

*Projects to Enhance
Quality and Productivity
in Learning and Teaching*

*A Retrospective
1997-1998
1998-1999*



Office of the Provost and Vice President for Academic Affairs
California State University, Chico

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Projects to Enhance Quality and Productivity in Learning and Teaching

For more information about Learning Productivity Projects, contact the Office of the Provost, California State University, Chico, Chico, CA 95929-0110, phone 530-898-6101, <http://www.csuchico.edu>.

The Technology and Learning Program has a web site that links to these projects. Visit <http://www.csuchico.edu/tlp/lpp>.

Letter from the Provost and Vice President for Academic Affairs

Dear Colleagues:

The findings of the second and third year of our campus Projects to Enhance Quality and Productivity in Learning and Teaching confirmed the conclusions of the first-year projects, namely:



1. The fundamentals of student learning are the same across disciplines and regardless of the technology, methodology, and materials used.
2. Regular, structured, and intensive discussions with other faculty can enhance faculty productivity, personal confidence, and professional growth and development.
3. The development of web-based and web-enhanced instruction takes more time and effort than expected.

Student Learning

We found out that faculty knowledge, attitude, and skills interact with student knowledge, attitude, and skills to create high quality learning environments both in and outside of the classroom. We also found that faculty knowledge of the subject matter is essential, but that a knowledge of how to organize the curriculum, assignments, and each class session, plus a knowledge of student interests, background knowledge, and skills is also essential. We found that it is important for faculty to take the time to (1) get to know students, (2) plan instruction based on that knowledge, and (3) involve students in defining and solving problems.

Faculty and Staff Discussions

Years two and three of the projects confirm the implementation of early announcements of a well-publicized annual calendar of meeting times for reports, discussions, and field trips to faculty labs and classrooms. Knowing what to anticipate and when, and knowing that colleagues and administrators are keenly interested in the progress of the projects enhance morale and study of the fundamental issues related to teaching and learning in a technology-enhanced environment. The core issues of planning, teaching, and evaluating—perennial issues in higher education—were revisited and reframed many times over.

Time and Technology

The 1997–98 and 1998–99 projects showed that web-based and web-enhanced instruction did not reduce the amount of faculty time needed to plan, teach, and evaluate. More often than not, the time needed increased. With increased time and attention to the learning-teaching process, however, came increased inquiry into both the type of content as well as the teaching strategies and materials that enhance learning. We concluded that quality and productivity in learning and teaching in a technology-enhanced environment is a function of the same factors that are related to effective teaching and successful learning outcomes in a non technology-enhanced environment, including time spent preparing, teaching and evaluating. In other words, there are no shortcuts to excellence in learning and teaching, only different paths.

We believe the different paths to excellence in learning and teaching are well-illustrated and introduced by this brochure and accompanying video, and we invite you to contact any of us for more information.

A handwritten signature in black ink that reads "Scott G. McNall". The signature is written in a cursive style with a large, sweeping "S" and a long, trailing "l" at the end.

Scott G. McNall, Provost
and Vice President for Academic Affairs

CSU, Chico – A truly wonderful place to be supporting the learning environment

This brochure only gives a brief snapshot of the Learning Productivity Projects over the last two years. It does not do justice by summarizing each of them in a paragraph or two knowing the hard work that goes into these projects. Each project brings value not only to the faculty and students involved in the project, but also brings value to the institution. In addition, the sum of the whole is even greater than the parts! Here are some of the reasons why.

- LPPs give the University an opportunity to focus on creating new ways to integrate technology and pedagogy.
- LPPs provide opportunities for faculty to bring new thoughts, strategies, and methods to enhance learning and teaching giving students a richer learning environment.
- LPP quarterly meetings create time, space, and a focus for important discussion and reflection among administrators, faculty, staff, and students about the process, the quality, and the productivity of the projects.
- It is a cooperative effort by several levels of the institution, both financially and administratively, to see these projects through.
- Trends are made visible to several layers of the institution all at one time.
- Faculty sharing their insights with one another about how they have increased quality and productivity within their own sphere of influence and hence expanding that into the institutional sphere.

The Learning Productivity Projects (LPPs) are excellent additions to Chico State's scholarly activities because they bring about "institutional learning." We look forward to continuing this learning both institutionally and on an individual basis as we move into the next millennium.

To see the evolution of Chico LPPs, you can visit the web site <http://www.csuchico.edu/tlp/lpp/>.

