Send an email to the voting EC members' listserv.

AGENDA

Executive Committee Meeting
CSUSM Academic Senate
Wednesday ~ November 17, 2010 ~ 12 – 2 p.m. ~ Kellogg 5207

I. Approval of Agenda

II. Approval of Minutes of 11/10/2010

III. Chair's Report, Rika Yoshii

Emergency Procedures recommendations

Referrals:
SAC Student Grade Appeals policy update (E.O. 1037)
SAC Management of Student Course Records – online courses (EC member)

IV. Provost's Report, Emily Cutrer

V. ASCSU Report, Brodowsky/Montanari

VI. CFA Report, Don Barrett

VII. Brief Oral Committee Reports: BLP, GEC, NEAC, SAC

VIII. Old Business None.

IX. New Business None.

X. Discussion Items

A. Self-Support programs – Jackson, Bullard *Time certain: 1:15 pm*
B. Red Balloon initiative – Cutrer

XI. EC Members' Concerns & Announcements

Next meeting: 12/1 ~ 12-12:50 pm ~ Commons 206

MEMORANDUM

TO: Provost Cutrer
From: Senate Executive Committee
Date: November 15th, 2010

At the recent EC meeting, we compiled a list of ideas and suggestions to improve the emergency handling procedure in Academic Affairs.

Emergency Situation Recommendations from EC November 10th, 2010

1. Expand the notification system – not OPT-IN – as follows:
    - The system should email all students, faculty and staff including those who are at non-main campus offices, and
    - The system should call all office phones.

2. Develop online training materials for faculty (similar to the privacy protection material).
3. Have each Dean tell department chairs to discuss this issue in their department meetings.
4. Training material should be attached to lecturer contracts, and have lecturers sign to indicate that they have read it.
5. Please make sure all doors actually lock. Some do not.
6. The weapons policy should clearly and explicitly state that people must notify the public safety office in advance when bringing fake weapons to campus.

Questions for Extended Learning

For for-credit programs and courses offered via self-support.

1. What is the current process of deciding to offer a program through self-support?
    a. *Degree Programs*
        i. The Colleges/Schools and Extended Learning work collaboratively to meet the educational needs of the region. While these educational needs are mostly fulfilled on the stateside through traditional means, there are times that offering a program through self-support via Extended Learning is more appropriate. For example, one of the largest academic programs that EL supports is the Accelerated Bachelor of Science in Nursing (ABSN), which is a second bachelor's degree program. The California State University (CSU) system does not currently fund second bachelor's degree programs; therefore, the only mechanism to offer the program is via self-support. The self-support ABSN program has afforded an additional 88 nursing students each year to complete their bachelor's degree at CSUSM, which in turn, assists in fulfilling the workforce needs of the Southern California healthcare industry.
    b. *Certificate Programs*
        i. Through collaboration with the Colleges/Schools, Extended Learning offers only a handful of academic certificate programs, including: the Clinical Nurse Faculty Certificate, the Biotechnology Laboratory Technician Certificate, and the California Supplementary Authorization (CSA) in Computer Concepts and Applications. Certificate programs offered via EL are typically related to workforce training and preparation; however, such programs can also be utilized as pathway programs to CSUSM degree programs, both bachelor's and master's.
    c. *Courses*
        i. Academic courses offered through EL are mostly in support of self-support degree programs. In addition to the courses that are required for self-support degree-seeking students, EL offers a Winter Intersession to assist stateside matriculated students enhance their progress toward degree completion; this is a common practice on most CSU campuses. Last year, EL was charged with oversight of Summer Term; however, this action was prescribed by the CSU Chancellor's Office, and was not reflective of typical arrangements for summer.

<u>Notes:</u>

a. Market-demand assessments (formal or informal) are conducted for all self-support degree and certificate programs prior to pursuing.

b. Programs and courses must be in compliance with Executive Order 1047.

2. How are we currently assuring the quality of programs and courses?
    a. *Quality*
        i. The quality of self-support programs are ensured by the same policies and practices as stateside programs (e.g. – student course evaluations, program review, etc.). Self-support programs and courses are "housed" under a corresponding College or School, not Extended Learning. Faculty retain oversight of all curricula in self-support programs, and curriculum approval for self-support programs follows the same process as stateside (e.g. – college approval, UCC approval, Senate approval, and C.O. approval).
    b. *Course Evaluations*
        i. Course evaluations are conducted by CSUSM's Institutional Planning and Analysis (IPA) and made available to the Colleges/Departments/Faculty via the same process as stateside programs/courses.
    c. *Course Availability*
        i. All self-support degree programs are offered in a cohort-based fashion, ensuring that students will be guaranteed a seat in each course required to obtain a CSUSM degree. For Intersession and Summer Term, registration and course availability is based on the same policies and practices as maintained each academic semester by Enrollment Management Services (EMS). For all courses, registration for self-support courses takes place in PeopleSoft via a student's 'MyCSUSM' portal.

3. How are students receiving advising?
    a. Students receive academic advising by both faculty and professional staff advisors (Student Services Professionals). Extended Learning, like the College of Education and College of Business Administration, maintains it own internal professional Student Services staff, which includes a cadre of advisors. EL advisors are trained in the same manner as all advisors on campus, and they collaborate with faculty to resolve student concerns, needs, and issues.

4. Are TTFs able to use self-support courses in the WPAF?
    a. Yes. Article 40.17 of the current CBA states:
        i. A faculty unit employee employed in classifications noted in provisions 40.1 and 40.2 above shall be evaluated at the discretion of the department chair or the appropriate administrator. In addition, an evaluation shall be performed upon the request of the faculty unit employee. These evaluations shall be consistent with provisions 15.20, 15.21, 15.22, and 15.27 of the Agreement.

5. Are TTFs able to report self-support courses as part of their workload?
    a. Self-support courses may only be counted as part of a faculty workload if the faculty is being paid through 'buy-out'. Courses being taught for additional compensation (e.g. – 2322 Pay Schedule for Special Programs), may not be counted as part of the faculty workload.

6. Are lecturers' entitlements affected by teaching self-support courses?
    a. Article 12 (Appointment) of the current CBA does not apply to self-support courses. However, lecturers teaching in a "buy out" arrangement (non 2322 or 2323 code) may be eligible for entitlements.

