CALIFORNIA COMMUNITY COLLEGES

TIPS News

Technology in Education

TELECOMMUNICATIONS INFRASTRUCTURE PROJECT STATEWIDE

Volume 2 Issue 9 | video.4c.net/TIPS | October 1998

Wilson Announces Selection of California Virtual University Foundation Chief Executive Officer

SACRAMENTO - Governor Pete Wilson recently announced that Stanley Chodorow, Ph.D. has been named Chief Executive Officer of the California Virtual University (CVU) Foundation. Dr. Chodorow was selected as the Foundation's CEO after a nationwide search.

"I am truly pleased that Stan Chodorow, an educator of impeccable credentials as well as a fellow San Diegan, has agreed to head the California Virtual University Foundation," Wilson said. "I launched the CVU to move California to an environment where quality learning opportunities are available to the greatest number of Californians possible, anywhere, anytime. The new CVU Foundation will benefit greatly from Dr. Chodorow's considerable skills and experience as it works to fulfill this important goal."

california.edu

Dr. Chodorow was Provost of the University of Pennsylvania from July 1994 to December 1997, where he was responsible for the academic programs offered by the 12 schools of the university. In addition, Dr. Chodorow led an executive staff of deans and vice provosts for research, graduate studies, student life, libraries, and computing. Prior to that, Dr. Chodorow spent 25 years at the University of California at San Diego as Professor, Dean of Arts and Humanities, and as Associate Vice Chancellor for Academic Planning.

"I am excited to be in a position to help California's institutions of higher learning take the lead in dis-

(continued on page 7)

@ONE Survey Results on CCC Instructional Technology

Catherine Ayers
@ONE Project Consultant

Are you interested in statewide trends regarding institutional support for technology? Do you want to know what type of technology training is offered at other campuses? This information is available in the *@ONE Summary Report: CCC Faculty Instructional Technology Needs Assessment and Survey Results*, and can be found online at the @ONE web site, *one.fhda.edu*.

The @ONE project is a faculty-driven community college consortium funded by the California Community Colleges Chancellor's Office to provide a statewide technology training infrastructure.

The survey, conducted in February 1998, was part of a needs assessment that included focus groups and interviews. The results provided the most comprehensive data to date on faculty use of

(continued on page 7)

• In This Issue •

California Community Colleges
Telecommunications Infrastructure Project Statewide (TIPS)

Editor, Layout, Design, and Webmaster:
Chris Palmarini
530-895-2988
video@4c.net

Subscriptions: ***Bonnie Roberts***
530-895-2341
RobertsBo@butte.cc.ca.us

Technical Support: ***Scott Roberts***
530-895-2362
scott@4c.net

Project Coordinator: ***Robert Ellsworth***
530-895-2344
EllsworthRo@butte.cc.ca.us

Project Administrator: ***Dr. Fred Sherman***
530-895-2433
ShermanFr@butte.cc.ca.us

CCCCO Coordinator: ***Charles Mawson***
916-327-5902
cmawson@cc1.cccco.edu

•*TIPS* is a monthly publication sponsored by the California Community College system, and is dedicated to sharing information related to state-funded projects, statewide meetings, educational innovation, individual recognition, and future opportunities for applying technology in education. *TIPS* is distributed statewide to all community colleges, the State of California Legislature, and to other interested groups and individuals.

•*TIPS* is produced at the Butte-Glenn Community College District located in Oroville, California under a grant funded by the California Community Colleges.

Address all inquiries to:

Chris Palmarini, *TIPS* Editor
Butte-Glenn Community College District
3536 Butte Campus Drive
Oroville, Ca 95965
ph: 530-895-2988
fax: 530-895-2380
email: video@4c.net

•*TIPS* reserves the right to make changes in any material submitted for publication to meet copy requirements. To be placed on the mailing list, call 530-895-2341 or send e-mail to: video@4c.net.

•Articles appearing in this newsletter and other relevant news may also be accessed on the World Wide Web at:

TIPS online *http://video.4c.net/TIPS*

COMMENTARY

Interactions, Interventions, and the New Technologies

Virginia L. McBride
Mt. San Antonio College, Project Director, "The System Think Tank"

Joe Georges,
El Camino College, Coordinator for Academic Program Review

Thomas Smith, Director of Engineering Telecommunications Programming at the University of Wisconsin, claims, "Faculty-student interaction is one of the most costly and troublesome elements of any distance education program. It can account for anywhere from 20-60 percent of total costs."