Kathy Fernandes
Associate Director
Technology and Learning Program



1997–1998

Learning Productivity Projects



Biological Sciences



Jeffrey R. Bell



James Pushnik

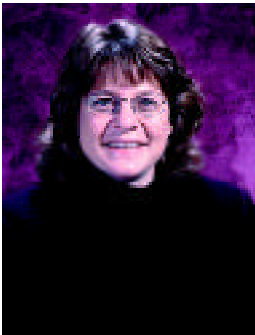
A Database of Instructional Animations for Biology

**Jeffrey R. Bell and James Pushnik,
Project Directors**

To increase the quality and efficacy of learning and teaching dynamic biological processes both inside and outside of the

classroom, animations of biological processes were created and made available on-line (Mitosis, Meiosis, Independent Assortment, Linkage, Recombination, Translation, Transcription, PCR, Chi-Square Test and T-test). These animations also include quizzes. Students are asked throughout each phase of the biological process to answer questions. If they are unable to answer the questions correctly, the animation replays that portion of the process until the student is able to answer the question on that phase of the process correctly.

Communication Arts and Sciences



Susan Avanzino

Technology Collaboration and Small Groups: Incorporating Software to Improve Group Experience and Increase Student Learning

Susan Avanzino, Project Director

To improve the quality of experiential learning in a “Small Group Communications” general education course, a set of computer communication tools was implemented. “FirstClass,” a program developed by SoftArc, Inc., enabled students and faculty to gain first-hand experience using and analyzing small-group interaction. The theories of communication that were

developed in the traditional classroom were explored through online activities such as posting of assignments, holding discussions, planning presentations, posting library research, providing conferencing and feedback, and writing, editing, and submitting reports. Benefits to the instructor and students included: reduced time in class for administrative-type work; improved critical thinking; more time for in-depth study of issues; better monitoring of student performance; a greater quantity of reading.

Communication Design



Aaron Bor

Using Facilitator-Student Interaction to Enhance Student Learning

Aaron Bor, Project Manager
in collaboration with Ruth Guzley and Susan Avanzino

To investigate facilitator-student interaction in technologically distributed learning environment, Dr. Bor measured student comfort level with technology, the quality for class interactions and the attainment of the goals and objectives of the DTVI (Distributed Tutored Video Instruction) class, CDES 040 Media Aesthetics during Spring 1998 semester. This project extended a year's worth of research on the usability of the Sun Microsystems Distributed Tutored Video Instruction (DTVI). Of interest in this extension were the following variables: student satisfaction, involvement, performance in the class, comfort level with technology, previous use of technology, motivation level, and communication behavior in group settings overall; and a higher level of student participation in the class.

Computer Science



Rick Vertolli

Design and Implementation of the Interactive Virtual Laboratory

Rick Vertolli, Project Manager

To help a greater number of students learn the principles and process of creating computer graphics and become proficient as computer graphic designers and animators, computer science instructor and staff member, Richard A. Vertolli, and his project assistants Randy Wall, Patrick Lang, Sean Kane, and Donna Crowe developed an Interactive Virtual laboratory. The IVL emulates the Computer Graphics Laboratory in the Instructional Media Center at CSU, Chico, and enables students to tour the IMC lab via the internet, activate tutorials, and run short demonstrations that explain the flow information when working in the laboratory.

In addition to the IVL, a comprehensive website was created and satellite delivery using bluescreen technology was developed to provide instruction and instructional materials. The following findings were documented: 1)

An increase in the quality of student work. Not only the instructor, but also the company that created the software for the class, was impressed by the caliber of animation created by first time animators; 2) An increase in the amount of material covered by the instructor. In fact, this was the first semester the instructor covered all the material available in the text, "The Art of 3-D Computer Animation and Imaging," by Isaac Kerlow; 3) An increase in the number of assignments that students completed. Conclusion: Wise uses of time, effort, and good materials yield quality and productivity in learning and teaching.



Cris Guenter

Education

Electronic Portfolios: Teaching and Learning

Cris Guenter, Project Manager

Dr. Guenter explored an efficient and productive way to construct electronic portfolios for faculty and student development and use across disciplines. The project focused on developing, accessing, and evaluating electronic portfolios.

Portfolios, electronic or not, are used to assess growth over time (authentic assessment) or feature development of skills and abilities (performance assessment). Due to rapid growth and updates in technology, attempts at keeping electronic portfolios are becoming more and more common in K-16 settings.

Constructing a personal, dynamic, non-linear electronic portfolio (that includes text, audio, graphics, digitized photos, video, HTML and hypermedia presentations) was complex and yet so valuable as a learning tool for faculty and students. The issues of longevity of data, differences of platforms being used (Mac or PC) and assessment were considered.

The specific objectives of the project were to find answers to the following questions:

1. How best to collect and organize the data?
2. What process is generic enough and easy enough for students and faculty to construct their own electronic portfolios?
3. What formats should be used so the data collected will still be accessible five to ten years from now?

