

Lingchi and the Modern Research University

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I am accustomed to following James Moeser. He was my predecessor as Chancellor at the University of Nebraska-Lincoln and that has allowed me to take credit for many of the things he initiated. Similarly, today I am positioned to build on, or to entirely appropriate, his ideas although as an audience you will instantly know when I am doing so.

The last time I attended the Merrill Retreat was in 2004. At that meeting I reviewed the strategies and techniques we had used to address a 12% budget reduction over a two year period. I was struck by my tone of relief, in that we had seemed to address the challenge, had in many ways strengthened the university, and were well positioned to move forward. Little did I know that it would not be the last time the university would face a budget challenge, or that six years later I would be doing a reprise of those remarks.

My paper is entitled “Lingchi and the Modern Research University” and for those of you neither fluent in Mandarin nor agile with Google, Lingchi is an ancient form of Chinese torture in which small pieces of flesh are slowly cut from a person’s body over an extended period of time. The practice of Lingchi was reserved for particularly egregious crimes and became the source for the phrase “death from a thousand cuts”. In this audience I don’t need to be explicit about the analogy to what we as public universities have experienced over the last few years, or what it appears we may experience in the future. I have been asked to describe the situation at the University of Nebraska-Lincoln and our thinking as we move forward. I will try to avoid whining. At least from my perspective, public universities are not being singled out for harsh treatment, nor have they lost the respect of our constituents. We are

among the many public services feeling budget restraints in an era where there is little taste for raising taxes.

The University of Nebraska-Lincoln

Over the course of the last decade during the period when I’ve been Chancellor, we have been asked to address seven different budget reductions. In only one of those years was the budget we received from the state actually less than the year before. In all other instances, the state was unable to provide the funds necessary for increased expenses, including salary increases, so we reallocated existing resources. With the exception of 2003-2004, these reductions were modest and manageable. During the 2003-2004 period we were forced to take fairly dramatic action including some outright academic program eliminations and the termination of tenured faculty. Since then, for the most part, we have reduced

our administrative expenses through efficiencies and we have reduced academic expenditures through restructuring, some tangential program eliminations, and some reduction in faculty and staff positions.

Based on our metrics and, I think, on the tone of our campus, these reductions did little harm, except to the individuals directly affected, and in many ways strengthened the university. Since 2001, through all of these reductions, enrollment has increased by over 2,000 students, our graduation and retention rates have significantly improved, our percentage of non-resident students has increased from 11% to over 23%, the academic credentials of our entering class are the highest in the history of the university, and our research productivity has more than doubled. We think we detect a renewed sense of ambition and commitment to excellence among our faculty and a very elevated level of expectation for our success among the business and political communities of Nebraska.

Throughout we have had two priorities—undergraduate education and research—and we pursue them when making both investment decisions as well as reduction decisions. We are focused on getting the best team of people in place, whether in the administration or the faculty. As you all appreciate, nothing good happens without good people. And we have been blessed with good people. I would single out Vice Chancellor Prem Paul whose energy and enthusiasm has contributed significantly to our research success. But you can't do it without luck and

resources. The luck and resources came together when an elderly couple passed away leaving the University a largely discretionary bequest of \$128 million. James Moeser, in one of his most significant decisions, allocated a sizeable portion to a pool from which subsequent gifts by others for endowed professorships would be matched. We now have some 24 of these elevated professorships and, in almost every case, they have been used to attract a mid-career faculty member with a strong research agenda.

I can't help but mention that we continue to believe that our spike in enrollment, particularly non-resident enrollment, can be traced not only to the hiring of an experienced Dean of Admissions, but also to the NBC film "Tommy Lee Goes to College". Six hours of prime time network television devoted to our campus made a lot of students see we weren't a couple of buildings in the middle of a corn field, notwithstanding that it probably took years off of many of our lives as we waited to see the final product. I was reassured when, off camera, Tommy looked me in the eye with full sincerity and said: "Chancellor, I will never do anything to embarrass you or the University" until I realized he would have no idea what might embarrass me or the university.

