



First and always, I want to express my gratitude to each of you for being here. Students: daily I come to care more about you; thanks for coming. Faculty: you are, each of you, a thread in the fabric of this institution. Each of you is important, essential; the fabric you create together is strong, colorful and enduring. Thank you. Community leaders and officials, your continued outpouring of support for The University of Toledo and its mission of “Improving the Human Condition” in the City of Toledo and its environs is truly a gift – without you the very life of this institution would be threatened. Thank you.

Let me begin by showing you a slide of the Memorial Field House, the outside of which is a familiar, signature University of Toledo building. In one of the most creative projects I have ever been associated with, the inside has been gutted and construction is currently under way. It was one of the first buildings constructed on our Main Campus, and soon it will be filled with 54 state-of-the-art classrooms. There is a metaphor here.

A great university, like the Memorial Field House, must undertake to preserve that which is valuable and to replace what is outmoded. To be at once an innovator and a preservationist, may we be granted the wisdom to distinguish when each is appropriate. In this talk I intend to try to make the distinction, to celebrate a number of successes and to suggest the need for sweeping innovation in another area.

We last met in this setting and in the context of a formal address approximately one year ago. Much has been accomplished in that time. The huge energy derived from the merger of two institutions has been focused through the lens of our value system, focused on the things that matter most. Our undergraduate student body has increased in number, preparedness and in diversity. Students give meaning to our institutional life.

Our research enterprise continues to grow, with currently nearly \$65 million of external funding annually. We have received a prestigious Howard Hughes Medical Institute (HHMI) award, the first such award in this institution’s history. The principal investigator for this project is Dr. Robert Crissman.

Dr. Carol Stepien is the principal investigator on a \$2.4 million grant from the National Science Foundation to create innovation in K-12 education. The United States Department of Energy, in a competitive granting process, entertained proposals from nine universities. Among them were Cal Tech, MIT and Penn State. The UT proposals were the intellectual work of Drs. Al Compaan, Rob Collins, Sylvain Marsillac, Xunming Deng, Dean Giolando and others. We received two grants: one for \$1.1 million, one for \$1.4 million. Nearly unprecedented. Dr. Richard Komuniecki, Distinguished University Professor in the Department of Biology, has been funded by the National Institutes of Health for thirty consecutive years. He was recently awarded, in a very tough research climate, from the National Institutes of Health, a grant of \$1.62 million for the study of neurotransmission in



nematodes. Rick Komuniecki is truly contributing to the “improvement of the human condition.” Our commitment is not lessening. For example, a list of recent research proposal submissions by our College of Engineering faculty totals over \$30 million.

Our health care enterprise continues to grow by almost every measure of quality and quantity. In the course of that improvement, Toledo has become, I believe, the city in the world where more people on the street know what the letters G.M.E. stand for than any other. And, I’m happy to report that, for one of this University’s large strategic undertakings – improvement of Graduate Medical Education as a tool to replenish the physician workforce in northwest Ohio – much progress has been made. Our own house is in order; all of our programs are fully accredited. Relationships with our clinical partners, I regret to let you know, are still a challenge. Specifically, our relationship with ProMedica Health System remains a troubled one. We remain deeply committed to improving this relationship.

Our commitment to the economic development of northwest Ohio and southeast Michigan continues to grow and produce successes. The vision of my predecessor, Dr. Dan Johnson, for a science and technology corridor in Toledo is being actualized. Another area which is uniquely positioned for impact on the economy of the region, and which is gaining in energy and momentum, is represented by our Intermodal Transportation Institute. We are the highway, seaway and rail crossroads of America. The University of Toledo’s Intermodal Transportation Institute and the governor of the State of Ohio are dedicated to the emergence of northwest Ohio as an international transportation and logistics center.

One of the most important contributions a university can make to the economic development of the region it occupies is to move to commercialize the discoveries of its laboratories. In the last month, I have had the pleasure of signing documents that create agreements between The University of Toledo and two spinoff companies.

One is the now-famous Xunlight Corporation that was featured recently on CNN and in a Newsweek article.

Second is a lesser known but very interesting new company to commercialize a modified form of human albumin. This modified protein has a larger spatial profile and therefore leaks less quickly from injured microscopic blood vessels. It holds great promise for many lifesaving applications.

