

**Chancellor's Fall Conference
Final Reports from Break-out Sessions (10/24/07)**

Group A: IT in Teaching and Learning

Linda Bisson & Robert Blake

Group A was charged with discussing the role that IT should play with respect to our teaching mission on the UC Davis campus. The entire discussion group (n = 26) brainstormed together as a large group and in three break-out groups concerning the following topics: (1) What are our teaching/learning goals with respect to incorporating IT; (2) How can these goals best leveraged in the UC Davis community. The group then tried to summarize the discussion into three succinct recommendations.

Three caveats should be aired before reviewing the individual threads of our discussion. First, our observations should not be interpreted as advocating the use of technology in teaching just for the sake of using technology alone. Second, using technology will not automatically make poor teachers into good teachers. Third, our discussion of technology and the theme of the conference itself should be interpreted as implying that there presently exists a "teaching crisis" on our campus, but rather our recommendations are intended to prepare UC Davis to keep abreast with new advances in providing our students with the best possible higher education learning environment.

Goals: Although the goals for using IT in the university learning environment will vary by discipline, there do exist some commonalities that can be summarized as follows:

- Technology can be employed to engage more of the students' time for learning
- The effectiveness of using technology (and the related questions of how to define effectiveness) must be analyzed
- Technology can improve interactions and, therefore, the pedagogy for our courses
- Learning requires the development of a process of thinking and technology can be used to achieve this pedagogical goal
- A description of core competencies in IT must be articulated both for students and faculty
- Technology can be leveraged to integrate 'outside' materials effectively into the classroom with dramatic ways to emphasize key concepts

Process: How can the campus better leverage information technologies to reach these goals? What follows is a list of needs for the Davis campus:

- Train both faculty and students: minimal level of IT competency required
- Analyze what is effective in teaching. How does one know certain IT tools are more effective, rather than just being different? How can we evaluate long-term effectiveness?
- Expand support to faculty in terms of curricular development
- Figure out ways to allow the faculty to use technology, including training
- Wire every classroom or provide comprehension wireless
- Share examples of best practices and innovative methods with an eye to changing the campus teaching culture. But what are the best practices? How can this be determined? What organization on campus will lead the way (TRC, IT, MediaWorks?)
- Make sharing of innovative tools easy
- Distribute efficiently information on research on effectiveness of IT tools in the classroom
- Develop metrics for success
- Increase level of interaction of students using online tools

Our three most important recommendations:

- I. Establish a center for research on **teaching, learning and technology** in higher education
 - Goal: Assessment of technology and its effectiveness using rigorous scientific studies

- Foster partnering between IT specialists and experts on learning content
 - Provide opportunities to truly improve learning outcomes
- II. Incentivize the faculty to incorporate innovative uses of IT
- Revise criteria for faculty evaluation for merits/promotions to better recognize and reward effectiveness in pedagogy
 - Reward faculty investment of time in pedagogy and curricular development
 - Grant one merit advancement (not a promotion) in a faculty member's career for participating in an IT partnering program mentored by the TRC or some other appropriate entity
- III. Develop mechanisms for sharing of information on best practices and IT
- Create a website of exemplars
 - Sponsor fora on innovative teaching technologies

Group B: IT in Research and Scholarship

Ann Bonham & Wes Wallender

Group B met September 17, 1:30-3:15 pm to address the discussion questions below.

1. How can the campus better leverage information technologies as a tool for enhancing research and scholarship? What should our goals be?

2. What policies or behaviors need to be examined or changed in order for the campus to fully realize the benefits of information technology in research and scholarship?

3. What key investments in information technology and related areas need to be made to ensure that UC Davis will be able to realize its full potential in research and scholarship?

4. What are the three most important recommendations that have emerged from your discussion?

At the beginning of the meeting each participant was asked to identify themselves and their unit on Campus and to mention their favorite technologies. Nicole Biggart led this same type of ice breaker activity at the facilitator training meeting held the day before, September 16. The favorite technologies were, GNU software, Video conferencing, 3-D dutch oven, Green technology, Power planing wood, Micro fiber fabric, PDA and handheld GPS, Second life, GNU and open source software, Hardcopy book, Turbo charged engines, Ipod with Nike running kit, Iform, High throughput genome sequencer, Wireless phone, Riding lawn mower, Wikipedia, Contact management system, Google and digital media, Blue tooth speaker phone, Fly a Mig 29, Laser level with vacuum hold, Electronic medical record and treadmill, and the USB drive.

