Reconciling Higher Education with Lower Economics: Thoughts on How to Manage an Unmanageable Situation

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With budget shortfalls commonplace and alternative sources of funds diminishing, the CSUN faculty and administration find themselves pursuing decisions in continually underfinanced and uncertain times. To mitigate this uncertainty, an alternative paradigm of content delivery, "satisfaction by examination", or SBE, is proposed here to accelerate graduation rates, circumnavigate impacted courses and liberate nearly $15 million to facilitate a balanced budget, thereby reducing the need to extend furloughs or increasing Student Faculty Ratios.

To the casual observer, let alone the rank and file of higher education, it is both intuitively obvious and factually true that the State of California is experiencing major financial difficulty. The California State budget shortfall projected, at one point, to be as high as $60 billion for FY 2010-11, is now forecast at 20 billion.[1] As intellectuals, we could argue the cause of these budget woes, whether we blame it on acute circumstances (e.g. the subprime loan bust; historic spikes in unemployment; the bank loan freeze, etc.), or chronic ones (e.g. rising consumer credit; increasing prison population; burgeoning health care costs, etc.). However, such comparison, in the final analysis is a vacuous exercise, much like determining which iceberg ultimately caused the Titanic to sink.

Instead, we should adopt a more pragmatic view of problem solving, embracing the position that causes are not as important as consequences; that polemics pale by comparison to plans; and that results should replace reasons. So it is in looking at the CSU's portion of this year's shortfall in Sacramento. We need to understand that we will not have a budget by the statutory deadline of June 30st, nor will we have the capacity to make educated guesses, in the interim, given the current politics in

place. While the Chancellor plays Russian roulette in reducing enrollment, hoping to ultimately prove the CSU *can't* do more with less (and thereby hopefully shaming the legislature into diverting more funding back to higher education), the analysts and legislators in Sacramento troll about, attempting to demonstrate that we *can*. Sadly, our attempts to prove them wrong are ultimately trumped by the self-fulfilling nature of a budget seeking equilibrium in an underfunded world (to date, by way of furloughs, stimulus funds, and other one-time solutions). Yet in the end, systemically the CSU is still in a net deficit position and can expect similar shortfalls going forward.

To slow this demand/supply roller coaster, however, we need to embrace three fundamental realities: 1) we do not control Sacramento's budget, nor its allocation to the CSU/CSUN, and any attempt to do so, at best, is a shell game; 2) there are a finite number of budget line items and even fewer degrees of freedom in allocating among them; and 3) while the budget line items are by definition zero-sum, the contexts in which they play out are not. It is in this last fact on which our hope for the future resides. Let me explain:

The State General Fund budget allocation for the CSU has averaged approximately 3% per year, during the past ten years. For the fiscal year 2009-10, The State General Revenue funds of $84.5 billion resulted in approximately $2.54 billion to the CSU.[2] Of that, CSUN's general fund allocation is $148 million, or approximately 6.3%.[3] Together with other sources (i.e. student and other fees totaling $155 million) our CSUN total student revenues for 2009-10 come to $303 million.[4] Yet our expenditure budget is based on $326 million, which consists of: $141 million, or 43.4%, to Academic instruction; $24.5 million, or 7.2%, to Administration and Finance; $15.5 million, or 4.8%, to Student Affairs; $14 million, or 4.3%, to athletics and technology; and $131 million, or 40.3%, for operations and other University expenses.[5]

Together, the total differential of some $41 million between income and expenses for 2009-10 is being covered in several ways. The most obvious and controversial is the faculty furlough, which generated approximately $19 million in savings. Another way is with the serendipitous, one time, savings (i.e. the reserve for faculty pay hikes) from last year, which covered nearly $2 million. A third involved increasing student fees, enacted by the board of Trustees, totaling some $13 million. Finally, cuts in divisions of the University accounted for another $7 million.[6] Ironically, enrollment cuts of 6% between 2008-09 and 2009-10, were to result in additional savings (i.e. lose student fees, but keep the general funding from the state). However, as the recession deepened, the state also cut the general funds associated with this reduction and the CSU/CSUN ended with net negative funding from this reduced enrollment. Nevertheless, we are surviving the 2009-10 budget deficits with a combination of cuts, redirection and one-time monies. Further, notwithstanding another 10% enrollment cut mandated for 2010-11[7], more federal stimulus money, potentially arriving 2010, will likely kick the "deficit can" down the road for another year into 2011-12.[8]

