web reader is smart about columns and page content hierarchy, and is able to correctly read multiple column text, although it takes the program time to decide on columnar relationships.

Clicking on a green arrow begins reading. Tapping the space bar stops or pauses reading. Each word is highlighted on the Web page as it is read. If the user does not understand the meaning of a word, reading can be stopped the word highlighted, and the dictionary function invoked. The definition of the word can be read aloud. The user then puts the dictionary tool away and resumes general reading. In this way, the LD user is provided with an easy-to-use, transparent reading tool that allows full access to Web content re-gardless of reading ability.

A Note on Screen Reader Function and Web Design

Colleges have an obligation to provide equal access to online, Web -based information to all students, including students with disabilities. Traditionally this equal access requires the use of several Web page construction conventions, particularly those that create intelligent content for visually impaired users who must rely on screen readers; e.g., the inclusion of ALT text in the image source (ALT="image description"), the exclusion of multiple col-

umn text, not placing text as a graphical element, and careful use of tables and frames.

The End Result of Careful Web Page Design

Screen readers, when running in a no-graphics browser mode, will read the ALT text to the visually impaired user who then becomes aware of the nature and meaning of graphical elements included on a page. If there are no multiple columns on a page, the blind user can quickly and easily listen to the text content of a page without having to work to reformat the page. Currently, working with frames remains a difficult prospect for the blind Web surfer.

A Final Comment

As technology evolves, the broadly useful features of the readers described above will, in all probability, be included as general options at the operating system level or at the browser level, and everyone will listen to the Web when it is more convenient. ☺

ON THE WEB *Screen Reader Software*

- **JAWS for Windows (Henter-Joyce):**
Screen reader for persons who are blind.
-<http://www.hj.com>
- **ZoomText Extra Level Two (aiSquared):**
Screen reader for persons with low vision
-<http://www.aisquared.com>
- **Kurzweil 3000 (Lernout & Hauspie):**
Reading tool for persons with learning disabilities
-<http://www.kurzweiledu.com>

Technology II

(continued from page 1)

fornia Association on Postsecondary Education and Disability (CAPED), 4CNet, @ONE, and three members of the CCCCO staff.

In January, the TTAC held a vision activity which was facilitated by three members from the Bakersfield College Center for Professional Development. From this meeting, and a follow-up in February, the group will submit a draft plan to Chancellor Nussbaum.

It is a daunting task to predict the future technological needs of the CCC in the year 2005. As most readers are probably aware, technology professionals identify a generation as 18 months. So where will we be in five years - three and a half generations from now? The recommendations of this group will be made available through a web site after the TTAC and the Chancellor's Office have approved them. (The address will be announced here in *TIPS News* and on the *TIPS* web site at <http://video.4c.net/TIPS>).

Areas of shared concern within the draft are access, support, and training. How do we provide technology

sophistication to the campuses, faced with some students arriving with expectations of multimedia rich content and connectivity, while other students lack the equipment and skills for even the most basic technologies? How will we support the instructional and student services technology that is arriving on campus, with limited existing staff in a competitive job market? What mechanisms do we create to provide for ongoing training for faculty, administration, and staff?

The Gartner Group, a technology think tank, states that the true cost of ownership is 15 percent hardware and software acquisition, 16 percent technical support, 17 percent administration, and 52 percent end-user operations (training and support). Most boards, local and statewide, are concerned with the acquisition expenses, with little consideration for the other components. Technology will be an ongoing expense, like building maintenance. The Technology II plan will attempt to address these issues, and should be available for review by late spring. ☺

Online Education Taking Off In California

New Figures Reveal Rapid Growth in 1998

Rich Halberg
California Virtual University Design Team



The number of online classes offered in California nearly tripled last year, and the number of California colleges and universities offering them increased by 70 percent, according to new figures released in January by the California Virtual University Foundation (CVU).

"Online education exploded in California last year," said Dr. Stanley Chodorow, Chief Executive Officer of the CVU. "The rapid growth in 1998 exceeded even the ambitious goals set by the CVU design team. Clearly, California colleges and universities are embracing the Internet as an effective means of offering high quality instruction at a distance."

In January 1998, 65 California campuses offered a combined total of 700 online and technology-mediated distance education courses, enrolling an estimated 9,800 stu-

dents. In January 1999, those figures jumped to 111 campuses offering more than 1,950 courses to an estimated 27,000 students.