Distance education instructors must design course interactions with a diligent eye to time and resource costs for both instructor and student (see "Course Design and the New Technologies," July/August 1998 *TIPS News*). Multiple strategies exist, depending on the learning to be demonstrated.

E-mail is easy to establish: give students an e-mail address and require transmissions. However, with poorly designed e-mail approaches, faculty find that, over time, personal lives disappear into answering procedural, rather than content questions. Without interaction design, faculty members may find it typical to receive 100 messages a day. Instructors are best served by providing clear definitions of acceptable e-mail.

Frequently-asked-questions (FAQ) files can usually solve interaction overload and, thus, reduce costs. FAQs can be (1) sent by e-mail to the student, (2) posted as files on campus networks, (3) placed on web-pages, or (4) used instead of greetings in voice mail systems (similar to what a caller hears on an answering machine).

Listservs (electronic mailing lists) are another tool to reduce overload and costs. Again, instructors must design the interaction approaches with time and resources in mind. Few overload issues are solved by simply giving students an address for a listserv where all course-related interactions are posted.

Where collaboration is the objective, instructors must design the acceptable communication protocols. With technical support restricted, faculty must consider the time needed to manage listservs. With limited storage resources, faculty must determine archiving policies.

As a way for further control of faculty costs, instructors must learn to watch from the sidelines and be ready to intervene only when necessary. Without guidance, students post banalities, and response without contribution costs all. In turn, instructors feel obligated to respond, and again the costs accumulate. Design decisions rely on the expected student performance, with a keen eye to controlling costs from within the learning environment.

What, then, offers designers the greatest flexibility with simultaneous control of costs and resources? Web conferencing combines the best of the previous approaches with both synchonous (i.e., chat) and asynchronous (i.e., bulletin board) capabilities. Web conferencing, however, offers some striking features that other

(continued on page 8)

Distance Education Experiences Using Compressed Video

Dr. James E. Poulsen
Shasta College, Director, Extended Education and Telecommunications

Shasta College is located in the far northern end of California in the city of Redding. The college District is composed of three counties, and has a geographical area of 10,000 square miles with towns being separated by mountain passes and two-lane highways. During the winter months it can be very difficult to travel to the Redding campus. Even in good weather, the travel time from the major population centers located to the east and to the west is a little over an hour.

The college was aware that it was not totally meeting the educational needs of the people who live in these remote communities. Live courses were offered, but due to the difficulty of employing qualified faculty and the minimum class size necessary to support the course, only a limited number of courses could be offered.

Shasta College has made a commitment to serve the educational needs of students located in rural locations by developing centers using current technology. The technology of choice is live interactive two-way compressed video.

Educational centers are located in Red Bluff, 30 miles to the south; in Burney, 50 miles to the east; and in Weaverville, 40 miles to the west. Each semester, through the use of a multi-point conferencing unit and T1 connections, the college is now offering approximately 20 live classes to the three remote sites.

Also located in the south part of Redding is a facility owned by a Native American tribe. The tribe has purchased compressed video equipment for an educational center, and is using ISDN connections, dial in to the multipoint conferencing unit (MCU) to receive classes at their site.

Last year the college offered approximately 40 classes in a large variety of disciplines using the technology to the Red Bluff center. We asked students at the Red Bluff center what they thought of the educational experience they received by using videoconferencing technology to provide the courses. A summary of the responses of students and faculty members included the following:

- Students appreciate having access to courses that may not normally be available live at a remote site.
- Students appreciate having access to courses with a greater selection of times, faculty members, and instruc tional methods, etc.
- The quality of the educational experiences as perceived by students using the technology is very good.
- Faculty members enjoyed teaching in a technologically-based environment.
- Students at the Red Bluff center had completion rates typical of those on campus.
- Some faculty members stated that the class at the Red Buff center seemed to perform better than the class on campus. As a general rule the students at the Red Bluff Center were older than the makeup of the class on campus.
- Approximately 93 percent of the students would recom mend to a friend that they enroll in a course delivered through the use of compressed video technology.
- Students appreciated the opportunity to take classes at a distance because it would save them time or money and allowed flexibility in scheduling to meet employment or other obligations.

The biggest technical problem was with the audio system. The original design of the classrooms utilized live microphones hanging from the ceiling. It was very difficult to hear students at the far corners of the classrooms, and, at times, students would need to yell in order to be heard. The college has since replaced the microphones with a touch-to-talk system that enables two students to share one microphone. The current quality of the audio for all students is much better, and this change has eliminated most of the concern regarding the audio system.