Thereafter three subgroups were formed and each was asked to answer question number four mentioned above, in the context of the first three questions. After about 30 minutes the groups reported and clarified their recommendations. The results from each group were similar, particularly after terms were defined. Further discussion lead to following list of recommendations.

Recommendations:

1. Make a bold statement that UC Davis is making a sustained institutional commitment to build an IT infrastructure that leverages state-of-the-art and risking taking research and scholarship.

2. Make the long-term commitment to build and maintain an IT infrastructure for research and scholarship that is :
 - o Community-responsive with the need to provide a minimum set of core IT capabilities to all faculty
 - o Flexible in terms of central and distributed functions (tiered)

- o Sustainable, and
 - o Efficient.
3. Strive for universal and transparent access to IT within UCD. Centrally funded IT with human resources creating and promoting a culture of “sharing technologies” (e.g. broker and matchmaker) across disciplines (for example, the Keck cave to theater and dance). A central inventory can serve as a market place where ‘supplies’ of new technologies/discoveries can be matched to potential needs (or ‘demands’) of other disciplines. There needs to be discussion about who will be responsible for building the human resource to maintain the inventory.
 4. Create incentives for faculty and staff to develop and apply innovative technologies.
 5. Partner with private industry to stimulate investment in development and application of innovative technologies.

In addition to reporting the above findings, the alternative interpretation of the discussion questions shown below was presented at the Breakout Group Report presented Tuesday September 18, 8:30-10:00.

Postulate:

IT is central to achieving excellence in research and scholarship.

Objectives:

1. Increase efficiency and effectiveness of IT and IT related activities.
2. Achieve full potential in research and scholarship.

General methods to achieve objectives:

1. Increase targeted investment in IT and related areas.
2. Improve policies and behaviors
3. Develop metrics to measure efficiency and effectiveness.

Group C: Impact of Information Technology on Campus Culture

Gail Yokote & Jon Wagner

Over the past three decades, information technology has changed the way members of the campus communicate with each other, the people networks, and associates they are most likely to interact with, and how they spend their time and attention. It has altered substantially contacts between students, faculty, staff, administrators, and campus services. It has also redefined what we think of as work, leisure, families, and careers. Along the way, changes in technology have created both opportunities and challenges for affirming ideals that shaped campus life for most of the last century.

Group C members noted the positive impact of some of these technological changes and the negative impact of others (see lists below). Group members also noted changes that have generated both positive and negative outcomes. As one example, online registration has saved students the hassle and discomfort of standing in long lines to enroll in courses, and everyone seems grateful for that. In the process, however, it took away an important—even if undesirable—opportunity for face-to-face contact and bonding among students from different backgrounds. As another example, cell phones, laptops, and wireless networking facilitate mobile communication among members of the campus community, but they have also enriched communication with off-campus friends, family members and associates who have little if anything to do with academic life. In both respects, the Davis “campus” is a very different social and physical landscape than it was even 10 years ago. That’s true also for what we mean by “going away to college,” “joining” a faculty or staff, or “staying in touch” with colleagues, mentors and alumni.

In just these terms, UC Davis is evolving from an institution wedded closely to a well-defined physical place to an institution that occupies and depends upon a hybrid physical-virtual space. This evolution will continue for the foreseeable future, and the rate of change may actually increase. However, it is already far enough along to have had a significant impact on campus values, expectations, routines, rituals and other aspects of campus culture.

THREE KEY CONCERNS

Changes associated with an evolving and hybrid campus environment create challenges for both individuals and communities. They also create challenging work/life issues for employees and students. Group C targeted three of these challenges for additional campus attention:

(1) "Off-campus" social networking resources and venues can distract students from their studies and place them at unanticipated professional and personal risk.

(2) Faculty, students, staff and administrators can develop contrasting expectations for how different technological tools should be used; including expectations for creating, defining, and distributing digitized materials.

(3) The UC Davis Principles of Community can be challenged by some uses of technology, including forums that support anonymous electronic communication.