The CVU integrates into one Web site (<http://www.california.edu>) the online and technology-mediated distance education courses and programs of California's accredited colleges and universities. A joint project of the University of California, California State University, California Community Colleges, and the Association of Independent California Colleges and Universities, the CVU was initiated by former governor Pete Wilson in September 1997 and was established as a private non profit foundation in July 1998. All California-based, accredited colleges and universities are eligible to participate in the CVU. ☺

Copyright and Fair Use

(continued from page 1)

owner and is available for a marketable price, then the needs of both education and owners can be satisfied. If the copyright holder cannot be identified, or an agreement cannot be reached, then those resources are lost to education. However, many products and resources are frequently available free of charge for use as educational resources, with permission from the copyright holder.

Many companies and publishing houses are currently engaging in marketing strategies that include competitive pricing of their products in order to gain a foothold in the educational market. The innovation of companies such as Netscape, Adobe, and RealNetworks in giving away some products free of charge, allows them to get a return on their investment through alternative means. For example, Netscape has been providing its web browser free to educational users, and uses advertising, production software, and supporting services as its source of income, while Adobe and RealNetworks have made their software available for free in order to sell their production software.

The California Community Colleges has received substantial support from state government, industry, and foundations to install computers, networks, software, and courseware to enable students to learn from multimedia and the Internet. Increasingly, many companies recognize that education is a vast untapped market for technological products.

Nationally, both public, non profit higher educational institutions and for-profit training institutions generate approximately \$600 billion in revenues annually. The California Community Colleges has invested \$15.4 million to train faculty in new technologies and to integrate this technology into the curriculum, and in the next five years, the CCC system stands to invest an additional \$52.0 million for technology training.

Technology training is particularly applicable to the area of distance education, which is highly dependent on the new interactive technologies of two-way television, multimedia, and the Internet. It is a promising solution that can provide access to learning opportunities for the unserved and underserved by reducing the barriers of geography and time that prevent so many people from re-

ceiving an adequate education.

The free market has led to the development of educational materials for distributive learning and the competition has ultimately resulted in increasingly affordable prices. However, the cost of production is still running high, and the problem is in initiating the process by providing reasonable access for educators to evaluate and learn the new technologies.

The Digital Millennium Copyright Act (DMCA) of 1998 did not recognize the need for changes to accommodate the new interenational opportunities offered by the Internet and global satellites. The outcomes of the research initiated by Section 403 of the DMCA for the stakeholders, the producers, distributors, managers, and consumers (users) of digital resources can substantially impact the future for each affected group.

There are already ways, such as the Copyright Clearance Center, to simplify the clearance and exchange of rights and royalties. However, there are many gray

areas to be resolved and therefor the debate of access and fair use will continue.

Recommendations presented by the Copyright Office to Congress for revision of the copyright law must ensure reasonable protection of intellectual property, a guarantee of access and fair use, and substantial support for education to adopt and utilize creative products that already exist to further its global mission. ©

“Increasingly, many companies recognize that education is a vast untapped market for the products of technology.”

ON THE WEB *Copyright & Fair Use*

•Stanford University Libraries:

Materials, resources, court precedents, and more...
-<http://fairuse.stanford.edu>

•Copyright Resources on the Internet:

Produced by the Groton Public School District
-<http://groton.k12.ct.us/mts/pt2a.htm>

•Teaching on the Web: Copyright and Fair Use:

Produced by the Otto G. Richter Library
-<http://www.library.miami.edu/tools5.html>

Palomar College Satellite Partnership

Sherilyn Hargraves
Manager of Educational Television Dept., Palomar College

Palomar Community College's Educational Television Department was extremely proud to produce its first satellite uplink in partnership with the Public Broadcasting Service (PBS) and the Learning Paradigm Foundation.

"Tools For Transformation: Making the Learning Paradigm A Reality" was broadcast live on February 4, 1999, and was downlinked to 113 campuses throughout the United States, Mexico, and Canada.

The panel of four nationally recognized speakers was moderated by Palomar College's Dean William Flynn. One of the keynote speakers, Dr. Freeman Hrabowski from the University of Maryland, participated through the use of two-way video-conference technology (purchased

with Telecommunications Technology Infrastructure Project (TTIP funds) incorporated into the production studio configuration. Dr. Hrabowski was able to interact with other panel members, call-in participants, and studio audience members.

Participants who downlinked this conference to their campuses were able to fax or call-in their questions to the panel. This live teleconference was also simultaneously closed-captioned. Members of the TV studio audience included Palomar College's president, Dr. George Boggs, academic community leaders, Palomar College's governing board members, deans, faculty, and student leaders. This interactive satellite telecast was a very positive experience for everyone involved. ©

Contribute to **TIPS** *News*

TIPS News focuses on projects funded by the California Community Colleges Chancellor's Office that involve technology in education. *TIPS News* also features other issues concerning distance education in California, including videoconferencing and online learning.

If you have an article suitable for publication in *TIPS News* or are interested in writing material for publication, contact:

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