This academic year, the college added three more remote sites for a total of four end-points. The response by students has been very good. There are over 55 students enrolled in Weaverville, 33 in Burney, 17 at the Redding Rancheria, plus those students enrolled at the Red Bluff Center.

At the end of each semester the college will provide an opportunity for students to evaluate this instructional system. From the input of students and faculty, the college can continually strive to better serve the educational needs of all students in the District.

LIGHTING a Videoconferencing Environment

Part Two:
- Mounting Lights
- White-Balance Control and Color
- Furniture and Accessory Placement
- Checklist for a Video-friendly Room

• **This information is reprinted from *Why Do I Look Like A Raccoon?*, and was provided by ITRIX, Inc. For more information, contact ITRIX at 415-957-1744**

Copyright© ITRIX, Inc.

Part One introduced basic concepts of lighting, in cluding different lighting types, characteristics of light, and color temperature.

Existing office or classroom lighting is not always well adapted to videoconferencing needs, as there are special considerations necessary to ensure a high quality picture. Modifications to existing lighting may solve some of the problems, and specialized lighting systems are available for a custom solution.

Mounting Lights

Once a particular type of lighting has been selected, the next consideration involves mounting the fixtures. Different types of lighting are available in many fixture styles, and can generally be placed into two categories.

Lighting attached to the ceiling

There has been no distinct crossover in the lighting industry (for options under $50,000) between the functionality of the studio fixture and the aesthetics of architectural lighting. This is the core of the problem of aesthetics versus functionality that faces videoconferencing room design.

The industry has not developed an angled fixture that will sit flush into an acoustic ceiling grid. Even if such a fixture existed, there would still be problems with the ceiling panel's position in comparison to the participants at different locations around a table.

Specialized videoconferencing lights are available, and may be mounted to hang directly from any standard drop-ceiling grid.

Lighting attached to a tripod stand

While a tripod mount offers more versatility than a ceiling mount, it may not be not sufficient as a permanent solution, as the fixtures will be underfoot and in the way of conference room traffic. Cords running across the floor can also pose a hazard.

White-Balance and Color Control

The way the camera evaluates the average lightness of an image on the screen, the White-Balance function of the system, is a critical factor in understanding the best way to fix a poor screen image.

At the default setting, the system takes an average of the varying tones of color in the shot and then compensates for a certain average percentage of gray (around 20 percent).

Thus, if a shot contains a high percentage of white or lighter tones, the system will attempt to darken the overall shot, making the darker sections even darker. This means that the participant's face is often evaluated as one of the darkest things in the shot, and is darkened more so that participants on the other end can better see your wall without all the hot-spots or white-flares.

In many cases, a subject sitting in front of light colored walls will quickly loose even more facial details and the unflattering shadows will actually increase. This effect is the cause of dark and undefined facial profiles in the midst of washed out white tones and hot-spots. People with darker skin tones are especially affected.

There is a difference between color tone and brightness. For example, a subject in a dark blue shirt can be illuminated with as much non-directional overhead light as possible, but this brightness will only force the camera to compensate further for the white walls around the subject. In most cases, the white-balance is reading the color tone rather than the brightness of the scene.

To illuminate a scene properly, the face of the person conferencing should always be the lightest color tone on screen. If possible, remove any white from the scene. In most cases this will include changing the color of your walls to a darker shade. Shades of blue work the best.

Participants should also be reminded to dress appropriately. Solid colors are better than complex patterns,

and dark or neutral colors are best. Stripes or busy patterns will cause the camera's focus to oscillate and destroy picture clarity.

Inside Your Camera and the Auto-Iris

Once the lighter color tones in the room are removed, don't be afraid to adjust the brightness and contrast controls. Remember that the factory defaults assume the worst of conditions. Without the danger of white creating flare in your shot, try opening up the iris stop or increasing the brightness of the camera.

Furniture and Accessory Placment

The Table - Non-white, matte, non-reflective finishes are best. When placing a table, remember to take into consideration that lighting is adjusted in relation to the participant's position at the table. If a larger or smaller table is used later, there is a good chance the lighting will need to be altered as well.

Windows - If there are windows in the room, position the participants so that they face the window, and have a curtain or blinds installed, in order to control the environment.

The Walls - Make sure that the wall or background color is of a fairly dark shade. Royal blue or robins-egg blue will produce the most pleasing results. However, any darker shade will be a great improvement. Angle pictures or awards downward to avoid glare.