With this "Sophie's Choice" environment, if we want to systemically alter the effects of continuing to reduce enrollment, we appear to be caught between: 1) extending the faculty salary pay cut; 2) dramatically increasing SFR; or 3) initiating faculty layoffs. None of these choices is particularly appealing or necessarily mutually exclusive. Moreover, each contains an element of self-fulfilling prophecy. For example, covering the continuing deficit with faculty layoffs only reduces the number of students we can accommodate which, absent correspondingly increasing SFR, means we will experience both a decrease in student funds *and* general funds, going forward, while jeopardizing any further federal stimulus money, due to falling below their mandate. Thus, the downward spiral accelerates.

From any perspective, the method of balancing a budget with one-time money is at best tactical, not strategic. Sooner or later one-time sources of savings will run dry and short of the

legislature having an epiphany regarding the expansion of higher education, we must be more constructive in addressing the almost certain $15-$20 million yearly deficit likely to exist on this campus for the foreseeable future, else be forced to implement, within the university, the draconian measures mentioned above. Given the current position of the Chancellor, we are not likely to enroll our way out of this crisis, despite the demographics of college bound students and the plaintive voices of our own faculty senate resolutions. Therefore, given the alternatives, to survive, the university must alter its model. Such paradigm shifts can come about via transformations in the substance, form, timing, value or delivery of pedagogy--or some combination thereof.

Such paradigm shifts are not new. For example, a relatively recent one, during the past ten years, was the change in form and delivery to "online" learning. That its use has increased dramatically, in my opinion, is more the result, than the cause, of internet-based communication. Yet, as pervasive as it may be in fundamentally changing the way we learn, it is limited. It must still be staffed by faculty, involve substantial individual content creation, and use a semester time bound format. Hence, while to some degree it accommodates our students, who are in the full-time worker, commuter, demographic, it does little to generate found money, no matter what proportion of the total enrollment it represents.

Moreover, attempts to increase the number of out-of-state students (thereby taking advantage of higher their higher fee structure) or to cut S-factor courses and limit graduate programs (to mitigate SFRs), are similarly flawed, as they still involve individual faculty, and are time bound, yet their enrollment constitute less than 5% of the total FTES. Moreover, none of this will get us past the abysmal 43% of entering freshman students, six year, graduation rates[9] Therefore, the question is begged: "What model of pedagogy is available that both addresses the value and completion of the educational experience, within our student population, yet mitigates the economic constraints of the current economic situation".

Like most solutions to difficult problems, the devil is in the details and typically involves thinking outside the box. I would like to suggest one modest example of such a solution that addresses the economic duress in which we operate while, for students, supports the latent functions of increasing graduation rates, easing faculty-student ratios and generally addressing the number one problem conveyed by both fully matriculating and transfer students alike, namely *the lack of available classes*.

Let me work backward, in presenting this model, by stating the deliverables first. If fully adopted, it would free-up and internally generate approximately nearly $9.0 million in re-assignable revenues the first year. By the time of full implementation, which I take to be 2-3 years, it would generate nearly $15 million per year, nearly addressing the entire continuing campus deficit. As a by-product, it would also accelerate the six year graduation rate, nearly 10% (thus, by fiat, meeting the Chancellor's task force goals for 2016).[10] Finally, it would mitigate the log jam of G.E. and core major requirements endemic in those impacted majors proliferating campus.

In short, the essence of the model involves delivering approximately 12-20% of our course content via a "satisfaction by examination" format, hereinafter referred to as the SBE model. In SBE, the student pays for the course at the usual tuition rate (and thus preserves the state general fund contribution), but can satisfy the requirements in an "anytime" (albeit semester based) self-paced examination venue. It is not a format meant for all courses, but is viable for certain key lower and upper division GE classes, major pre-requisites and impacted core courses. Through a content analysis of the University Catalogue and SOC, I have estimated this set of offerings to be approximately 20% of the courses (read that enrollment) at CSUN.