There is not a single area in the life of this great institution where we have not experienced increased energy and growth. Our Strategic Plan calls for action in no less than 70 areas. Still, three large overarching themes emerge in terms of urgency and impact. Make no mistake – there are dozens of important projects, but there are three huge undertakings for which historians, I hope, will mark this period in the history of The “new” University of Toledo. They are: GME, we’ve spoken of that; economic development, we’ve spoken of that; and third, arguably the most important, the undergraduate



experience at The University of Toledo, of which I'd like to speak for the next several minutes.

**Roman Numeral I of our strategic plan reads, “The undergraduate academic programs at UT will be regionally distinguished and highly ranked nationally. The undergraduate experience will provide exceptional student-centeredness and a consumer-driven focus, which combine to ensure a personally satisfying and professionally relevant education.”**

All the world seems concerned about baccalaureate education. Presidential candidates are speaking of it – with political correctness, to be sure. Corporate leaders are concerned and state that most new baccalaureate degree holders are not ready for jobs in the “real world.” Increasingly, corporations are designing prolonged orientation course work or internship programs for newly hired degree holders. The “Spellings Report” pointed out that “where once the United States led the world in educational attainment, recent data from the ‘Organization for Economic Cooperation and Development’ indicate that our nation is now ranked 12<sup>th</sup> among major industrialized countries in Higher Education attainment.” Furthermore, there is “evidence that the quality of student learning at U.S. colleges and universities is inadequate and, in some cases, declining.”

In a recent policy paper, the Association of Governing Boards of Universities and Colleges explored the broad themes of access, affordability and accountability, and warned that these issues will increasingly be addressed by law and regulation.

Two days ago, the Higher Education Chancellor for the State of Ohio unveiled his “Strategic Plan for the University System of Ohio.” This document, too, makes clear the dissatisfaction with the status quo and outlines a future that I believe will be dramatically different from the present. The “Introduction” presents the theme of the entire plan in one italicized sentence: “*The State supports higher education because it contributes directly to the economic prosperity of our residents and the state as a whole.*” Although I, and perhaps you, would argue that there exist additional reasons for the state to support higher education, the document makes very clear that employers and business leaders have “a deep concern over the basic reading, writing and oral communication skills of the workforce.” Its prescriptions: more access, more affordability, more accountability, more transportability of credits from one university to another, more measurement and assessment. The tools it emphasizes are distance learning, mission differentiation and connectedness to other institutions of higher education, K-12, two-year institutions and others. Overall, the chancellor’s plan is an excellent one that I will be discussing with our own trustees and working to implement.

Now, one aspect of leadership is the skill to state “hard truths” without losing optimism, without losing the presumption of a better future world. This is not easy. The unvarnished truth may invite despair and withdrawal and therefore be destructive and not constructive. Still, it is necessary to try, since we are unlikely to move beyond the current state without verbalizing the “hard truths” that may be associated with it.



So I assert, as gently as possible: Higher education is failing in America. It is on a collision course with bankruptcy and its failure, ultimately, threatens our democracy. Furthermore, Robert Schoenberg in the *Journal of Metropolitan Universities* asks rhetorically and pessimistically, “Undergraduate Education: Can we get there from here?”

What’s the problem? We are victims of our successes. Colleges and universities, particularly the state institutions, have mass-produced the middle class. They have, for the first two and most formative years especially, unwittingly and unknowingly, borrowed from Henry Ford’s assembly line technology and built an educational assembly line. Note the evidence of that: a lock-step curriculum, including remedial course work so that everyone may get on the conveyor at the same point, prerequisites for many upper-level classes, and an absolutely hidebound sequence of grade school, high school, college and professional school, which is broken only with occasional “special programs,” which are strongly resisted by administrators and faculty alike.

Listen again to Robert Schoenberg: “...baccalaureate education in the United States seems unable to break out of curriculum and institutional modes that were established in the 1950s and earlier... disciplinary subject matter – as opposed to intellectual skills development tends to control the curriculum.” Note the words “control the curriculum” as in “control the assembly line.”

There is a notion that will allow higher education to make a quantum leap forward: the notion of “mass customization” or “extreme student centeredness.” In many areas of business, mass customization is the new paradigm that replaces mass production, which is no longer suitable for today’s turbulent markets, growing product variety and opportunities for e-commerce.

Dell computers may be the exemplar of mass customization most familiar to you. Customers describe the computer they want. The number of possible combinations is staggering – nearly 16 million for desktop models. Dell begins assembling a computer only after it receives an order and ships within a few days.