Outcomes for this project included: 1) a sample electronic portfolio on CD to present to faculty and students; 2) information on electronic portfolio development and construction based on research and application, and; 3) troubleshooting advice for future implementation.

Geography and Planning

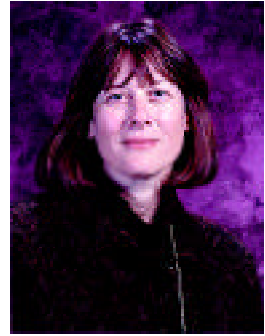
Construction of an Interactive Map for the Web by Students in Paired Courses

Christine Rodrigue and Eugenie Rovai Project Managers

To increase the quality of interaction and collaborative learning among students and



Christine Rodrigue



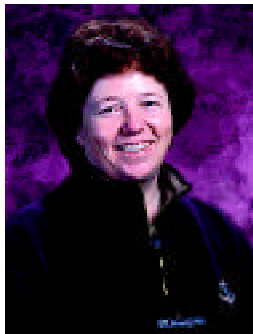
Eugenie Rovai

faculty and to also better integrate pedagogy and technology, two geography classes were redesigned to create an interactive map of North State economic activities on the web. Dr. Rodrigue's Natural Hazards course collaborated with Dr. Rovai's Advanced Cartography course by doing research on the web and creating a web exhibition on nine different disasters in the State of California. These web exhibits featured interactive, clickable maps, which led to short reports on various aspects of the disasters.

Library Instruction Program



Sarah Blakeslee



Lori Dixon



James Owens

A Workbook for Information Literacy

Sarah Blakeslee, Project Manager

Lori Dixon and James Owens with student assistants Peggy Arrington, Dan Oliver and Marty Younger

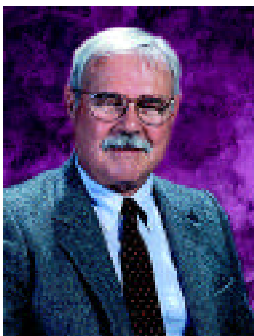
To respond to the CSU Office report on library and information competencies and the most recent accreditation report that recommended that CSU,

Chico should consider including information literacy in all aspects of the curriculum, a workbook was written to help entering freshmen become skilled in accessing, evaluating and using information. Also written, was an instructor's version of the workbook that includes learning activities for students. The student workbook was placed on the Web as well. Instructors reported that the workbook improved their teaching of information literacy, and that they preferred the workbook to remain print based, at least in part, because of the large amount of text. Planned for next year is the development of online interactive exercises and activities to complement the text. Also planned is the offering of both the text and the web-based activities for use in the CSU system.

Year 2 Summary

A standard set of computer lab activities were created for Chico's Information Literacy course: "Introduction to University Life" UNIV 001C which normally has 16 or more sections per semester. Standard computer lab activities were created to answer four challenges: 1) To improve the curriculum by seamlessly integrating the information literacy and transitions topics; 2) To increase productivity and effectiveness of lab time for both students and instructions; 3) To reduce course preparation time for faculty; 4) To help faculty with limited technology skills teach the course. The online interactive exercises include tutorials to help the students develop skills for using e-mail, the World Wide Web, word processing, spreadsheet, presentation, library and research skills.

Management Information Systems



Paul Krause

Implementing a Web-Based Video Course

Paul Krause, Project Manager

To eliminate the effects of space and time on learning, and to enhance communication between instructor and student and between student and student, a single course, Management Information Systems 110: Introduction to Business Information Systems, was redesigned so that it could be accessed by a student's personal computer. The lectures, all courses materials, and all quizzes were made available on a student's desktop computer.

Student's responded positively to the course and faculty assessment of student learning showed that students performed as well on web-based quizzes as they did on in-class quizzes.

Music

Using “Vivace” to Increase Student Learning

Sylvia Beaudette, Project Manager

Music students often have a difficult time scheduling a pianist, instrumentalist or ensemble in order to practice their music. To increase the music student’s learning and productivity, a “Vivace” system was implemented allowing students to perform with their instrument at anytime with full orchestra accompaniments.



It provides students with professional quality accompaniment and/or melodies while they practice with their voice or their instrument. Vivace can actually follow a soloist where many other systems always play in a preset tempo. Vivace can be used for lessons as a substitute for a “human” accompanist or during classes as a tool for teaching rhythm and ensemble playing. Students using this system have demonstrated more motivation to practice, learn and experiment in the practice room.