The SBE model operates under these assumptions: 1) there are approximately 25000 FTES (26,583 for Fall 2009 but heading south by some 2800 FTES in 2010-11) at CSUN; 2) they are served annually by approximately 11000 C and S-factor classes[11], averaging 2.69 units per class; 3) instructors

are paid on average $2414 per unit (salary and benefits, across all pay grades); 4) thus, some $78 million (i.e. 11000*2.69*2414) of the $106 million allocated to the colleges is spent directly on academic salaries; 5) at 12% initial market demand, (which corresponds to one 3-unit course per year per full-time equivalent student), the gross salary savings for instruction alone would be approximately $9.0 million; 6) the cost of implementing the program is approximately 4% of the savings, thus generating an 96% margin or $8.7 million in net revenues; 7) upon full implementation (i.e. 20% penetration), the net number would rise to $15 million. These Income and Expense figures can be more fully explored in the Cost Estimate Appendix to this discussion.[12]

That the SBE model works has been historically verified. In use within several departments at R-1 university (e.g. ULCA), as well as in selected courses on our campus (e.g. our business accounting labs)[13], it is a viable way for students to accelerate the path toward graduation, satisfy impacted core courses in their major and to deal with requirements that may otherwise be time consuming and superfluous. Moreover, for faculty and administration, it frees up funds to lower class size, reduce faculty-student ratios in general, and mitigate the need for furloughs. The key elements for the model can be articulated in three concepts: 1) the production of course content; 2) the distribution of course content; and 3) the consumption and testing of that information.

The Production of Course Content: It is both consistent with the goal of assessment, and supportive of intra-departmental communication, to generate deliverables for any particularly subject matter. Engaging faculty in discussions of course content deliverables fosters strategies for pedagogy, provides guidance for new or part-time faculty and articulates curriculum development. The SBE model posited here necessitates such collaboration. Generating large databases of content and test questions serves both to provide a pool of items to use in this model and, as well, a pool of items for assessment of classroom learning. Moreover, by creating the pool of items, and testing in both contexts, we can

evaluate the efficacy of the SBE model, relative to the classroom environment, a necessary evaluation for any paradigm shift. Lastly, producing such course content approximates the Provost's vision of an information repository, whereby we need not continuously re-invent the educational wheel. It is specifically recommended that faculty who are involved in such course content creation, and the generation of the item pools used in testing, receive its first benefits (e.g. lowered class sizes, release time, etc), so that the faculty motivation to support the process is self-fulfilling.

The Distribution of Course Content: There is a two-part strategy to the distribution of content. Initially, this delivery should be done in real time and place. Part one of this process recommends that spaced be allocated (a la the reserve book room model), in which several graduate students (it is advised to be graduate students from the various disciplines) staff the desk on a rotational basis, distributing content (readings, lecture material, etc) and acting as both monitors and quasi-tutors for their subject matter. At a time requested by the student, the test module is generated (randomly from the pool of items so that there is no redundancy of test forms) and printed from the pool of items and given to the student for their test-taking. As critical mass and technology evolve, part two of this process would involve migrating content to a digital source, such that the students could access it from anywhere and anytime, using the physical venue more for testing.

The Consumption and Testing of Course Content: Testing would be conducted through 3-4 modules per course, initially in-house with paper and pencil exams graded by a Scantron-type format for immediate feedback. Upon successfully passing one module, the student would be allowed to study for and take the next module examination. No subsequent exam could be taken in less than 72 hours from the previous exam, thereby preventing spikes of student using the facilities. A typical 3-unit course, therefore, could be conceivably completed in two weeks, but typically in four to six. Moreover, with

progress in the reliability and validity of online testing, this component could eventually include digital delivery. Together with providing digital content, the need for physical space would be minimized.

These courses would be listed in the schedule of classes. Students would enroll and pay in the usual manner. As well, it would be graded similarly to the classroom environment. Therefore, the student would have every motivation to complete the course. To the extent the student made substantial progress, but did not complete all the modules, s/he would have the same alternative to take an incomplete and finish within one more semester. If not, the student would have to retake the course, much as they would with any failed class.

That said, it is important to understand what the SBE model *is not* intending to accomplish. First, and most importantly, it is not seeking to replace classroom based learning. Quite the contrary, it is simply taking an opportunistic niche and filling it with a professor-less environment, from which funds become available to enrich the classroom experience. Second, it is not seeking to replace Professors. Rather, it is using this methodology to encourage Professors to communicate on course content, such that the courses they do teach will become an enriched environment. And third, it is not intended to do away with student enrollment, but to manage it. Paradoxically, the model acts as a thermostat for enrollment, taking up the slack when economic times are better and providing alternatives when they are not.