Common Mistakes in a Distance Education Environment

• A large white grease board behind the professor that causes total overcompensation of the auto-iris and hot spots.
• Overpowering an LCD projection with light that is supposed to be on the instructor, thereby failing to illuminate the speaker effectively and also washing out the projected image.

Common Mistakes in a Corporate Environment

• The videoconferencing room is the corner office, and has two glass walls that get fantastic western exposure. The view is wasted because of the heavy curtains that have to be installed.
• The table is bright enough to see the participant's reflection.

Checklist for a Videoconferencing Room

Videoconferencing room(s) will have a different look and feel as a result of the special environmental requirements necessary for a quality broadcast. Remember that the purpose of the room is to impress the people on the other end of the videoconference.

- ✓ Lighting should be 40 foot candles, from a soft directional light source at a 45 degree angle.
- ✓ Make sure the wall or background color is of a darker shade. Royal blue or robins egg blue will produce the most pleasing results. However, any darker shade will be a great improvement.
- ✓ Remove all white from the viewable area.
- ✓ If there are windows in the room, position the participants so that they face the window, and have a curtain or blinds installed, in order to control the environment.
- ✓ Choose a table top that is non-reflective, preferably of a darker shade.
- ✓ Optimize the brightness and auto-iris controls of the camera to best suit the rooms needs.
- ✓ Use a wall accent or a string of track fixtures aimed at the walls to produce a wall-wash effect that will help give contrast to the shot and give a greater three dimensional perspective to the participants.
- ✓ Additionally, incorporating room accents, such as small trees, signage, or different paint colors as trim or a two-tone wall, will add visual interest to your setting.

Color Effects

Since color has an effect on the emotions of the audience, correct color choices in the background can have a tremendous effect on the emotions of the audience, as well as on the success of the presentation. Keep in mind that the image(s) themselves have power symbolic meanings as well.

The effects of specific backgrounds include cultural reactions to what certain colors mean or represent. The psychology behind the color background goes beyond our general references and into a deeper significance.

Keep in mind that society agrees on associations for colors based on appearances or cultural habits (as in green being associated with money in the American culture). However, these color associations are tied to a deeper, more emotional reference that each color signifies. There is more to color than mere association or attachment.

(continued on page 8)

Online Teaching Program for Community College Instructors Offered Through the @ONE Consortium

Michael Ostrowski
Instructor, UCLA Education Extension

UCLA Extension has customized one of its teacher education programs for California Community College instructors. Through a cooperative agreement with @ONE, the courses (see sidebar) are now available at a deep discount to @ONE member faculty and staff.

The courses are offered entirely online, and are designed to prepare educators for the virtual classroom environment. The @ONE web site (*one.fhda.edu*) connects users to these UCLA Extension courses through its Training Center link. At the web site visitors may access course and enrollment information.

The program emphasizes a practical application of recent theories in distance education, particularly in computer-based learning. The intensive sequential format of the courses allows for completion of the program within approximately six months. With the exception of occasional text based chat sessions, the courses are delivered asynchronously, and are not tied to a particular place or time. Users can log on from anywhere an Internet connection is available.

According to Kathleen McGuire, Continuing Education Specialist coordinating the program, "The quality and quantity of the interaction is very high. Students share their own experiences with one another throughout the courses, adding to what is learned by all and building friendships that continue well beyond the completion of the courses."

For further information contact: The Online Teaching Unit at UCLA Extension at 310-206-5883.

UCLA Program Courses:

- **Introduction to Online Teaching for Community College Instruction**

  The main emphasis of this course is the online technologies and the resources available to the online instructor. The application of generative learning theory to distance education and application of theory to practice in the preliminary design of a computer-mediated course is also explored.

- **Teaching and Learning Models for Community College Instruction**

  This course presents various models that can be used as the structure for online courses, programs, seminars, and other virtual classroom needs.

- **Internet and Online Teaching Tools for Community College Instruction**

  This course will explore the tools available for creating the virtual classroom and the instructional issues that arise as teachers implement them.

- **Developing Online Curriculum for Community College Instruction**

  This course addresses the special aspects of online teaching that need to be considered when developing a course. It explores types of courses that are particularly appropriate for online delivery. The course helps instructors determine how to go about creating a classroom environment that is conducive to the online learning process.