The Virtual Accompanist

William Ramsey, Project Manager

This project provided increased productivity and opportunity for voice music majors to work with a “virtual accompanist.” In this collection of 42 CDs that contain a variety of over 400 Art songs and Arias, the student can listen to an accomplished singer perform with correct pitch, rhythm, and dynamic accompaniment. Students can practice with this music outside of class or while in class freeing up the studio instructor from having to focus on playing piano accompaniments and allow more focus on voice instruction. Overall this project allows students to learn, prepare, and practice their vocal work together with world-famous accompanists. This collection was made available through the Music Resource Center.



William Ramsey second row, second from the right, with Voice Music majors

Updating the Music Library

Jerry Snodgrass, Project Manager

In order to increase the efficiency of the Music Department Library, the old library system was replaced with a new installation and configuration of equipment and software.

This new system allows immediate access to up-to-date materials including 59,700 titles of recordings and printed music. The system not only improved the search time to find entries, it made the library materials more accessible to faculty and students.



Jerry Snodgrass

Replacing the Blackboard in Music Technology

Keith Seppanen, Project Manager

Mr. Seppanen's objectives for last year and this year's LPP were to increase classroom efficiency and student comprehension in Music 103, Introduction to Music Technology. He felt that time could be saved and better utilized without looking through lecture notes and drawing the same diagrams on a blackboard each semester. The instructor could cover material in more depth and incorporate additional materials that were not possible in a traditional classroom environment. Mr. Seppanen also thought that students could be more involved in discussions if they spent less time writing detailed notes and thereby increasing comprehension of the course material.



Keith Seppanen

This year, Mr. Seppanen focused even more on enhancing his interactive multimedia program with additional graphics, text, animations and sound. He used this program in class and also made the program available to the students on the web. He also created sample tests at the end of each section. By students accessing the program and class notes online, they did not have to spend as much time in class writing tedious notes. Mr. Seppanen did include class attendance as part of the student's grade.

Physics

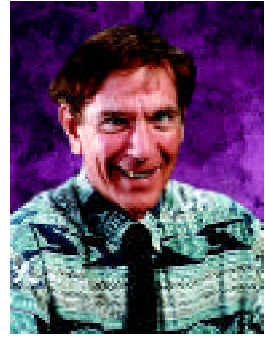
How to Use Virtual Instrumentation to Increase Student Learning

John Young, Project Manager

Using virtual instrumentation (VI) Drs. Young and McGie improved and extended the data acquisition and analysis capabilities of the upper division physics laboratory. Typically running an experiment generates data from several different instruments simultaneously. This data is then collected, corrected by various factors and finally combined mathematically to produce final results that are often multi-dimensional arrays that are best displayed as a series of graphs. VI allows the data to be collected more efficiently and quickly analyzed from several different perspectives.

VI requires a computer and an installation of a special hardware card and software. While an experiment is performed, measuring instruments feed their data into the computer. Using the specialized software, the person performing the experiment can then “program” the computer to process the data using a visual data analysis flow chart. The data is captured and can be viewed in many different ways long after the experiment is over.

Using VI increased student learning by allowing the student more time to analyze the data and study the readily different views of the data.



John Young



Jon Ebeling

Political Science

Introductory Statistics in the Social Sciences Using a Computer Enhanced Design for Presentation

Jon Ebeling, Project Manager
with Mike Peevers

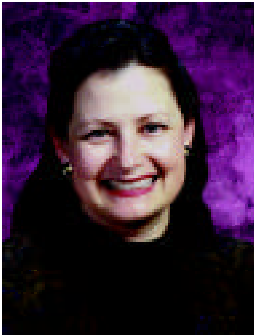
Dr. Ebeling and his student Mike Peevers expanded upon their first year project by preparing a new course to be delivered entirely online. Topics of the course were designed to enhance education for students in the Social Sciences but the template of the course was designed to reach beyond Social Science students. The course relies very heavily on the development and use of web pages, acquisition and use of large databases and sophisticated analytical techniques in the description and analysis of social phenomena.

The skills focus of the course is on learning how to APPLY computing, arithmetic, writing and statistical reasoning in the production reports about social phenomena. The products from the students are research reports on four topics applying the skills of computing, statistical reasoning and writing.

Also of interest were the style and presentation of the videotaped lecture format and relationship to facilitator-student interaction. Finally, the project assessed student perception of the DTVI system as compared to student perception of live lectures in traditional classroom settings.

Recreation and Parks Management

The LaQuinta Resort Focal Problem



Emilyn Sheffield



Roger Guthrie



Don Penland

Emilyn Sheffield, Project Manager with Roger Guthrie and Don Penland

To increase learning productivity in four of Recreation and Parks Management courses, this project created cross-course, self-directed and self-paced learning opportunities for students in studying Resort and Lodging Management. A detailed case study was developed using data from the La Quinta Resort.