I want to mention two major achievements during this period that position us for the years ahead. First was having the faculty of the academic colleges adopt a simplified general education requirement, called Achievement Centered Education, that is built on assessment of outputs rather

than counting inputs and facilitates our undergraduate students' path to graduation. The second was convincing the Nebraska Legislature to move the State Fair from its 100 year home adjacent to our campus so that we could create an Innovation Campus. Our plan is to use these 250 acres to leverage our research success to drive economic development, by attracting private sector companies who are engaged with us in research and other activities to locate on the property.

During the most recent recession, Nebraska has been relatively insulated. A combination of conservative budgeting and a strong agricultural economy based in part on ethanol has allowed the University to avoid massive budget reductions and we still receive approximately 30% of our general operating budget from the State. However, as we look toward the next biennial budget for 2011-2012, the clouds are very dark. Tax revenue has recently come in under estimates and there is a projected budget deficit, including loss of the stimulus funds, of between \$600 million and \$1 billion for the next biennium. In short, we do not think we are done with budget reductions and we have tried to do what planning we can to prepare.

Future Strategies: Instructional Costs

I do not think a university can continually "cut itself to excellence". Lingchi is not a recipe for success. But as university officials we have little choice but to deal with the cards that are dealt us. Going forward, we really only have two choices: we can continue to do what we do with less resources—that is

become more efficient, or we can find additional sources of revenue—that is become more entrepreneurial. Either approach presents risks to the core values of higher education, but failing to do either may present even greater risks.

With respect to the University of Nebraska-Lincoln, we continue to focus on undergraduate education and research as our two top priorities. Because our state supported budgets are the primary source of revenue for the instructional mission, the pressure in times of budget reductions falls primarily on the teaching enterprise. And thus, the pressure to make up for reduced state support falls heavily on tuition. In our case, the University is committed to affordable access and, even though we have a comparatively low tuition structure, it is unlikely that we will be able to raise tuition sufficient to compensate for any cut of state resources. At UNL, for example, a 1% increase in tuition represents about \$1.2 million whereas a 1% reduction in state support represents a loss of approximately \$2.5 million. A general tuition increase beyond 6% per year would be politically difficult.

One can increase tuition revenue by increasing enrollment. Fortunately, four years ago our system office adopted a budgeting policy that allows each campus to benefit from the tuition they generate. Beyond intensifying our efforts in recruitment, both within and outside Nebraska, we see at least three additional sources of enrollment growth. The University has made a substantial investment in on-line education, as have many others, and we continue to see increasing students and increasing

revenue. Over the last 4 years UNL has also sought to attract more paying foreign students. We have tried to be a bigger player in the Asian countries where there remains a significant tradition of 2 + 2 programs—programs specifically designed to allow Asian students to study in their own country for the first two years and transfer to an American university for the last two years.

UNL has opened offices in Xian and Hangchow China at two universities under partnership degree programs where we have university staff assisting in advising, English language instruction, and recruiting students. This Fall will be the first test of how attractive this program can be and we expect over 100 Chinese students from these programs to enroll. We also recently re-energized our relationships with universities in Singapore and Kuala Lumpur. In the past we averaged 400 Malaysian students, but that number has fallen due to our neglect. We have chartered two alumni chapters in these cities and now have a group of alumni anxious to help us recruit students. As the Asian countries continue to develop their own higher education systems, these programs may be less attractive from their point of view. During my visit this Spring, we were receiving pressure to develop 3 + 1 programs and even 4+0 programs—where we would offer the last year or two of our academic program but in their country. Such programs will raise difficult questions beyond whether they can be cost effective.

Internally the conversations on enrollment growth are more difficult

because the tradition is always to focus on the additional resources required to accommodate more students. One of our challenges is that units which currently have teaching capacity probably do so because of reduced demand for that discipline and those units which have opportunities for enrollment growth are probably fully subscribed. Moreover, under the traditional model, the investments needed to accommodate enrollment growth in one discipline produce externalities in others. One might carefully calibrate how many new faculty are required for 100 more students in a program like, for example, nutrition, by considering the core curriculum, laboratory instruction, etc. However these students also put pressure on the English Department and other departments. Our standard thinking requires us to apply the theories of quantum physics. Very small increments might be accommodated within existing resources, but to justify increased investments the enrollment has to take a quantum leap forward.