For each of these concerns, Group C members identified several recommendations and proposals for further consideration by the UCD campus community, as follows:

PROBLEM #1: "Off-campus" social networking tools can distract students from their studies and place them at unanticipated professional and personal risk.

Recommendations: The Davis campus should consider:

- Creating a new, low-risk "Face-book" like interface within the UC Davis learning management system that could support social networking activities tied to the culture of the campus.
- Developing guidelines for using this feature to facilitate communication among all members of the campus community
- Educating students about the personal safety and privacy issues related to Facebook and other online social networking sites—including the prospect of compromised privacy and reputational harm to themselves and others.

PROBLEM #2: Faculty, students, staff, and administrators can develop contrasting expectations for how different technological tools can and should be used, with unfortunate consequences for all involved.

Both students and faculty have come to expect quick responses on a 24-7 schedule, for example, but each group also resists expectations from the other that they respond in the same way. When physical location no longer determines access, "requirements" and "demands" can extend across previously sacrosanct boundaries between in-class and out-of-class contexts, family and work, work and leisure, etc. Increased availability of information and documents in digital form (including student papers, lecture notes, wikipedia entries, electronic journals, etc.) can tempt students and faculty members to represent the work of others as their own, and reasons for resisting this temptation (or giving in to it) may be clear to one party and not the other. Ambiguity about how terms of collaboration, intellectual property, copyright, and freedom of expression are translated into the digital domain can lead to fundamentally different ideals for the conduct and expression of intellectual inquiry.

Recommendations: The Davis campus should consider:

- Developing a campus-wide strategy for gathering, accessing and disseminating IT provisions that includes active participation by all relevant stake holders
- Helping faculty members and students develop guidelines for the instructional use of IT resources, including course-related email exchanges, on-line collaboration, on-line exhibits of student work and faculty course materials, etc.
- Providing increased opportunities for students, faculty and staff to explore the meaning of collaboration, intellectual property, copyright and freedom expression in the digital age

- Developing alternative and more memorable representations of the UC Davis Principles of Community so that individuals involved with IT applications can learn how to incorporate these principles in mediated communication.

PROBLEM #3: Some current and popular uses of information technology provide contexts in which it can be difficult to support or enforce UC Davis Principles of Community.

On-line communication, for example, can be conducted through forums that protect the anonymity of participants, and arrangements of this sort can decouple freedom of expression from social and personal responsibility. Anonymous and asynchronous communication can have some salutary effects on open inquiry, but it can also facilitate forms of expression that violate campus ideals for respecting diversity. It can give equal license to monologues and demagoguery as it does to dialogue and discussion. By blurring boundaries between public and private, personal and collective, and institutional and individual, electronic communication has also complicated the application of legal and ethical principles—for all members of the campus community. In particular, principles of conduct that refer to time, place and manner may fall short of guiding communication that transcends both time and place and for which “manner” is ill defined.

Recommendations: The Davis campus should consider:

- Using information technology tools and resources to stimulate discussion about the UC Davis Principles of Community
- Make better use of information technology to reinforce the UC Davis Principles of Community
- Create opportunities for open campus dialogue about how technology affects our experience of community, culture, equity, justice, fairness, and integrity.
- Create exemplary IT vehicles and protocols that can facilitate campus dialogue and discussion and encourage sharing diverse experiences and expectations.
- Encourage discussion among all campus constituents about the influence of technological change on campus culture and campus communities

RELATED OBSERVATIONS & QUESTIONS

In developing the recommendations noted above, members of Group C posed a variety of questions that illustrate the broad and varied impact of technological change on campus culture. Some of the more intriguing questions include the following:

- When technological change creates “disruptions,” what and who are being disrupted, who is active in creating the disruptions, and whose culture is affected?
- What is appropriate conduct for mediated communication? E.g. email office hours,

In connection with these and other questions, Group C members also offered several intriguing insights into the relationship between technological change and campus culture. These included the following:

- It was possible for us to discuss the assigned topic for almost two hours without ever defining what we meant by “culture,” “community” or “technology,” but the lack of clarity about these terms also limited the precision of our recommendations and proposals.
- Some forms of technological change can have both positive and negative impacts, depending on the situation and stakeholders involved. With this in mind, it is valuable to shift from global questions about the “impact of technology” to questions about the impact of particular technological change in specific situations and for different stakeholders.
- When people identified negative impacts of changing technology on campus culture, they emphasized behavior problems (e.g. illegal downloading) rather than problems with technology itself (e.g. servers that fail).