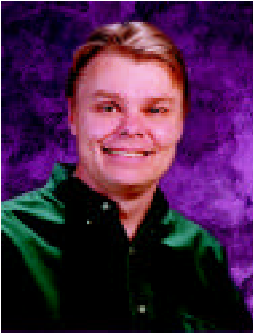
A digital collection of resource materials was used throughout the four Recreation classes. This gave students and teachers repeated encounters with the same background information. This data included economic, environmental, social and political information and was used in the curriculum of Recr 012 – Computers in Recreation, Recr 220 – Budget & Finance, Recreation 222 – Leisure Services Promotion, and Recreation 232 – Commercial Recreation & Tourism. Through repeated exposure to this contextual information, students and faculty focused on more complex learning or emerging trends.

1998 – 1999

Learning Productivity Projects



Accounting and Management Information Systems



Curtis DeBerg

Doing More with Less in Introductory Accounting

Curtis DeBerg, Project Manager

This project utilized a large, computer-mediated classroom to teach one class of 270 students in Principles of Financial Accounting I during Fall 1998, and a second class of 260 students during Spring 1999. The “jumbo” classroom was equipped with the following features: direct access to the Internet; lecture notes, alternate cases and solutions on a class web site; an overhead projection camera instead of an overhead projector/blackboard; large projection screen; and superb acoustics. In addition, the large class featured a class “listserv” dedicated to students only in the large class section. Also, rather than the traditional “breakout” sessions taught by doctoral students, our approach relied on senior accounting “mentors” to assist in course administration and spreadsheet assistance during regularly scheduled mentor lab hours. This large class was the “treatment” for experimental purposes. Four classes of traditional size (e.g., between 30-40 students) were taught by two other full professors during Fall 1998, and three classes were taught by one full professor during Spring 1999. Students in the small classes comprised the “control group.” The main research question was as follows:

Can a wide array of technology tools, combined with an emphasis on discovery learning and small group collaboration, be integrated effectively into a large class section of principles of financial accounting?

Results from the Fall 1998 semester show that students in the jumbo class scored lower on a common final exam than students in the small classes. The difference, however, was statistically insignificant. Student attitudes about the course were about the same in both the large and small sections. From “my perspective as the Project Director and the instructor of the jumbo section, the results are mixed. Many students have indicated that one of the main reasons they have come to CSU, Chico is because of small class size. Administration must determine if the benefits of resource savings from a “high tech” jumbo class outweigh the costs, which in my view are primarily attitudinal among a not-so-insignificant minority of students.”

Anthropology

EthnoLab: Creating, Using, and Assessing an Ethnographic Archive

Carolyn Heinz, Project Manager

Lab Interns: Matt Brickley, Stephanie Demiris, Marlo Eakes, Brenda Reed, Mim Roeder, Maggie Trumbley

The Department of Anthropology had acquired space and equipment for an ethnographic lab; the next step was to figure out how to deploy these new resources in student-centered learning residing outside specific courses. The project had three goals: 1) to invent an ethnographic lab; 2) to establish an archive of field documents on line; and 3) to develop teaching strategies incorporating examination of archival field materials. Six students were recruited as the first cohort of EthnoLab Interns, and we proceeded in a collaborative mode



Carolyn Heinz

to brainstorm and create this actual and virtual workspace. They also assisted in building the online arm of the lab where there are sections showcasing student projects, slide archives, and ethnographic archives. To prevent the ethnographic archives from falling into a black hole on the Web, a strategy of “guided inquiry” for using these materials (and other Web materials) was developed for two courses through WebCT. “Process Assessment:” To assess the success of these strategies, I’ve used the ethnographic method of microscopic description of “before” and “after” process to document the culture of learning in the new environment.



Turhon Murad

3-D Enhancements to the Skull Module Web Site

Turhon Murad, Project Manager

with TLP Staff Kathy Fernandes and Randy Wall, and Student Assistants Chris Cartwright and Kevin Shanley

Typically, students in anthropology need hands-on experiences with actual skull bones to view them in three dimensions. We have now brought the entire cranial skeleton to the Web via 3D enhancements, thereby increasing the value of the Skull Module Web site as a tool in teaching and learning.

During the fall Randy Wall digitized a frontal bone using VRML, while Chris Cartwright and Kevin Shanley worked to create a three-dimensional

QuickTime VR movie of the same bone. Additionally, the existing two-dimensional photos of each of the cranial bones and their accompanying text were improved. A meeting of interested faculty, staff, and students collectively agreed that the QuickTime VR procedures produced better results than the VRML technique by both saving production time and creating a more appropriate end product. Thus, QuickTime VR movies were created for each of the cranial bones, and are now ready to be linked to the Skull Module.