Equally as important to understand is what the SBE model *is* intending to accomplish. By carving out a limited percentage of courses to qualify for SBE, the model redirects the monies thereby saved into subsidizing more sections of regularly scheduled classes, with smaller enrollments. Thus, far from intending to reduce the number of classes, it actually contributes to increasing the number of sections offered. Moreover, it is intended to accelerate student completion of course work by offering access to key courses not readily available to meet the existing student demand (e.g. in our department,

examples would be 150, 202, 345, 364, 368, 468, 497, etc). This translates into faster and more efficient throughput to graduation.

What are the impediments to adoption? A political economist might characterize this as a classic "collective action" problem. That is, the power to produce outcomes derives from consensus. To be sure, SBE will take some degree of consensus. Moreover, gaining consensus always involves negotiation and leveraged trade-offs (e.g. witness the recently passed US Congressional Health Care Bill). However, the beauty of this model is two-fold: 1) its likelihood to gain consensus is based on its non-zero sum cooperative game type characteristic; and 2) its complete structural scalability. The first point ensures that we are both individually and collectively motivated to accomplish the same goal of increasing SBE course offerings, while preserving class based learning; and the later point ensures that putting it in place will not deplete more energy and resources that it generates. I assume you agree and look forward to vetting this in more detail at the appropriate levels, including student, faculty and administration surveys, focus groups and academic senate subcommittee hearings.

References

[1]Source: Department of Finance: Governor's January 2010 Budget. Accessed 3-15-10 at: http://www.ebudget.ca.gov/pdf/BudgetSummary/Introduction.pdf (Page 3)

[2]Source: State of California 2009-10 Final Budget Summary: Accessed 3-15-10 at: http://www.documents.dgs.ca.gov/osp/GovernorsBudget/pdf/fbudsum_09.pdf (page 8)

[3]Source: California State University, Office of the Budget, Final Budget Summaries, Accessed 3-15-10 http://www.calstate.edu/budget/final-budget-summaries (See 2009-10 Budget Summary).

[4]Source: CSUN, Office of the Budget, 2009-2010 general fund allocation. Accessed 3-15-10 http://www-admn.csun.edu/budget/general_fund/general-fund-09-10.xls

[5] Source: CSUN, Office of the Budget, 2009-2010 general fund allocation. Accessed 3-15-10 http://www-admn.csun.edu/budget/general_fund/general-fund-09-10.xls

[6]Source: CSUN Budget News FAQs, Accessed on 3-25-10. http://www.csun.edu/presofc/campusbudgetnews-FAQ.html

[7]Source: CSU Office of Public Affairs website, Press Release (Nov. 10 2009), Accessed 3-15-10 http://www.calstate.edu/PA/News/2009/enrollment-budget.shtml

[8]Source: CSUN Budget News Webpage, FAQ re: State and CSU Budgets for 2010-11. Accessed 3-25-10 http://www.csun.edu/presofc/campusbudgetnews-FAQs-04-2010.html#budget2011-12

[9]Source: California State University, Northridge, Institutional Research. Accessed on 3-15-10 at: http://www.csun.edu/~instrsch/

[10]Source: CSU Fresno 2010 Public Announcement. Accessed 3-25-10 http://collegian.csufresno.edu/2010/01/29/csu-sets-graduation-goals-2

[11]Source: California State University, Northridge, Institutional Research. Calculated by Bettina Huber, as communicated via email on 3-25-10.

[12]See Income and Expense estimates attached hereto as Cost Estimate Appendix.

[13]See, for example, the virtual labs attached to Accounting 350 in the School of Business, CSUN.