7. Programs taught in self-support are part of the Program Review Cycle?
    a. Yes. All programs taught via self-support are under the same Program Review Cycle as all campus programs.

8. Please describe the facility at the Temecula Campus.
    a. CSUSM at Temecula is a 15,000 square foot facility, which includes: administrative and faculty offices, a conference room, a faculty/staff workroom, five general-purpose SMART classrooms, a Kinesiology Lab, a Nursing Skills Lab, a Nursing Simulation room, a general Science Lab, a 60 seat videoconference classroom, and a Student Lounge. The space can occupy a maximum of 500 FTE at one time. The Temecula Campus is open daily, and we would encourage all CSUSM faculty and staff to visit the new location.

9. Please provide a summary of your revenue and expenditures for the past few years. *(see attached document)*

For additional information about Extended Learning operations, please refer to the Senate-approved Academic Policy Committee 168-99: "Extended Learning's Roles and Responsibilities" (fourth revision 6/10/08).

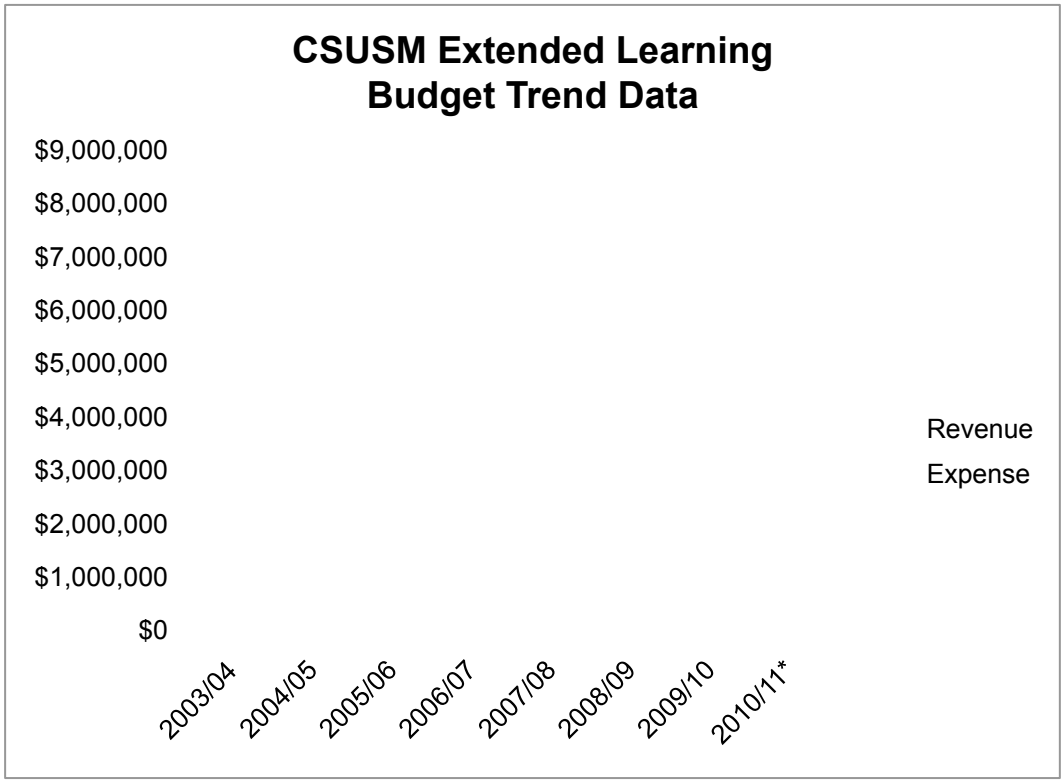
http://www.csusm.edu/policies/active/documents/extended_learnings_roles.html

CSUSM Extended Learning
Budget Data

Fiscal Year	Revenue	Expense	Variance	Reserves
2003/04	$1,588,975	$1,346,700	$242,275	$1,010,448
2004/05	$2,587,878	$2,416,300	$171,578	$1,252,723
2005/06	$1,500,702	$2,040,853	($540,151)	$1,424,301
2006/07	$1,960,280	$2,655,660	($695,379)	$884,150
2007/08	$2,250,636	$2,849,265	($598,629)	$188,771
2008/09	$4,299,278	$4,238,794	$60,484	($409,859)
2009/10	$6,476,340	$5,122,352	$1,353,987	($349,375)
2010/11*	$8,531,968	$8,314,925	$217,043	$1,004,613

**Projected Budget FY 10/11*

	Revenue	Expense
Averages (8-YR)	$3,649,507	$3,623,106



The Red Balloon Project: Re-Imagining Undergraduate Education

(A version of this paper will appear in Fall 2010 in ***Teacher - Scholar: The Journal of the State Comprehensive University*** under the title "Medieval Models, Agrarian Calendars and 21st Century Imperatives")

George L. Mehaffy
Vice President for Academic Leadership and Change
American Association of State Colleges and Universities (AASCU)

The recent terror attempt in the skies over Detroit by a Nigerian passenger who attempted to detonate an explosive device on an airplane brought back memories of other terrorist attacks: Richard Reid, the unsuccessful shoe bomber; the attack on the USS Cole, and, looming over everything else, the September 11th terrorist attacks. After the horrific events in New York, Pennsylvania, and Washington, D.C., a bipartisan commission was created to identify the failures that prevented us from stopping that attack. The 9/11 Commission concluded that the greatest failure was our utter lack of imagination. Leaders at many different levels simply could not imagine the size, scope, and focus of these attacks. [1]

Malcolm Gladwell noted that same failure in a review of a book about military history. "In *Military Misfortunes*,' the historians Eliot Cohen and John Gooch offer, as a textbook example of this kind of failure of imagination and adaptation, the British-led invasion of Gallipoli in 1915. Cohen and Gooch ascribe the disaster at Gallipoli to a failure to adapt—a failure to take into account how reality did not conform to their expectations. And behind that failure to adapt was a deeply psychological problem: the British simply couldn't wrap their minds around the fact that they might *have* to adapt."[2]

[1] (Kean)
[2] (Gladwell)

Those of us in public higher education are approaching our own crisis of imagination and adaptation. We confront rapid changes in the circumstances and context in which public higher education operates and yet we seem unable to respond with the creative and innovative solutions that will ensure our success. Someone recently said that the core problem is that higher education was designed in the 11th century and operates on a 19th century agrarian calendar, while trying to prepare students for life and work in the 21st century.