The improved Web site is expected to provide students easier access to the type of information otherwise available to them only in a laboratory setting, as well as the opportunity for frequent review and reinforcement of concepts. Increases in quality and productivity in learning and teaching will be evaluated by documenting increases in the amount of time available in lab for other activities, increases in the the number of positive comments to TLP regarding the site, and increases in the number of “hits” at the site.

Art and Art History



Yoshio Kusaba

Creating a Web-enhanced Art History Classroom

Yoshio Kusaba, Project Manager

Students in Art 001A, Art History Survey (Ancient and Medieval), greatly benefited from WebCT access to online course material (lecture notes to enrich the course textbook), quizzes (to self-test their understanding of the course material), bulletin board postings (a series of forums for engaging in threaded discussions on diverse topics of the course) and links to art history web sites (to broaden the horizon for the study of art history).

Careful planning in constructing online quizzes, making clear expectations for bulletin board postings, and demystifying the fear of computers were utilized in this approach to teaching art history. All of this contributed to a better student performance level than in previous semesters. The quality of writing improved, and test results showed a remarkable upturn (a magnitude of 20.8% at the 1st test) in comprehension of the rich course content. The overall result is that an online-assisted instruction produced a “learning inflation” (Dean Heinz’s phrase) in the art history survey classroom. Finally, as one student put it in his bulletin board posting, “. . . this (online technology) is what is in store for the future.”

Acknowledgment: *I thank the patience, problem-solving and hands-on technical assistance of the TLP personnel, Kathy Fernandes, Bill Evans, Laura Sederberg, Dave Welton, Karen Joplin, and Cheryl Aschenbach. I acknowledge the overwhelming*

endorsement of Dean Donald Heinz and Department Chair Vernon Patrick. And above all, I highly value the practical guidance of Marilyn Winzenz and the trust Provost Scott McNall placed in me for developing and carrying this project to fruition.

Biological Sciences

Creating a Distance Master's Program for Teacher Enhancement in Science



Lin-Yi Maslin



Bev Marcum

Lin-Yi Maslin
Project Director
and Bev Marcum
with Roger Lederer,
Dave Brown,
Dick Flory,
Margaret Korte,
Bob Paulson and
Mike Kotar

Faculty from several
science departments

collaboratively created a prototype WebCT course emphasizing hands-on learning for a new master's program in science teaching and facilitated the implementation of the program this spring with 8 science teachers from afar. Qualitative assessments of quality and productivity in learning and teaching indicated that the teachers are very thankful to this new extended service of the university, which accommodates their access and schedule needs, and they find the curricula very valuable and challenging. Faculty members have learned from the prototype course the importance of communicating with distance learners and have been active in calling and emailing the teachers for a constant update of progress and problem solving.

Teachers met on campus during their spring break and fully engaged in the hands-on lab and discussion components of their courses in Physics for Secondary Teaching and Curriculum Development in Science; afterwards, they strongly recommended that they should meet 2–3 times per semester for seeing their professors, for hands-on activities, and for peer support. Favorable components to implementing this new distance program include: a dedicated project director, strong administrative support for science education (CELТ, deans, and chairs), adventuresome faculty members who care about providing their expert support to teachers, linkage to teacher enhancement efforts (campus hosting of the annual California Science Project, faculty as co-director of CSP, database in the Center of Math and Science of past participants and schools), and last but not least, technological assistance from TLP.



Dave Wood

A Virtual Reality Field Guide to Species and Natural Areas in Northern California

Dave Wood, Project Manager

Each year, the Department of Biology offers 20 sections of Biology 142: Field Biology to over 400 students. It includes a minimum of seven scheduled field trips per semester to provide hands-on experience and increase student interest in the subject. To counteract the problems that routinely interfere with an optimal learning environment for all students at all times (such as bad weather, time of day or season, student illness, and limited access) a Web-based field guide is being developed.

This guide will not only supplement class field trips and permit endless repetition and reinforcement of concepts, it ensures “hands-on” exposure, if only through virtual reality to a comprehensive, content rich database on habitats, animals, plants, and the relationship between each. The virtual reality field guide is intended to depict the natural habitats and the species and ecosystems of Northern California. It is useful not only for the Biology 142 students and faculty, but also for teachers and students in K-12, locally and throughout the state.

The possibility of incorporating these virtual field trips into a problem-solving, simulation, and teamwork approach to teaching integrated science is being considered. Using a FileMaker Pro Database accessible from the World Wide Web, eight habitats were chosen on the basis of regularly scheduled semester field trips. A working prototype is available at the Web site.