A second example of mass customization is emerging in health care. When I attended medical school, an approach to diagnostics was taught that emphasized uniformity. We were told to “do the following” in exactly this order every time. And we did. A new concept has emerged – interestingly, once again as a result of modern information technology, including the information derived from the encoding of DNA.

Each person’s unique genetic patterns can be read from his/her DNA and customized screening and diagnostic sequences can be developed. Every person is different. An elegant information-based patient centeredness has begun to guide modern medicine and will sweep, I predict, the developed world in the next decade. For example, women with unique genetic patterns undergo higher resolution and more frequent screenings for breast cancer.



Already, specific genetic markers predict the behavior of an individual's tumor, and specific therapies are selected or modified based on this predicted responsiveness. Every treatment plan is different; each is customized to the patient. Every patient is individualized.

Michael Cox, chief economist of the Federal Reserve Bank of Dallas, observes, "Things used to be made to order and made to fit. But they were labor-intensive and expensive. Mass production came along and made things more affordable, but at a cost – the cost of sameness, the cost of 'one size fits all.' Technology is beginning to let us have it both ways. We're moving toward mass customization. Just as mass production was the hallmark of yesterday's industrial age, mass customization promises to dominate the modern stage of America's economic revolution." One could paraphrase: Just as mass production was the hallmark of yesterday's higher education age, Mass Customization or extreme student centeredness promises to revolutionize education and allow Americans to compete in a world market.

Extreme student centeredness founded on the principles of mass customization is the single best strategy for higher education and for the persistence of an educated and participative populace in America. Extreme student centeredness constitutes the best single tactic to implement the chancellor's strategic plan.

What would an institution committed to mass customization look like? How would extreme student centeredness be manifested?

Individual needs of underprepared students would be met in a way that doesn't disparage, but concentrates support in time and place.

Students with unique ways of learning, such as visual learners, aural learners and persons with attention span uniqueness, would have customized learning available early and supportively through innovative uses of technology. For example, Kurzweil reading machines would be ubiquitous.

Degree completion requirements for every student with an associate's degree will be custom-made; each student will understand the shortest, most frugal path from where he or she is to their desired goal. Computer-assisted instruction and peer instruction will become widespread and automated as evidence continues to accumulate that many students learn best where those tools are utilized.

Students with unique intellectual accomplishments or gifts will be attracted to The University of Toledo by its commitment to customized programs that allow them to proceed at a pace that is intellectually rewarding to them.

Think about the governor's 'senior to sophomore' program, our own Honors Program, and multiple programs which over the years attempted to reduce the eight-year sequence of college and



medical schools. But note well: This plethora of programs, this multiplication of models, is what gets mass production into trouble. Very differently, the concept of extreme student centeredness treats every student individually and eliminates the need for many special programs. Every student is special. Every student becomes an individual case.

Now, I expect that some of you are thinking that mass customization and extreme student centeredness are incompatible with excellence. If students are allowed to choose, some argue, they will choose easy courses and course modules, and the value of a baccalaureate degree will be diluted even more. I agree that there is a real danger of mass customization leading to a kind of solipsism where nothing but one's own satisfaction is of value. The best preventative for this scholastic solipsism is assessment. Increasingly, Virginia Keil in our own College of Education and others working on assessment here at The University of Toledo in the field of educational methodologies are recognizing that assessment will need to be strengthened under any scenario whether we embrace extreme student centeredness or not. Therefore, one of the most important segments of the chancellor's strategic plan speaks of assessment and commits all Ohio universities to participate in the voluntary system of accountability, an assessment system developed by a consortium of universities across the country. The most important part of this system is the CLA, the College Learning Assessment, which measures student learning outcomes in critical thinking and written communication across all academic disciplines.

The University of Toledo will emerge quickly as an early adaptor of the chancellor's plan for participation in the College Learning Assessment. Thus, any potential dilutional effect of student centeredness will be countered by a rigorous assessment methodology. The emphasis on assessment will inform choices by student, parents, as well as policy makers, faculty and staff.

Extreme student centeredness is an adaption of mass customization principles to higher education. Implementation will be difficult, but must be undertaken forthwith. Shortly – we will.

1. A new focus on modules, algorithms and the customer interface will begin immediately. The main campus provost, with her staff, in consultation with appropriate stakeholders, including the faculty, will organize all undergraduate courses into modules and algorithms that correspond exactly to the themes and capstones where significant work is already under way by leaders of our faculty. The most important module will be the “de facto” common (core) curriculum; the eight to 10 courses taken by more than 95 percent of students. This common module will be the common experience shared by every student. Additional modules will be gathered into traditional majors and minors. Clear, well publicized and constantly available algorithms will be provided to every student, faculty member and advisor.