Three Challenges

In this new century, three forces – declining funding, rising expectations and rapidly developing technology – will profoundly challenge public higher education. The first of the forces is economic. States will be fiscally challenged for years to come because of structural deficits and the competing demands of healthcare, prisons, and K-12 education. A second force is rising expectations. President Obama has set a new ambitious goal for the United States – to reclaim its lead in the world for educational attainment by 2020. [3] The Lumina Foundation announced its "Big Goal" of sixty percent of adults with high quality degrees or certificates by 2025.[4] But there's a third force that also challenges the way we in higher education operate. I would argue that technology – the Internet, search capacities like Google, and our ability to find, aggregate, and use information in new, networked, more powerful ways – represents a profound challenge to the university as we know it.

[3] (Obama)
[4] (Merisotis)

My core thesis is simple: resources for public universities are either declining or at least stable, with little realistic hope for recovery to previously experienced levels, yet we are being asked to serve more students, and serve them better. It may be of only little comfort, but we are not alone. Higher education around the world confronts the same key questions. For example, the title of the OECD Conference in Paris this coming September (2010) will be: "Higher Education in a World Changed Utterly: Doing More with Less." [5]

The financial pressures are the most familiar to all of us. The fortunes of higher education have waxed and waned over a good bit of the past century, often tied to national or global economic conditions. This promises to be another of those situations, yet perhaps different in severity, length, and maybe degree. One report from the National Governors Association suggests that state~~s'~~ budgets will continue to experience fiscal stress until the latter part of the decade. [6]

Of additional importance are the increasing pressures on state budgets created by healthcare, criminal justice, and K-12 education, all entities that will consume a larger and larger share of state resources. Yet in a polarized political system, raising taxes will likely prove unpopular, and any taxes raised will have to address the national deficit or state structural deficits. The likelihood of substantial increases in funds for public higher education is very low. The strategy of continuing to raise tuition to meet institutional costs is also not a workable or sustainable solution, especially given the rapid increases in

[5] (Organization for Economic Cooperation and Development (OECD))
[6] (Zaharias)

recent years and the outcry by students, parents, and policy makers that accompanies these tuition hikes.

To respond to these circumstances, campuses have cut deeply into all kinds of services and programs. Most of that cutting, however, is done by eliminating or reducing some essential services, both beyond and within academic affairs. Institutions have also reduced costs through joint purchasing, reductions in maintenance, etc. Within academic affairs, the variety of cost-saving strategies include reduced travel budgets, furloughed faculty, and the replacement of tenure track faculty with lower-cost contingent faculty. What I have seen less of is consideration of how to fundamentally restructure the academic enterprise. What is needed is a transition from expensive, non-scalable models to something new that is more sustainable. Replacing full-time with part-time faculty is a case in point. We have seen a substantial increase in the hiring of part-time faculty, approaching fifty percent of four-year faculty nationwide. Yet what has not been seen very often and is desperately needed is a fundamentally different use of these faculty members. We are simply replacing more expensive faculty with less expensive faculty but not changing the model for the delivery of learning.

The second pressure point is the rising expectations for both college-going and college completion. The President, the Lumina Foundation, and the Gates Foundation have all focused on the need for more Americans with college degrees and certificates. Yet few have acknowledged how hard it will be to change the percentage of Americans with college degrees, a figure that has been stuck in the mid-20 percent range for more than 40 years. We actually have two problems, a college-going problem (too many high school students do not go to college) and a college-completion problem (too many who

start college do not finish). We currently lose a substantial number of students who enroll in our four-year institutions. Many academics would simply suggest that students who drop out are unprepared for the academic demands of college. That kind of thinking pervades the academy, found equally in classrooms as well as the institution as a whole. Students who fail, in the view of too many, are simply not prepared, not qualified and subtly, not worthy. It is the old idea of college as a sorting machine. Yet I believe that far too often, it is the *institution*, not the student, who is failing. As long as our institutions are structured the way they are, we will likely continue to lose large numbers of students. We are encouraged to enroll more students to reach the goal of awarding more degrees and certificates to Americans. The problem with enrolling more students in college is that many of the students who do not currently attend college are not well prepared to succeed in college. They come from lower socio-economic families, among ethnic groups that have historically experienced low college participation rates, with poor academic preparation. Coupled with that pressure is the growing insistence of the accountability movement that requires that we measure what students actually learn, not simply the number of degrees we award.

These two pressures - lack of funding and rising expectations - are by themselves profoundly challenging. In fact, they reveal a stark fact: our current model for funding and delivering public higher education is unsustainable. The institutions we inherited and currently operate were created in a very different era to serve the elite. These institutions are not what we will need to serve a mass audience. Today's challenge for public higher education, reduced to its core elements, is simply this: How do we educate more students, to higher levels of learning outcomes, with less money?

As if these twin pressures – declining funding and increasing expectations – were not enough, public colleges and universities also confront a world being radically reshaped by technology, challenging not only long-held policies and practices but core ideas about the nature of knowledge and the role of the university. We are now moving towards an age where information is created, aggregated and disseminated in powerfully different ways. The model of the university as a collection of experts, the model of teaching that requires expert knowledge, the model of an institution that requires the physical presence of human beings…all of these are being called into question in the Information Age.

Smarter When We Work Together

At the heart of this discussion is the concept of expertise. James Surowiecki in his book *The Wisdom of Crowds* argues that our collective judgment is invariably better than our individual judgment. Surowiecki suggests that "under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them." Surowiecki's book opens with a story by a famous British scientist, Francis Galton, about an experience he had at a livestock fair.

> In 1906 Galton visited a livestock fair and stumbled upon an intriguing contest. An ox was on display, and the villagers were invited to guess the animal's weight after it was slaughtered and dressed. Nearly 800 gave it a go and, not surprisingly, not one hit the exact mark: 1,198 pounds. Astonishingly, however, the mean of those 800 guesses came close — very close indeed. It was 1,197 pounds.[7]

Surowiecki's argument was recently echoed in a new book by Twyla Tharp, *The Collaborative Habit*. Tharp commented: "a notion that was once heresy – that the wisdom of a smart group is greater than the brainpower of its smartest member – is

[7] (Surowiecki xi-xiii)

increasingly accepted in every discipline and every profession and at every age and stage of life."[8]

Collective wisdom is perhaps best represented today by Wikipedia. An article in the journal *Nature* compared the accuracy of scientific entries of the *Encyclopedia Britannica* to Wikipedia.[9] The headline in the news story was startling: **"**Wikipedia is about as good a source of accurate information as *Britannica*, the venerable standard-bearer of facts about the world around us, according to a study published this week in the journal *Nature*."