- Because technology shapes communication profoundly, changes in technology can lead to different ideas and expectations for collaboration and cooperation.

CONTEXTS: A GROUP DISCUSSION

The recommendations, questions and observations noted above emerged from three related discussions: a small group brainstorming session in which individuals identified positive and negative impacts of technology on campus culture, then identified problems that could be examined constructively through small group discussions. The group as a whole then reviewed recommendations from the small groups, and some additional topics and themes emerged at that time. As the context in which problems, recommendations and observations were framed, initial references to the positive and negative impacts of technology on campus culture are listed below. Most of these were identified separately during group discussions, but they frequently reflected dimensions for which both positive and negative outcomes were noted, as displayed on the following page.

The Impact of Information Technology on Campus Culture

Positives	Negatives
More choices for doing x__ (Options, flexibility, control)	Too many choices for doing x__ -- feeling overwhelmed
Improved internal & external communications	Too much access to information, faculty, peers
New work challenges for all members of campus community	New work challenges for all members of campus community
Increased access to information, faculty, peers: 24/7	Expectation of being available 24/7
Greater accessibility of teachers, students, info & resources (e.g. Lib)	"Digital divide" inequalities for the campus
Increases in speed and efficiency (research, writings, administration)	Increases in speed/pace of workflow demands, no relaxed pace of working/thinking
Enhances innovation and creativity	Staff jobs can change significantly with technology = new/changing, unsupported demands
Collaboration and enhanced group work support (especially through Wiki)	Exclusion: new technology is not always inclusive of all learning styles
Enhances depth and breadth of materials available to students	Students are distracted from learning; entertainment vs. education
Encourages/facilitates collaborations and connections not otherwise possible	Increased disconnects between faculty and students
Can balance student centeredness vs. staff centeredness (24/7, just-in-time info)	Can unbalance student centeredness vs. staff centeredness (24/7, just-in-time info)
Teaching critical thinking opportunities <u>because</u> of all the rubbish available on the web	Distraction/over-simplification (students think they can get it all straight from the web; loss of critical thinking skills)
Allows communication to broader audiences in efficient way (most effective, too)	Challenges to personal information/privacy.
Enhanced ability for storing and retrieving files/information	Academic integrity challenges (cheating)
Opportunities to work off-site.	Multiple identities—fake ID's, avatars and online personas, etc
Social networks and community building	Isolation: loss of interpersonal contact
Enhanced connection with students and community	Social networking can be distracting, dangerous, and create unanticipated vulnerability
Increased range and depth of learning experiences	Growing divide between human and "virtual" interaction
Enriched teaching application to different learning styles	"Laziness" (students don't have to go to class, library and still do well)
Email communication allows shy students to be more active w/teachers and TA's	Alternative identities and self-selecting, anonymous networks encourage unwillingness to deal with problems
Opportunities for service improvements	Parallel processing and duplication -- through transitions to new systems, practices
Provides tailoring of information, broad access and responsiveness – value to recruitment	Rigidity/lack of flexibility in response to campus-wide software decisions
Opportunities to communicate on/off hours (Weekends and Holidays)	Increased disconnects between faculty and students
Increased speed of making changes	New work challenges for all members of campus community
Promotes life-long connections to the university	Hype – too much promised; too much bad/false information on web (yet this can be good for teaching critical thinking)
Saving trees – or could/should be. (Maybe it's program/dept. specific?)	Obsolescence and an inability to keep things/projects/whatever together when technology and programs change or are updated
	Lag between policy change and need to address current technological challenges,
	Over-dependence: What to do when technology fails?