This customer interface, as the customer interface at Dell Computers, will require significant improvement in technological support. All modules and algorithms will be available online and



their immediate availability will make the current notion of “degree audit” obsolete.

The customer interface as vested in the current “professional advisers” will be organizationally moved to the Provost’s Office while daily work and work sites will remain in the individual colleges. Greatly improved training and communication for this group are essential.

2. Faculty development will be the responsibility of a vice provost. The Center for Teaching and Learning will be strengthened and will move organizationally within the Provost’s Office. This fall (August ’08) all new faculty will be required to attend a more thorough orientation. That orientation will include significant emphasis on peer instruction and on computer-assisted learning.

All classroom time in the renovated Memorial Field House will be assigned to maximize the use of computer-assisted learning. An educational incubator, emphasizing the principles of peer instruction and computer-assisted learning, will be created and will be housed in the third floor of the renovated Memorial Field House.

Our capability in computer-assisted learning (CA) and distance learning (DL) will be greatly enhanced. We are already a leader in this regard. This effort is consistent with the chancellor’s strategic plan. The concept of extreme student centeredness suggests we meet students where they are – increasingly they are to be found in cyberspace. To that end, we will move CA and DL into the Provost’s Office.

We will hire a CIO with education as a prominent part of her or his portfolio. We will consider housing the CA and DL function in a component 501(c)3 organization to give greater flexibility.

We will perform a formal “make vs. buy” decision analysis to examine whether purchased CA and DL might be branded with the UT brand and be cheaper and more flexible.

We will gather all CA and DL from across the entire University to maximize the critical mass and utilize power of a single or minimum number of platforms.

We will develop quality and capacity, which will make it reasonable to offer CA and DL services to all members of the Northwest Ohio Higher Education Consortium, allowing each institution to brand its own service and retain appropriate resources. Much of the future of extreme student centeredness will be dependent on information technology. Significant capital expenditures will be necessary.

3. We will create a new entity within the University to organizationally house many of the functions essential to extreme student centeredness This new entity may perhaps be called The Center for Individualized Learning, but for today, at least, I will refer to it as NewEntity. It will report to the Main Campus provost with a vice provost as its day-to-day head, even though



the Colleges of Pharmacy, Nursing and Health Science and Human Services report through the Health Science Campus provost, who fully agrees with a single focus for this effort. It will house at least: an expanded First Year Experience Program; the For Your Information Orientation Course; the Honors Program; the Study Abroad Program; a new Office of Student Solutions; and the student support portion of the Office of Global Initiatives.

The Division of Student Affairs will work closely with and in support of the NewEntity by moving the Career Center and the Office of Accessibility into the NewEntity and by providing on-site academic support and counselor-in-residence services in first-year residence halls.

All students who are undecided about their major or about their career plans will be admitted to NewEntity.

All conditionally admitted students will be admitted to NewEntity. Clear, written conditions will be supplied to every student who is conditionally admitted. A clear, simple path to the removal of condition will be outlined. No conditionally admitted student will be allowed to take more than 11 credit hours during her or his first semester, so that maximal advantage may be taken of support services.

A corollary of all conditionally admitted students going to NewEntity will be that all other colleges will be encouraged to raise their admission standards. Furthermore, all degree completion programs currently in University College, including the adult liberal studies and individualized programs, will move to the College of Arts & Sciences. The College of Arts and Sciences is itself in a period of reassessment and renewal. This change fits well with Dr. Lee's goals for that college and fits well with my and Dr. Haggett's tremendous confidence in Dr. Lee.

In summary, mass customization, custom co-creation, open innovation, custom integration are terms that are sweeping the business world. They can all be described as ways of implementing a philosophy of extreme student centeredness, and this concept may constitute the best hope for higher education. We will begin immediately to implement these concepts.

Let me return to the Memorial Field House metaphor, this creative mix of innovation and preservation. This University is great. It derives from the history of two great institutions, The University of Toledo and the Medical University of Ohio. It will be greater in the future. But the same mix of preservation and innovation will be necessary for it to thrive and excel in the turbulent times we are facing. It is my hope that, like the interior of the Field House, our undergraduate experience will be exciting, inviting and fulfilling. Thank you for listening.