I have said this is traditional thinking. It assumes a number of things about the status quo. It assumes teaching loads and class sizes are static. It assumes the scheduling clock and calendar are immutable. It assumes the curriculum is written in stone and the current teaching methodology is sacrosanct. Let me emphasize there are good and sufficient reasons behind the traditional thinking—ones I can easily defend. However, it may be that there are changes that could produce more benefit than cost—changes that we would legitimately ignore except in the current circumstances.

During the last couple of years of strategic planning exercises I have suggested to our Deans that if they would provide me a business plan that showed a positive cash flow between additional investments and increased enrollment, I would make the investments and allow them to keep a significant share of the revenue. We may enter a time where I might have to say to a Dean: "I am cutting your budget by x amount unless you increase enrollment by Y students." My best guess is that clever deans would be able to manage.

There are a variety of tools at their disposal to do so. None of them necessarily enhances the quality of the learning although there seems to be preciously little research to suggest they would reduce the quality either. But, in this world, perception may be everything. In any event, here is a list of things to consider:

Professors of Practice. At UNL we adopted this faculty status several years ago that allows individuals who wish to engage in full-time teaching rather than in research to be hired with professorial rank. They work under contract and not tenure.

Differentiated teaching loads. The era of the standard teaching load on the assumption that each faculty member is also doing research is certainly at risk. We have often assumed in research universities that all faculty fit the criteria of our ideal: the gifted teacher who also conducts cutting edge research, and also engages in a variety of ways with the community. But if truth be known, focusing existing faculty members on their strengths may produce significant

efficiencies, as well as being consistent with modern personnel theory.

Differentiated teaching methods. How large do classes have to become in order to be of significantly lower quality, if at all? Can the faculty of your and my generation adjust to the biological clock of this generation so we can start offering crowded classes after midnight, a time my observations lead me to believe that is some students' most productive time? Can some of the routine instruction be more efficiently conveyed through information technology? Can we outsource some of our curriculum?

These are all difficult steps for any of us to contemplate and they would not elevate our career aspirations as Presidents or Chancellors. It is, in some respects, much easier to increase the tuition rate, where the primary issue is how much to discount the nominal price to maintain enrollment levels. The political pressure against increased tuition, at least in Nebraska, is intense as families, legitimately, worry about their ability to finance their children's education or alternatively worry about whether their children will be able to finance their own education out of future income streams.

How could we alter this environment in productive ways? If the issue were only a financial one, we might increase tuition but shorten the time required for graduation. We could in affect share with the student the savings in costs of attendance and the opportunity costs of delayed employment. Could we structure a curriculum and a financial aid system

that would allow us to charge higher tuition for a more intense experience?

Another way to adjust the tuition rate is through differentiated tuition. There is no question that the costs associated with different disciplines is differentiated. And at UNL we have not had difficulty differentiating between programs at the graduate and professional level. There remains, however, a traditional theme of trying to facilitate student choice at the undergraduate level by removing financial considerations. As the argument goes, a student shouldn't have to choose between Engineering and English based on cost factors. Of course, the engineer is likely to have considerably higher life time earnings than the English major and it may not be a bad lesson that few choices in life come without costs—either upfront or long-term. In any event, it seems likely that differentiated tuition will be part of the landscape of higher education as we go forward.

Research Costs

At the local level, the narrative of the Lingchi practiced on our public universities involves the struggle between tax dollars, tuition levels, and program reductions. The narrative is more nuanced with respect to the research mission, and perhaps more internal. In Nebraska, as in many states, the growing importance of innovation to economic prosperity is increasingly apparent and increasingly accepted as a matter of political faith. The Nebraska Legislature with the support of the Governor overwhelmingly voted to move the State Fair, notwithstanding some fairly highly pitched opposition

voices and the business community has strongly supported our research efforts as a key to economic growth. However, in this environment, the State has been unable to make the kind of investments necessary to sustain the University's capacity for research. Without major investments in facilities and instrumentation from the State, we have had to rely on creative financing and philanthropy to sustain our momentum.

As public dollars become more scarce, I see two sources of increasing frustration within our institutions. First, the inherent tension between teaching and research may escalate. As we differentiate and increase teaching loads, expand class sizes, and in general raise the expectation of effort on the part of faculty who teach, it may appear that we are emphasizing research at the expense of teaching. I don't see these two missions as separate or in competition, but I continue to hear the complaint on the ground. Certainly we have put more pressure on our research faculty to produce and in many respects they, more than their teaching colleagues, are forced to eat what they kill.