Child Development Program

*Who is Our Community?
Redefining Child Development Resources*

Cindy Ratekin, Project Manager

Child Development 292, a required community internship course for senior level students in Child Development, is a final capstone course for students before entering the work field. The overriding goal of this proposal was to redesign this course in order to transfer the students’ “community” from the academic classroom to the larger community by connecting them with resources in the local and



Cindy Ratekin

world-wide community through an electronic format. Three assignments were transformed into an electronic format: Weekly in-class journals became bi-weekly First Class entries and two student in-class presentations were shifted into a Web-page presentation format. Comparison of pre- and post-course data show significant increases in students' self-reported competencies in electronic-based communication, utilizing and evaluating information from the Internet, and designing Web pages.

This project could not have been as successful without the assistance of Cheryl Aschenbach, TLP and Melinda Ferris, Student Computing, who coordinated trainings for the Child Development students.

Education

Electronic Portfolios: Teaching and Learning

Cris Guenter, Project Manager

Using their required and already in-progress teaching portfolios, based on the California Standards for the Teaching Profession, a cadre of student teachers constructed electronic portfolios on CD ROMS that featured their files in text, html, audio, hypermedia, video clips, graphic images, and digital photographs. Assessments of quality and productivity in learning and teaching were based on students' selections for their unique portfolios and measured by correct file alignment demonstrating specific state teaching standards and if the CD-ROMs actually worked. The results showed much higher levels of comprehension and direct correlation to the state teaching standards and very high levels of satisfaction compared to the traditional portfolio where submissions were somewhat limited to narratives, text, and photographs. All students in the cadre experienced a high learning curve in multi-tasking with several different technology applications and equipment use. The positive results were based on scheduled planning times, clear communication of expectations, use of state standards, and weekly faculty availability which included access to a teacher education classroom with needed equipment. The process, two semesters long, has been documented on videotape.



Cris Guenter

Special acknowledgment goes to Don Penland from the College of Communication and Education and the following student teachers: Jason Baressi, Kathy Forhan, Simon Mendenhall, Tara Norman, Sandra O'Connor, and Canen Peterson.

Geosciences

Geologic Virtual Field Trip CD-ROM

Victor Fisher, Project Manager

with students Heidi Rainwater, Kevin Shanley, Will Gardner



Vic Fisher, Kevin Shanley
and Will Garner

The creation of this virtual field trip has been a collaborative effort between Heidi Rainwater, Kevin Shanley, Will Gardner, and myself. The project could not have come to fruition without their input, knowledge, skills, and interest.

In an effort to bring the field experience into the classroom for Kindergarten

through college students, we have produced a geologic field trip of the local area using photos, video clips, graphics, and animation. The program is designed to be interactive with the viewer and stimulate curiosity and learning using visual and auditory means. The objective is to provide the viewer with the physical evidence contained in the rock and the means to interpret it. The ultimate goal is to have the viewer take the newly-gained knowledge, assimilate it, and reconstruct the stratigraphic sequence and geologic history of the area. For Kindergarten through grade 6 students this may be expecting too much; however, the information about the rocks and the mining history of the area will be valuable to teachers and budding scientists.

The learning assessment of the virtual field trip has not been completed and an assessment of the program's suitability and viability from the viewpoint of local school teachers has not been done. It is definitely viable for college level learning; however, the question to be answered is whether it substitutes for an actual field trip.

Liberal Studies

Freshman Liberal Studies Thematic: Integrating Content and Career

Bill Martin, Project Director

With colleagues Steve Brydon, Amanda Schwerdt, Claudia Coon, Charles Churchill, Marcel Daguerra, Mike Kotar, Christine McKeever, Tom Parker, Timothy Sistrunk, Kim Penning, Dana Bard, Stafford Thomas, Eileen Dunlap; Jan Davis, Bruce Luchesa, CUSD (Rosedale and Emma Wilson, Elementary Schools)

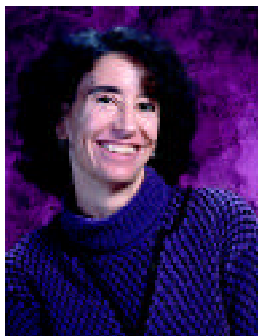


Bill Martin

A cohort of 50 freshman future elementary teachers take their classes for the whole year with professors who plan a program which makes three connections in their classes: 1) between the several subject matters themselves; 2) between the subject matter and being an elementary teacher; and 3) between the subject matter and the larger social issues public schools and education face. Students also have early field experience in local public schools, while overseen by teachers, helping in the teaching of reading. Faculty post weekly Friday e-mails to each other on what went on that week and

what is coming next week, thus aiding integration. Students are on a list-serve, thus allowing the program coordinator to integrate subject matter and make career connections. Assessment shows quality and productivity from the creation of a year-long learning community. Pre- and post-program essays from the students, evaluated by the two public school teachers, indicate growth in a realistic, professional understanding of the career and its challenges. This successful program shows that other majors and career preparation programs can replicate the low-cost strategies used in creating their own integration of content and career by fostering an early learning community.