For the study, the authors chose articles from both sites on a wide range of topics and sent them to what it called "relevant" field experts for peer review. The experts then compared the competing articles--one from each site on a given topic--side by side, but were not told which article came from which site. *Nature* got back 42 usable reviews from its field of experts. In the end, the journal found just eight serious errors, such as general misunderstandings of vital concepts, in the articles. Of those, four came from Wikipedia, four from *Encyclopedia*. [10]

That 2005 study, as you might imagine, has been hotly contested. I would argue, however, that whatever the merits of this particular study, the core idea remains, a quintessential Surowiecki proposition: collaborative work will yield greater results than individual work.

And remember, the *Encyclopedia Britannica* is a 32-volume set, printed at a moment in time (available online but only as an electronic version of the print edition).

---

[8] (Tharp)
[9] (Terdiman)
[10] (Giles)

By contrast, Wikipedia in 2007 was already estimated to be the equivalent of 1250 volumes. Today, Wikipedia has 65 million visitors a month, contains 14 million articles in 260 languages, and is edited and updated continuously. [11] As an aside, but illustrative of the larger point, Wikipedia's errors were fixed the day the journal article was released; the *Encyclopedia's* errors will be corrected sometime in the future when the next edition comes out.

What the *Wisdom of Crowds* and the study in the journal *Nature* both suggest is that there is fundamental change in the ways of developing knowledge, the ways of aggregating and sharing knowledge, and the ways of disseminating and using collective knowledge. Indeed, the changes we are witnessing raise questions about our own conceptions of expertise – from individual ability to networked capacity

A very recent example of the changing idea about expertise – that expertise is collective wisdom facilitated by technology – appears in a new project, Expert Labs, being launched by the American Association for the Advancement of Science (AAAS). The Expert Labs project, headed by Anil Dash, proposes to use "cloud expertise" to link together many different experts. "Expert Labs will help policy-makers harness the wisdom of crowds—particularly the expertise of scientists, technologists, and other citizens with specialized knowledge on key topics." When asked why AAAS had launched Expert Labs, project director Dash said simply: "All of us together are smarter than any one of us alone." [12]

[11](Wikipedia)

[12] (Pinholster)

Other examples of networked knowledge are beginning to appear. In early February 2010, the *Chronicle of Higher Education* reported on the construction of the world's largest digital camera, the Large Synoptic Survey Telescope, at Cerro Panchon in Chile.[13] Over 10 years, it will document more than 10 billion stars and galaxies, looking back over 13 billion years in time and at stars that are 13 billion light-years away. The data from this project, more than 100 times larger than in any other previous astronomy database, will transform academic astronomy. The real transformation is not in the size or data-gathering qualities of this new telescope but in the way the resulting data are made available. Any data from the telescope will be made available free to anyone in the world 60 seconds after the data are captured. The *Chronicle* article reported on the comments of Steven Kahn, the deputy director of the project, who pointed out that "huge amounts of data do not favor lone wolves." Kahn went to say: "Anything that is really important is going to be a lot of work because there is so much data. It makes sense to do that in teams."

Another example of networked knowledge comes from a new mapping application, OpenStreetMap.[14] Many of us have been devout users of Google maps (well, at least since 2005, when Google Maps was launched), which provides a level of cartographic capacity never before known. Yet Google is now being challenged by a collection of amateurs. What is notable about this collection of amateurs is that it is quite large – more than 200,000 people who have taken map-making to a new level. Groups of citizens, armed with GPS devices, have fanned out over the globe to map details never before captured: the location of bike racks, park benches, running paths, and thousands

[13] (Terris)
[14] (Open Street Map)

of other objects and locations. Some do it alone, but in many locales, groups organize to do it for fun as a social activity. The result is a customizable, constantly updated open source product available to anyone.

Perhaps the most vivid example of group expertise comes from the release of Apple's iPhone. Though widely anticipated, the innovation built into the machine was only the beginning. Apple also invited others to create applications (apps) for the iPhone, and then created the iPhones store to sell the apps. That created an interesting model. Apple created the core instrument but others created many of the best applications. Of course, each time an app is sold, it not only provided cash for Apple (Apple takes 30% of the revenue); equally important, each app made the iPhone more valuable. Apple did not have to think up all of the various applications but, from the wisdom of others, Apple profited in two ways: cash and increased intrinsic value. There are now 150,000 apps for the iPhone, and there have been three billion downloads, which is not bad for a concept that came along a year after the iPhone was introduced.[15] The iPad is following the same trajectory in its development.

These examples of organic and collaborative creation and sharing of knowledge stand in stark contrast to the university model of static and delimited expertise, where the old joke goes that the Ph.D. is a process of learning more and more about less and less, until you know everything about nothing. In the so-called most prestigious research universities, disciplines and the atomization of knowledge have created silos of specialties and sub-specialties, leading to peer-review processes that create ever-smaller circles of experts.

[15] (Munchbach)

The Red Balloon Project

What finally triggered my impulse to begin thinking seriously about these issues was what I call my "red balloon" moment. I recently read about an experiment conducted by the Defense Advanced Research Projects Agency (DARPA). DARPA created the Internet and is known for its groundbreaking experimentation. To mark the 40th anniversary of the Internet, DARPA announced the DARPA Network Challenge, a competition that would "explore the roles the Internet and social networking play in the timely communication, wide-area team-building, and urgent mobilization required to solve broad-scope, time-critical problems."[16] It was a simple idea. Ten 8-foot high bright red weather balloons were placed at fixed, random locations around the country, tethered and in plain view. The first person or team to find all 10 balloons would receive a $40,000 prize.

So what would you do if you were given this challenge? How would you start? What processes, structures and tools would you use? And how long do you think it would take to find 10 randomly placed red balloons all over the country? It took the winning team (from MIT) eight hours and 52 minutes to locate all 10 balloons. The core team of five people had more than 4,000 people join them. The winning team created a website that employed social networking and other technologies, and offered a reward structure that gave incentives not only to finders ($2,000 to each person who located a red balloon) but incentives to the people who invited the person to join the team (the person who invited the finder would earn $1,000, the person who invited in the person who then invited in the finder got $500, etc).