Technology May Ignite Education Evolution

NEW YORK - Changes in a federal student aid policy, noted in a report released by Coopers & Lybrand LLP, could heat up education industry competition. Congress is considering lifting restrictions on distance learning programs, making them eligible for federal funding. "Such a move ... would shift the rules of the game, give new entrants sources of funding and increase buying power for nontraditional students," the study said. And because students increasingly will demand flexible targeted and accessible learning methods, the report recommends that colleges and universities forge corporate and institutional alliances.

Source: American Library Association News.

@ONE Survey

(continued from page 1)

instructional technology. The survey response rate was 47 percent, with 1444 faculty surveys returned from 21 colleges chosen to balance characteristics of size, student demographics, and geographic location, including rural, urban, and suburban designations.

The survey findings indicate that faculty have positive attitudes toward the potential for technology to improve instruction and that they are interested in learning how to use technology to reach instructional goals that benefit students. Faculty skills are diverse, with the largest percentage having low skill levels in many of the successful uses of technology identified in Effective Practices Interviews.

Findings support the need for an investment in training by utilizing existing campus structures such as flex days, as well as a need for discipline-specific technology mentors. The findings also indicate that there are support issues within the colleges that must be addressed in order for an investment in faculty training and development to pay off.

The *@ONE Instructional Technology Survey* confirmed the prominent themes that have emerged in focus groups concerning reasons why faculty have not integrated technology into instruction:

- lack of time and/or compensation,
- concern about student access to technology,
- lack of faculty access to technology, and
- lack of technical support.

The *@ONE Summary Report* makes recommendations that address the state budget and a structure for support, faculty and student access to technology, and evaluation of the effectiveness of technology mediated instruction. The report also contains detailed tables and graphs addressing faculty use of technology and their skill levels, their use of good instructional practices, their training preferences, and their appraisal of support in place at the colleges. The complete report is available on the @ONE web site.

The @ONE web site also has resources for faculty and staff who are interested in instructional uses of technology. Look for information on two courses coming soon: "Using E-mail to Support Instruction" and "Using a Website to Support Classroom Instruction." This training will be available to campuses free of charge.

CVU Foundation CEO

(continued from page 1)

tance education," Dr. Chodorow said. "California's universities and colleges are linchpins of the state's economy and social well-being. CVU will increase both the pace and scope of their enormous contributions."

The California Virtual University is a joint project of the four segments of higher education in California: University of California, California State University, California Community Colleges, and the Association of Independent California Colleges and Universities.

With the goal of extending access to higher education to a larger percentage of the state's population, the CVU operates an Internet-based catalog of online and technology mediated courses and degree programs offered by accredited California colleges and universities. Ninety-five campuses link more than 1,600 courses and 100 certificate and degree programs to the CVU catalog, which can be found on the Web at *www.california.edu*.

Launched by gubernatorial executive order in April 1997, the California Virtual University was created by a design team of representatives from California's higher education segments. In late July 1998, the project was turned over to the private nonprofit California Virtual University Foundation, which is jointly owned and controlled by the participating colleges and universities.

"We have spent a year putting the academic and technical base of the California Virtual University into place," said Dr. Carol Tomlinson-Keasey, Vice Provost for Academic Initiatives for the University of California and Chair of the CVU Foundation board of directors. "I am delighted that, with the hiring of Stan as the Chief Executive Officer, we have a leader who understands how to combine academic quality and digital capabilities to meet the educational needs of the state."

Interactions

(continued from page 2)

approaches do not. For example, students have a graphical interface through which discussion threads can be tracked. Similarly, students can post (1) schedules when working in teams, (2) images such as diagrams and photographs to fulfill course requirements, (3) URLs which other students merely click to see related on-line sources, and (4) mail-to messages that are private e-mail comments directed to any conference member.

In distance learning course design, calculate costs related to the time and resources needed for each component of a course. Only then can these costs begin to come under control.

Lighting

(continued from page 5)

The color of the foreground elements does not significantly affect the general feeling the audience gets. It is the background color choice that determines the emotional response from the audience.

All people, regardless of culture, share a similarity of emotions. Happiness, sadness, excitement, anxiety, desire, passion, etc. The ability to tap into these emotions using correct color choices can increase the effectiveness of the presentation.

Conversely, incorrect color choices may lead to an emotional response from the audience that is different than expected.

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:

Chris Palmarini
530-895-2988
video@4c.net

TIPS News
Technology in Education
California Community Colleges Chancellor's Office
Butte Community College
3536 Butte Campus Drive
Oroville, CA 95965

FIRST CLASS MAIL
AUTO
U.S. POSTAGE PAID
Oroville, CA 95965
Permit No. 45