Group D: Information Technology as a Tool for Insight and Innovation**Ken Joy & Andy Jones**

Slide 1: Invest in the campus cyberinfrastructure

- Data storage and archiving (establishing new responsibilities and guidelines for campus libraries)
- High-speed networking
- Support for remote collaboration

Slide 2: Establish Support for Interdisciplinary Research Efforts

- New centers for innovative research (with a focus on solving the problems of society)
- Collocation of researchers, grant writers and support staff with common foci and objectives
- Support for computation clusters and e-science initiatives

Slide 3: Define UC Davis as an "Information Industry" that

- Creates knowledge through interdisciplinary partnerships (local, national, and global)
- Invests at least 10% of its resources in IT
- Takes risks that reflect our commitment to technological innovation

Slide 4: Support Innovative Initiatives in Education

- Innovative use of new and existing technologies for instruction
- Innovative uses of critical thinking and problem solving using IT

Slide 5: Seek to Become a Nationally Recognized IT Leader

- Initiate a strategic planning effort whose goals are to elevate UC Davis to be one of the premier IET institutions
- Using the strategic plan, make appropriate investments in enabling top-rank research and education.
- Hire new and established IT innovators (faculty and staff)

Slide 6: "Three" Most Important Recommendations

- Invest in the Campus Cyberinfrastructure
- Establish Support for Interdisciplinary Research Efforts
- Define UC Davis as an "Information Industry"
- Support Innovative Initiatives in Education
- Seek to Become a Nationally Recognized IT Leader

Group E: IT Planning -- How can we make the best choices?**Debbie Lauriano and Francois Gygi**

The findings of Group E generally fell into three categories: governance, best practices, and balancing local and central investments. Following these findings is a miscellaneous category of comments. A common theme among all these topics was improving communication about initiatives, requirements gathering, and participating in testing.

Governance

Redefining of CC-FIT. Consider IT Executive Steering Committee.

There should be an IT Steering Committee at the executive level. This committee should do more than advise.

Bring in the constituents from the community for gathering requirements. Give incentives to participants to participate in beta-testing and deployment of system.

CC-FIT is one of the forums to communicate about initiatives and plans. There are many sub-committees in CC-FIT – make people more aware of the sub-committees on CC-FIT, and inform them that these are venues for their input to IT initiatives.

For major deployments, CC-FIT should assign a few specialists to the project team who can help identify how/what to communicate to the campus. A template for running the development and

implementation process should be developed for those units who have little experience running projects.

Within a committee structure, if the expectation is committee members will be responsible for decision making and representing their constituents, they first need to be made aware that this is an expectation. There should be a regular way to involve campus constituents and to make them aware that their input will be used. (Should there be incentives?) They should be made aware of who they represent, and whose input they will be expected to bring forward.

BEST PRACTICES FOR CAMPUS INVOLVEMENT

The campus should look to industry, for best practices for implementing a structured approach for gathering requirements, and measuring products against the requirements. This should be a standard approach, so that people do not have to be re-educated on the process and how input will be gathered.

There should be better campus involvement on deciding to adopt tools/systems. In the absence of early involvement, others will make the decision for the community. There should be an early systematic, protocol for deciding on technological changes; a case should be made for making changes.

Formal beta-testing phase for deployments should be used – examples of successful uses of beta testing include Effort Reporting and MyTravel. Project teams should pursue the people who have real interest in the program – not just those who sit on the committees. Have an extended period for beta-testing to ensure proper input.

BALANCING CENTRAL AND LOCAL INVESTMENTS

We should adopt a model or template which involves an inventory of local system and clustered computing needs, so that common needs can be made visible. Enable coalitions and give incentives (consider: power, air conditioning, space, IT support) so that researchers can collaborate on clustered environments. Deans should work closely with ORMP to fund incentives for power and air conditioning if Deans can identify space.

Attempt to mitigate the geographic location of many of the campus IT resources from campus units. Address the gap of understanding of local application needs.

Miscellaneous Comments

Building new buildings – we need a protocol for how should faculty be involved

Space is not available, especially for large research computing clusters – it is at a crisis phase

Demands on faculty are many; staff have the same problem. Therefore it is impossible to focus on multiple critical issues.

Staff express the concerns to faculty that they are not involved in decisions in administrative computing

Faculty have a need to be brought up to speed on useful technologies

Need to be better at communicating to staff what might be coming

Staff are, in fact, willing to embrace technology because there is so much redundancy in their work

There are examples of good, broad representation, on is the GradSmart application where there is an advisory group representing the programs; good examples of broad representation exist with customer advisory groups

The critical success factor IT initiatives is to have the responsible Dean ensure that the right people are involved.

Governance is a key factor. How does the governance structure communicate to the campus.