Appendix One – 2009 CSUN Allocation for General Fund Academic Resources

	2008/09	2009/10 GENERAL FUND BUDGET			
	Adjusted	External Funding Adjustments		Budget Planning Adjustments	
	Base	Dollar	Subtotal	Dollar	Total
	Budget	Adjustment		Amount	
Academic Affairs					
Colleges					
Mike Curb College of Arts, Media & Communication	$14,827,427		$14,827,427		$14,827,427
Business, Administration &Economics	$12,117,488		$12,117,488		$12,117,488
Michael D. Eisner College of Education	$12,987,369		$12,987,369		$12,987,369
Engineering & Computer Science	$7,968,771		$7,968,771		$7,968,771
Health and Human Development	$11,784,378		$11,784,378		$11,784,378
Humanities	$13,796,796		$13,796,796		$13,796,796
Science and Mathematics	$15,067,149		$15,067,149		$15,067,149
Social and Behavioral Sciences	$15,752,004		$15,752,004		$15,752,004
Developmental Mathematics	$819,660		$819,660		$819,660
Developmental Writing	$992,486		$992,486		$992,486
Academic First Year Experience	$266,896		$266,896		$266,896
Total Instruction	$106,380,423	$0	$106,380,423	$0	$106,380,423
Academic Support Services					
Library	$7,756,882		$7,756,882		$7,756,882
Educational Opportunity Program	$2,799,625		$2,799,625		$2,799,625
Admissions and Records	$4,202,832		$4,202,832		$4,202,832
Learning Resource Center	$534,827		$534,827		$534,827
Academic Services for Student Athletes	$212,359		$212,359		$212,359
Center for Innovative/Engaged Learning Opp.	$384,080		$384,080		$384,080
Academic Support Services	$15,890,605	$0	$15,890,605	$0	$15,890,605
Academic Affairs Administration (1)	$7,605,773		$7,605,773	$301,500	$7,907,273
Held for subsequent distribution	$11,532,526	$0	$11,532,526	($4,914,000)	$6,618,526
Total Academic Affairs	$141,409,327	$0	$141,409,327	($4,612,500)	$136,796,827

Source: http://www-admn.csun.edu/budget/general_fund/general-fund-09-10.xls

Appendix Two – Total CSUN 2009-10 General Fund Sources

	2008/09	2009/10 GENERAL FUND BUDGET			
	Adjusted	External Funding Adjustments		Budget Planning Adjustments	
	Base Budget	Dollar Adjustment	Subtotal	Dollar Amount	Total
Sources of Funds					
State University Fees (SUF)	$103,122,000	$29,535,000	$132,657,000	($4,812,000)	$127,845,000
Non-Resident Fees	$13,500,000	($120,858)	$13,379,142	$1,082,800	$14,461,942
MBA Fee	$0	$0	$0	$335,000	$335,000
EdD Fee	$0	$0	$0	$154,440	$154,440
Application Fees	$1,500,000	$0	$1,500,000	($3,250)	$1,496,750
Student Health Fee	$3,900,000	$0	$3,900,000	($375,000)	$3,525,000
Augmented Health Services	$0	$0	$0	$1,193,000	$1,193,000
Campus Quality Fee	$2,625,000	$0	$2,625,000	$2,210,860	$4,835,860
Other Revenues (1)	$505,000	$0	$505,000	$104,707	$609,707
General Fund Reimbursements	$263,920	$0	$263,920	$22,345	$286,265
Subtotal	$125,415,920	$29,414,142	$154,830,062	($87,098)	$154,742,964
State General Fund Appropriation	194,191,936	($45,473,620)	$148,718,316	$0	$148,718,316
Year End Fund Balance			$0		$0
Total Sources of Funds	$319,607,856	($16,059,478)	$303,548,378	($87,098)	$303,461,280

Source: http://www-admn.csun.edu/budget/general_fund/general-fund-09-10.xls

Cost Estimate Appendix

Today's Facts at CSUN:							
Total FTES Fall 2009			27441				
Total FTET Fall 2009			1137				
Total number of Classes Sp & Fa 2009			11646				
	Total C-level (avg 3-units)		9258				
	Total S-level & Other (avg 1.5 units)		2388				
	Units per class (weighted avg)		2.69				
The Model:							
	FTES		25000				
	Classes		11000				
	FTET		1100				
	Avg Salary per FTET		$ 65,000				
	Avg Salary per Unit		$ 2,414.18				
	Market Penetration Yr1		12%				
	Market Penetration Yr3		20%				
	Savings Yr 1		$ 9,083,880				
	Cost of services produced Yr 1		4%				
	Total Savings Yr 1 ((1-cost) * Savings)				$ 8,720,525		
	Savings Yr 3		$ 15,139,800				
	Cost of services produced Yr 3		3%				
	Total Savings Yr 3 ((1-cost) * Savings)				$ 14,685,606		
[1]	Assume the following costs:		**Year One**			**Stabilized**	
	1. 105 days per semester x 2 semesters		224			224	
	2. 15-hours per day (3 shifts @ 6 hrs)		15			15	
	3. Three GA's per shift @ $15 / hr		3			5	
	4. Salary + Beneifts per hour		15			15	
	5. Total GA Salaries		151200			252000	
	6. One Supervisor + one IT @ 60k		120000			216000	
	7. Materials + Machines + Resources		135000			50000	
	Total Yearly Outlay		$ 406,200	4%	$ 518,000		3%