[16] (DARPA)

Why is this story important for public universities? It is an example of the development of a new kind of adaptive, networked knowledge, profoundly different from the expert knowledge that we typically associate with universities. It is a specialized and fluid kind of knowledge that technology, the Internet, and social networking generate and facilitate. No one expert could ever find the 10 red balloons, no matter how much expertise they had. Unlike traditional notions of expertise as an individual possession, in the case of the DARPA experiment, expertise was treated (and rewarded) as a collective, not a singular, phenomenon.

A New Way of Doing Business

The federal government has now adopted the DARPA approach more universally, as reported recently in the *Washington Post*.

> The U.S. government is giving away prizes. In seeking solutions to problems, it has discovered the magic of contests, or challenges – also known as open grant-making, open innovation, or crowd-sourcing. Whatever you call this new way of doing business, it represents a dramatic departure from the norm for the bureaucratic, command-and-control federal government. To be sure, the agencies won't abandon the traditional method of doling out grants to predictable bidders. But in the new era of innovation-by-contest, the government will sometimes identify a specific problem or goal, announce a competition, set some rules and let the game begin. *Anyone can play*. The idea is to get better ideas, cheaper, and from more sources, using the Internet and social networking and all the Web 2.0 stuff as a kind of vast global laboratory. (Emphasis added) [17]

One thoughtful observer of this new age, Tim Clydesdale, asserts that there is a new epistemology at work.

> Our students arrive on our campuses with years of experience in observing disputes about what is and is not known, and with well-established ways of handling such things. For example, should they view Thomas Jefferson as the brilliant author of the Declaration of Independence and a "founding father" of the

[17] (Achenbach)

> United States, as a political hypocrite who owned slaves and impregnated them, or as a dead president irrelevant to their own lives but important to their history teacher? Similarly, how should they view global warming, illegal immigration, and evolution? One of my students put it this way: 'It is imperative that someone studying this generation realize that we have the world at our fingertips — and the world has been at our fingertips for our entire lives. I think this access to information seriously undermines this generation's view of authority, especially traditional scholastic authority.' Today's students know full well that authorities can be found for every position and any knowledge claim, and consequently the students are dubious (privately, that is) about anything we claim to be true or important.[18]

It may be that Clydesdale's assertion of a new epistemology is too strong, that we do not really have a new epistemology at work (at least in a profound, Cartesian sense) but instead simply a new set of tools for how we create, distribute and use information. The point to be made here is that a new set of tools demands new models and application. The new technology-enriched context poses three pressing questions to leaders in higher education:

1. How are our universities going to use these new models of knowledge acquisition and application to change the way teachers teach and students learn?
2. How are we helping prepare students to be creators, disseminators, and strategic users of this new knowledge in what is now a deeply networked environment?
3. At the most important level, how are we beginning to deal with the challenge presented by new technologies to traditional, top-down notions of expertise and authority? How can we use the new technologies, and the ways of knowing embedded in them, to challenge and reshape—even reinvent—universities at every level? What long-held assumptions about teaching, learning, and about the

[18] (Clydesdale)

role of the professor still have resonance in this age of the Internet? And which assumptions regarding the academic enterprise must be discarded?

Given these dramatic pressures – loss of funding, elevated expectations, and the power and influence of technology – why are we not seeing more change in public higher education? I think there are at least two sets of reasons: organizational and structural issues (such as money, time, administrative job-hopping, poor incentive structures, etc.); and psychological reasons (such as stress and response to change).

Creating core change in higher education organization and structure is enormously complicated. Thinking about systemic change is almost mind-boggling. Take, for example, the deceptively simple idea of the credit hour. Tinker with the credit hour and suddenly your higher education world will collapse like a damaged sand castle. Challenge the credit hour and you raise questions about workload, student time, academic program design, graduation requirements, and indeed, the very idea of the degree.

But psychological issues also contribute to lack of change. One reason for lack of substantive change is the physiological response to stress. For human beings, stress has a significant impact on vision. Stress literally reduces peripheral vision. Metaphorically, stress reduces our ability to see some of the peripheral opportunities. Instead, we start to have tunnel vision. Second, most human beings have a negative response to change. When things start to alter in profound ways, most people begin by simply hunkering down, hoping whatever change agent is at work will soon pass, and things will return to normal.

Disruptive Technologies in Higher Education

There is another force at work that reduces our sense of urgency, and this is the concept of arithmetic instead of geometric progression. Ray Kurzweil, author of *The Singularity is Near*, argues that the speed of innovation in information processing is a geometric curve that provides a deceptively slow start but then rapidly accelerates into a very steep curve. He suggests that we are seeing that process at work as he predicts the capacity of machines to equal the processing power of the human brain by 2029. By the mid-2040's, Kurzweil predicts that we will have available machines with a billion times the power of the human brain. [19]

The speed of change in technology innovation stands in stark contrast to the ability of higher education institutions to adapt. We have been lulled into a false sense of security about the coming age, thinking that things will continue to unfold in a rather slow and measured arithmetic way. Kurzweil argues that in geometric growth curves, the first part of a change curve shows a slow and steady increase. But if the rate of change in the world around us is geometric, as it is in technology innovation, we may be at the critical inflection point, when suddenly the curve takes a sharp upward turn, disrupting long established models, processes, and indeed institutions. [20]

Given the intersection of these three enormous challenges – declining levels of funding, growing expectations, and rapid changes in technology – I believe that it is time to go beyond marginal tinkering or reductions of core functions and services and begin to

[19] (Kurzweil)
[20] for a fascinating set of interviews by Kurzweil, Joel Garreau, and others, see the 7 Revolutions video library at the Center for Strategic and International Studies [CSIS]: http://gsi.csis.org/index.php?option=com_content&task=blogsection&id=9&Itemid=136

identify long-term strategies to create scalable, high quality educational models for the 21st century. For me, the Red Balloon experiment is a metaphor for the changing world we now confront. But the Red Balloon is also a model for higher education to re-invent our future. We can use the technologies and strategies of the Red Balloon Project to collectively create new models and new practices.