The second source of frustration was well framed by one of my AAU colleagues who said we were entering a time in the research enterprise where opportunities will expand, but the resources will not be available to exploit them. He was referring, I think, to the concern about support for funding research capacity—both at the state but also at the federal level. The primary issue here is the tendency at the federal level to limit or reduce the reimbursement for Facilities and Administrative costs associated with

federally funded research projects. Both the AAU and the APLU have developed papers designed to urge the federal agencies to continue to provide these reimbursements—to support as a recent draft AAU paper suggests, the historic partnership between the federal government and research universities by funding the “full costs of research.”

The system of F & A reimbursement is not well understood, either among our local constituencies or the federal government. We often have to answer questions from state officials about why the state shouldn't receive the F & A reimbursements since the state bore the costs in the first place. And there is constant pressure from our faculty to reduce or eliminate the F & A reimbursement in order to make their grant submissions more attractive. And from Congressional and other federal sources you hear the argument that these reimbursements actually detract from the total amount of research that can be conducted. Similarly, many private Foundations and state agencies refuse to pay full F & A reimbursement.

We have not done a good job of justifying the F & A reimbursement system. One cannot talk about a “partnership in research” between the Federal Government and research universities and then ask for “full reimbursement” for the costs of research. That is not much of a partnership.

From the granting agency's perspective, the issue becomes how to use a limited resource—the agency's research budget—to produce the maximum amount of research over time. Incorporating F & A reimbursement in a

particular grant does reduce the amount of research the agency can fund in any grant cycle. To the extent there are real, un-reimbursed costs in a particular grant, those costs are redistributed to the University. Indeed, it is my understanding that the limit on F & A imposed by USDA is based on the assumption that the costs of agricultural research should be shared—thus, arguably, expanding the amount of research that is conducted.

Properly understood, I think this is an incomplete analysis of what is required for a research enterprise in this country that can be globally competitive. Even with “full” F & A reimbursement, the universities would bear a considerable share of the cost of the enterprise. The most significant cost is creating and maintaining the capacity to perform research. A national initiative toward innovation requires the continual generation of a pool of human talent from which good ideas can flow. Increasingly our undergraduate programs as well as our graduate programs are designed to induce young men and women to be attracted to the process of innovation. In assembling a faculty, universities are creating a pool of talent available to pursue the research enterprise. In addition to the costs associated with this assembly process, the university bears the full risk associated with obsolescence. A federal granting agency can easily shift its priorities; universities cannot. Today we are all attempting to build strength in nanotechnology and the variety of “omics” that drive the life sciences. To motivate faculty members to specialize their intellectual pursuits and foreclose

other opportunities we grant them tenure or other forms of security, and offer them start-up packages of specialized facilities and instrumentation. We bear the significant risk that the future may make these specialized investments irrelevant.

As basic research has moved from the private to the public sector because of the risks that cannot be managed by capital markets, most of these risks are shifted to universities. Certainly the funding of basic research represents risks for the granting agency. However, in this competitive market, applicants are increasingly required to move their research further along the spectrum of certainty in order to obtain funding. Universities continue to be the primary funding source for the early stages of curiosity based research.

Thus the university's role in the research enterprise seems to me to be evolving into bearing the most significant and uncertain risks associated with innovation—risks that must be borne if this country is to remain competitive. All of the resource pressures facing public universities continue to erode our ability to bear

these risks. To sustain our research enterprise we increasingly seek partnerships with private sector companies whose tendencies are to push us further toward the applied end of the research spectrum.

Conclusion

While the caricature of a university is that of an institution where change comes slowly if at all, I remain confident that research universities will continue to adapt and evolve as external resource constraints require. I remain optimistic that deep in the American psyche there is an understanding of the importance of the research university to the country's survival.

The Chinese abandoned Lingchi as an official form of execution in 1905. Since then China has grown and prospered. One hopes the United States quickly learns this valuable lesson with respect to the practice directed at American public universities. There are few recorded instances where the victim ever survived Lingchi, although one can hypothesize that those who did were left badly scarred both physically and psychologically. One has to hope this doesn't happen to us.