Library Instruction Program



Sarah Blakeslee



Lori Dixon



Jim Owens

Web-based Computer Lab Activities for Use in Introduction to University Life (UNIV001C): A Workbook for Information Literacy

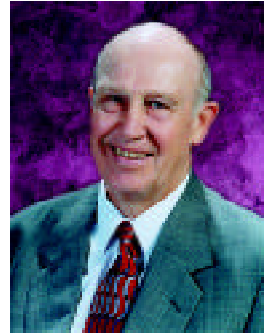
Sarah Blakeslee, Project Manager
with Lori Dixon and Jim Owens

Instructors of UNIV001C collaborated in the creation of a series of Web-based activities for teaching information competency skills and transition into the university. The activities are designed for use by all sections of UNIV001C, specifically during the classroom lab time. Productivity will be increased because instructors are provided with a Web-based information competency curriculum and do not have to duplicate efforts to teach the same material. Further productivity could be realized by instructors from other courses incorporating activities into their curriculum to improve student information competency skills. Effectiveness will be measured through semester grades, a pre- and post-test administered to all UNIV001C students, tracking student progress, and focus groups with students who have completed the course. Well-designed computer lab activities will help instructors of UNIV001C use the class computer lab time wisely, while reinforcing the curriculum and goals of the first-year course.

Psychology

Creation of a Web-Based Master of Arts Degree Program in Psychology with an Option in Human Resources Development Degree Program

David Bauer, Project Manager
with the assistance of Daniel Stuempfig
and Joseph Scott



David Bauer

The demand for a Web-based master's degree program in psychology for mid-career professionals in Human Resources was assessed through personal interviews and online questionnaire responses. The assessment uncovered strong demand for the degree among practicing HR professionals as evidenced in written letters of support of and a continuing stream of two or three inquiries each week about the program from HR professionals.

Based on the identified demand, a marketing plan for an MA in Psychology with Option in Human Resources Development was initiated; graduate courses in the existing Master of Arts in Psychology were revised to meet the needs of HR professionals; a self-support/revenue generating model of funding and an accompanying administrative mechanism to support Web-based delivery of the Psychology Department's master's degree are being devised; four courses are in preparation for delivery using WebCT; a formal document is in preparation for submission to WASC for review.

Along with the foregoing tangible products as indicants of productivity, a second measure of productivity consists of the expected gross revenue to be generated in the first semester that the program is offered. The Psychology Department anticipates initiation of the program in Spring 2000 with a minimum of 15 students enrolled in two three-unit courses. Since the contractual fee to be charged for each instructional unit is \$500, the total anticipated revenue to be generated in Spring 2000 is \$45,000 (\$22,500 per course enrolling 15 students).

A schedule for delivery of the program allows students entering in spring 2000 to complete the degree in Summer 2001. Support for continued development of the program in the Fall 1999 and Spring 2000 is to be provided, in part, by the College of Behavioral and Social Sciences and by the School of Graduate, International and Sponsored Programs.

It is being endorsed by: Kathy Fernandes, Associate Director, Technology and Learning Program; Robert Jackson, Dean, School of Graduate, International and Sponsored Programs; Jim Jacob, Dean, College of Behavioral and Social Sciences; Paul Spear, Chair, Department of Psychology.

Seven Principles of Good Practice in Undergraduate Education

1. Good practice encourages student-faculty contact.

Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans.

2. Good practice encourages cooperation among students.

Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding.

3. Good practice encourages active learning.

Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing pre-packaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves.

4. Good practice gives prompt feedback.

Knowing what you know and don't know focuses learning. Students need appropriate feedback on performance to benefit from courses. In getting started, students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves.

5. Good practice emphasizes time on task.

Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. How an institution defines time expectations for students, faculty administrators, and other professional staff can establish the basis for high performance for all.

6. Good practice communicates high expectations.

Expect more and you will get it. High expectations are important for everyone—for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations for themselves and make extra efforts.

7. Good practice respects diverse talents and ways of learning.

There are many roads to learning. People bring different talents and styles of learning to college. Brilliant students in the seminar room may be all thumbs in the lab or art studio. Students rich in hands-on experience may not do so well with theory. Students need the opportunity to show their talents and learn in ways that work for them. Then they can be pushed to learning in new ways that do not come so easily.