Put simply, I believe that the present dismal financial circumstances, growing expectations, and rapidly developing technologies challenge us to develop new, more sustainable, more effective, and more adaptive educational models. These challenges will force change throughout our institutions, but we need a place to start, and I cannot think of a better place than the undergraduate experience. It is past time to think in profoundly new ways about how we organize and deliver instruction, structure and sequence the curriculum, design and assess learning environments. In short, we can use the current economic crisis to re-imagine the entire undergraduate experience.

If nothing more, it would be useful to talk about, and maybe even gain control over, our future, instead of watching our institutions slowly wither, hearing the constant drumbeat of doom and gloom prophesies, and listening to a rising chorus of complaints and back-biting. Barr and Tagg outlined the conceptual shift we will need to make if our institutions are truly to become 21st century universities. In their much–quoted article "From Teaching to Learning: A New Paradigm for Undergraduate Education" in *Change Magazine*, Barr and Tagg seemed hopeful about the changes they saw higher education making in 1995:

> A paradigm shift is taking hold in American higher education. In its briefest form, the paradigm that has governed our colleges is this: A college is an institution that exists *to* provide instruction. Subtly but profoundly we are shifting

> to a new paradigm: A college is an institution that exists *to produce learning*. This shift changes everything. It is both needed and wanted.[21]

Unfortunately, 15 years later, that shift is all too often more of an aspiration, and not yet a reality. Perhaps under the weight of the challenges of finances, expectations, and technological transformation, we are reaching an inflection point. Maybe the Barr and Tagg dream is finally about to come true, particularly in an era of rising expectations about student learning outcomes.

For many years, the typical model in universities was not only a focus on teaching, not learning, but teaching in a special frame of reference. Far too often, teaching was largely about content, and delivering content from one person (the expert) to someone else who was not the expert (the student). Today, of course, content is everywhere, available instantaneously, and doubling every 18 months. Millions of video clips on the Internet, dominated by YouTube but also other sources like the fascinating TED lecture series, where at the click of a mouse you can watch world leaders, scientists, activists, Nobel Prize winners, and other extraordinary human beings describe their research, their ideas, and their dreams. [22] TED, of course, is only one tiny fraction of the material from one source. There is also coursework from MIT, and millions and millions of other sources of content. When I speak to faculty groups, I mention the tyranny of coverage that still haunts so many of our colleagues. You and I have heard the refrain for years: "I can't possibly do (whatever is new or novel); I have to make sure I cover the material." Whenever I address an audience during a campus visit and plead for consideration of a focus on civic engagement, I acknowledge the constraint that coverage

---

[21] (Barr and Tagg)
[22] (TED: Ideas Worth Sharing)

of content imposes. But then I mention the fact that content is doubling every 18 months, and ask, with a smile, "So, how's that coverage thing working out for you?" I always get a laugh.

One way to begin thinking about change is to consider faculty work. Faculty have traditionally had four primary roles with respect to teaching and learning. They select the content that is most critical, design the educational experiences that will optimize learning, deliver instruction, and assess learning outcomes and assign grades. It seems to me that faculty have spent more time on the delivery of content than on the design of effective educational experiences. I think that far too often, the dominant focus is on content, on 'getting thru the material.'

To build new educational models that are both scalable and sustainable, we need to rethink faculty roles. In a world where content is everywhere, available at the touch of a key the click of a mouse, we need to focus on the work of designing learning environments, instead of focusing on delivering content in ways that de-emphasize the delivery of prepackaged content, which is so readily available from so many other sources. One model that is often suggested is to disaggregate faculty roles, much as was done by the Open University of the UK, where a huge investment was made in course development and design, a substantial investment was made in an independent unit that assessed the results, but delivery of the course was done in a less expensive way. Yet this model, while appearing innovative, may not fundamentally change the paradigm. Whether assembling a whole course or only parts of the course, one may still be producing a traditionally-taught course.

One of the reasons, I suspect, that we still use a cottage industry model, where the entire operation, from design through delivery to assessment, gets handled by the same institution, is because of our notion of expertise. Alternatively, models exist where faculty work is changed because of a very different pedagogical model. For example, at Virginia Tech, the Math Emporium allows students to work independently and in groups with upper division students, graduate students, and faculty working in fundamentally different ways.[23] Innovations like that have often proven to reduce costs, increase learning outcomes, and increase student engagement and satisfaction. Carol Twigg of the National Center for Academic Transformation has been a notable leader in this process of reconceptualization, yet her work has not yet reached as many institutions, or as many parts of the university, as it needs to if we are to radically restructure our institutions. [24]

The emphasis I am hoping for is not simply disaggregation of roles but a fundamental reconceptualization of roles, particularly the role of the teacher. Our conceptions of expertise, I believe, shape the way that teaching takes place. Far too often, teaching is about an expert delivering expert content to a non-expert audience. The expertise creates a sense of privilege about who has access to information, and when. It creates assumptions about learners as individuals without capacity except in the presence of expertise. And finally, our concepts of expertise shape our assumptions about teaching, learning, and the structures of our institutions.

In a content-rich environment, with unlimited access to information by everyone, the role of the faculty member should be profoundly different. Faculty should focus most

[23] (Robinson and Anne)
[24] (National Center for Academic Transformation)

of their effort on creating learning environments, interactive places where students can learn. This doesn't necessarily mean classrooms; indeed to create higher quality learning for more students possible, faculty may have to spend the majority of their teaching work outside of classrooms, designing activities for students outside of class. Increasingly, faculty may have to be the designers of student work that is done independent of faculty. Faculty in that kind of circumstance would also play a supportive, problem-solving role, as well as a certifier of learning outcomes. The conception of the course, and how it is delivered, and the role of the faculty member in the course, would shift radically.

To create that vision of faculty work, however, will require a wholesale revision of the institutional structures, policies and practices that surround courses and faculty. Design of the curriculum, use of time, organization of the calendar, and a host of other structures and practices would also have to change. To "re-imagine undergraduate education" will mean to re-imagine the institutional context within which faculty work, as well as the roles of faculty themselves.

Using the Red Balloon Concept to Meet 21st Century Imperatives:

I think we have reached our Jerry Garcia moment. It was Garcia who said: "Somebody has to do something, and it's incredibly pathetic that it has to be us." Among all of the sectors of higher education, I think that the regional comprehensive universities, institutions that belong to the American Association of State Colleges and Universities (AASCU), are the most vulnerable. Yet I also think those institutions are the most capable of institutional transformation.

We're seeing innovation on many campuses. Indeed there probably isn't a single campus that doesn't have some very innovative teaching taking place. But most of the

time, these innovations are isolated, in pockets, and not institutionalized as common experience. As someone once said, the future is here, it's just not widely distributed. The initiative we are proposing will seek to move innovation from the margins to the center of institutional practice. The institutional focus also provides a unique perspective. A number of groups have identified *what* we need to be learning in the 21st century, most notably AAC&U's Liberal Education and America's Promise (LEAP) goals.[25] What has largely been missing from the national conversation is *how* to restructure our institutions to achieve those outcomes.

As Garcia said, someone truly does have to do something. I propose that we use the opportunity of economic crisis, rising expectations, and the revolution in knowledge production to transform design a creative, collaborative process to reconceptualize undergraduate education. Together, I believe that we can build a new model of undergraduate education, in an AASCU initiative that I'm calling "The Red Balloon Project: Re-Imagining Undergraduate Education."

Here's how it would work. First, given the economic crisis, we would use existing structures and organizations. We do not need to wait until we have a grant or some infusion of new money. We already have an association (AASCU); regularly-scheduled national meetings of AASCU members; a network of colleagues connected by the Internet, email, and webpages; and on each AASCU campus, incredibly bright people, as well as time and opportunity to meet together to think about how undergraduate education should be designed and delivered in the 21st Century. Because

[25] (AAC&U)

chief academic officers are at the heart of the academic enterprise, we will use them as the primary vehicle for our work.

If this project is to be successful in re-designing undergraduate education, I believe that the following issues must be addressed:

How Do We Create:

1. New Models for Institutional Organization and Design (Academic Affairs-Student - Affairs collaboration, new departmental/college structures, etc.)
2. New Models for Enrollment Management (academic advising, tracking, early warning, predictive modeling, etc.)
3. New Models for Faculty (different kinds of faculty work, the use of part-time faculty, etc.)
4. New Models for Curriculum (degrees limited to 120 hours, interdisciplinary programs, new designs for general education, etc.)
5. New Models for Course Design (reduced seat time, student-centered learning, undergraduate research, project-based learning, etc.)
6. New Models for Instructional Design (new forms of student engagement, use of technology in teaching, distance education, etc.)

We plan to launch the Red Balloon Project at the AASCU Academic Affairs Summer Meeting in July 2010, which will be focused exclusively on the idea of "Re-Imagining Undergraduate Education." [26] At that meeting, participants will meet together in small groups to discuss new approaches, leadership, and project design, as well as listen to presentations in plenary and concurrent sessions about new models and new

[26] (AASCU)

approaches. Following the meeting, there will be a call for participation sent out to all AASCU institutions. Each campus that wishes to participate will convene a group or groups on their own campus to discuss ideas and implementation strategies for "Re-Imagining Undergraduate Education" in their own unique context. There will be no cost to participate and no required activities. Each campus will participate based on its own unique context and circumstances, as well as its own interests and needs.

Over the 2010-2011 academic year, using Red Balloon interactive and connective strategies, we will assemble and share ideas, programs suggestions, and proposed strategies and structures that campuses might use to design and develop their own approaches, connecting all of the participating campuses. At the Academic Affairs Winter Meeting in Orlando in February 2011, we will assess our progress, provide more resources, and offer various forms of support. At the Academic Affairs Summer Meeting in July 2011 in Portland, we will present our collection of strategies and ideas, review the work that has been done, and consider extending the project, depending on success to date.

Because reforming higher education is such a complex problem, we will use some of the tools and strategies of the DARPA Red Balloon project to collectively design a 21st century university educational strategy. We will create a special augmented set of network resources (web pages, wikis, and the like) so that faculty can interact with one another across campuses, as well as with their own colleagues. We will host a webinar series on topics that are part of the project, asking campuses working on a particular issue to collaborate to provide webcast content for everyone else. We will build a project website as a repository for ideas, resources and other materials, organized by categories

with key words. We will use conference calls as a way to keep participants connected. There may be other ways to link together and stay connected as well.

We already have some great collective leadership at work on this project. More than 15 people have read and commented on drafts of this paper. A Working Group of 27 AASCU chief academic officers has been formed who will help guide the project. The 17 AASCU presidents and chancellors who serve on AASCU's Committee on the Undergraduate Experience will provide presidential perspectives and advice. A number of others have offered to be involved and to help as the project unfolds.

When I think about this project, I think about the analogy to a supercomputer. It turns out that a supercomputer is not a giant computer; it is a lot of small computers but all of them are working together. With the creation of supercomputers, we have been able to develop hyper-fast levels of computation, allowing us to work on very complex problems. Might we make ourselves into a higher education supercomputer to address the very complex questions of how to "Re-imagine Undergraduate Education" for the 21st century?

To achieve those outcomes, I would hope that the project we undertake can design new models, processes, and programs that respond to the three core challenges:

1. **Lower Costs**

- Maximize cost-effectiveness (either hold costs constant while increasing the number of students involved, or reduce costs)
- Make programs scalable (increase the number of students served while reducing per-student costs)

2. **Increase Participation**

- Create more effective student engagement. Engagement is the key to greater learning outcomes
- Produce greater learning outcomes documented by a rich array of instruments and assessment strategies

3. **Respond to the Challenge of Technology**

- Focus on the development of 21st century skills to create 21st century learning and leadership outcomes
- Rethink teaching, learning, and faculty roles

Afterword

Our institutions are often hard to categorize, resting awkwardly in the middle of the categories of American higher education institutions. In 2002, An AASCU Task Force created a conception of our members as "Stewards of Place."[27] It was an inspired insight into the deep connections our institutions have with their communities and regions. Recently considering that formulation, we added three critical elements that were not as visible in the original statement: our role in the strengthening of the P-20 educational structure, our work in applied research, and our focus on the preparation of citizens to build stronger communities and regions. What "Stewards of Place" doesn't say, however, is that the most critical stewardship is the stewardship of our own institutions. Our first and most critical task is to educate a generation of students to be wise and knowledgeable architects of our future. Unless our colleges and universities are

[27] (AASCU)

transformed to be successful 21st century learning organizations, we will never be effective stewards of our communities and regions.

Acknowledgements

A special thanks to Cecilia M. Orphan, National Coordinator for the American Democracy Project, who read and commented on this paper. Her work as the editor has made this a much more readable and coherent paper.

A number of colleagues have read and made enormously useful comments on the working paper from which this article was taken. Their contributions illustrate the core idea of the new age…that our collective wisdom exceeds the wisest individual. I am deeply indebted to each of them for their thoughtful contributions

William Graves, Senior Vice President of Academic Strategy, SunGard
Harry Hellenbrand, Provost and Vice President for Academic Affairs, California State University – Northridge
Pat Hutchings, Senior Associate, Carnegie Foundation for the Advancement of Teaching
Sally Johnstone, Vice President for Academic Affairs, Winona State University
William Lowe, Chancellor, Indiana University Northwest
Margaret (Peg) Miller, Editor, Change Magazine
Emile (Mel) Netzhammer, Provost and Vice President for Academic Affairs, Keene State College
Felice Nudelman, Director of Education, The New York Times
William Plater, Director and Chancellors Professor, Office of International Community Development, Indiana University Purdue University Indianapolis (IUPUI)
John Presley, former Provost, Illinois State University
Judith Ramaley, President, Winona State University
John Saltmarsh, Director, New England Resource Center for Higher Education (NERCHE)
David Stone, Director, Office of Sponsored Projects, Northern Illinois University
Selase Williams, Provost and Vice President for Academic Affairs, Southern Connecticut State University
Jolanda Westerhof, Director of Teacher Education, American Association of State Colleges and Universities (AASCU)

Bibliography

AAC&U. Liberal Education and America's Promise (LEAP). 2010. 2010 March 15 <http://www.aacu.org/leap/index.cfm>.

AASCU. Academic Affairs Summer Meeting: Re-Imagining Undergraduate Education. 15 April 2010. 20 May 2010 <http://www.aascu.org/meetings/aa_summer10/index.htm>.
—. Stepping Forward as Stewards of Place. Executive Report. Washington, D.C.: AASCU, 2002.

Achenbach, Joel. Government contests offer different way to find solutions for problems. 30 April 2010. 30 April 2010 <http://www.washingtonpost.com/wp-dyn/content/article/2010/04/29/AR2010042902880.html>.

Barr, Robert B. and John Tagg. "From Teaching to Learning: A New Paradigm for Undergraduate Education." Change Magazine (1995): 13-25.

Clydesdale, Tim. "Wake Up and Smell the New Epistemology." 23 January 2009. The Chronicle of Higher Education. 23 January 2009 <http://chronicle.com/article/Wake-UpSmell-the-New/4568>.

DARPA. DARPA Network Challenge. 7 December 2009. 10 December 2009 <https://networkchallenge.darpa.mil/Default.aspx>.

Embracing the Big Goal as a National Imperative. By Jamie P. Merisotis. Perf. Jamie P. Merisotis. USC Center for Enrollment Research, Policy, and Practice, Los Angeles. 14 January 2010.

Giles, Jim. "Special Report Internet encyclopaedias go head to head." 14 December 2005. Nature: International Weekly Journal of Science. 15 June 2008 <http://www.nature.com/nature/journal/v438/n7070/full/438900a.html>.
Gladwell, Malcolm. "Cocksure: Banks, battles, and the psychology of overconfidence." The New Yorker (2009).

Kean, Thomas H. The 9/11 Commission Report. 27 November 2002. 15 January 2010 <http://govinfo.library.unt.edu/911/report/911Report.pdf>.
Munchbach, Andrew. "App Store catalog at 150,000, 75% of which will cost you." 13 February 2010. BGR. 15 February 2010 <http://www.boygeniusreport.com/2010/02/13/app-store-catalog-at-150000-75-of-which-will-cost-you/>.

National Center for Academic Transformation. What We Do. 10 January 2009 <http://www.thencat.org/whatwedo.html>.

Open Street Map. Open Street Map. 24 May 2010. 15 April 2010 <http://www.openstreetmap.org/>.

Organization for Economic Cooperation and Development (OECD). "IMHE 2010 General Conference." Higher Education in a World Changed Utterly Doing More with Less. Paris: OECD, 2010.

Pinholster, Ginger. Expert Labs to Help Support Policymakers by Tapping into "Cloud Expertise". 18 November 2009. 20 November 2009 <http://www.aaas.org/news/releases/2009/1118expert_labs.shtml>.

Remarks of President Barack Obama – Address to Joint Session of Congress. By Barack Obama. Perf. Barack Obama. Joint Session of Congress, Washington, D.C. 24 February 2009.

Robinson, Barbara L. and Moore H. Anne. "Chapter 42. The Math Emporium." Educause. 15 November 2009 <http://www.educause.edu/learningspacesch42>.

Surowiecki, James. "The Wisdom of Crowds." Surowiecki, James. The Wisdom of Crowds. New York City: Anchor Books, 2005. xi-xiii.

Technology: Ray Kurzweil on the Singularity. Dir. CSIS Global Strategy Institute. Perf. Ray Kurzweil. 2008.

TED: Ideas Worth Sharing. TED: Ideas Worth Sharing. 15 May 2010. 15 May 2010 <http://www.ted.com/talks>.

Terdiman, Daniel. "Study: Wikipedia as accurate as Britannica." 15 December 2005. Cnet News. 01 June 2008 <http://news.cnet.com/Study-Wikipedia-as-accurate-as-Britannica/2100-1038_3-5997332.html>.

Terris, Ben. "A New Motion Picture of the Universe, With Free Admission for Colleges Large and Small." 07 February 2010. The Chronicle of Higher Education. 07 February 2010 <http://chronicle.com/article/A-Motion-Picture-of-the-Sky/64003/>.

Tharp, Twyla. The Collaborative Habit: Life Lessons for Working Together. New York City: Simon & Schuster, 2009.

Wikipedia. Welcome to Wikipedia. 24 May 2010. 10 April 2010 <http://en.wikipedia.org/wiki/Main_Page>.

Zaharias, Krista. "News Release: NGA, NASBO Say States Will Continue to Face Fiscal Difficulties in Coming Years." 12 November 2009. National Governors Association. 01 February 2010 <http://www.nga.org/portal/site/nga/menuitem.6c9a8a9ebc6ae07eee28aca9501010a0/?vgnextoid=5c0cba85b83e4210VgnVCM1000005e00100aRCRD&vgnextchannel=6d4c8aaa2ebbff00VgnVCM1000001a01010aRCRD>.