

HIGHER EDUCATION AND ITS MILLENNIAL PREDICAMENT

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The Transformation of the U.S. Workforce

	<i>Unskilled</i>	<i>Skilled</i>	<i>Professional</i>
<i>1950</i>	60%	20%	20%
<i>1991</i>	35%	45%	20%
<i>2000</i>	15%	65%	20%

(Bureau of Labor Statistics)

It is inescapable that higher education around the world must undergo a dramatic makeover if it expects to educate a workforce in profound transformation. As the chart before us notes, it took 40 years for the percentage of skilled workers in the workforce to increase by 25 points. Nonetheless, this unprecedented feat in economic history is expected to be nearly duplicated in the nine years between 1991 and 2000, when the same sector of skilled workers, fueled by the explosion of information technology and the Internet, is projected to increase by 20%. This remarkable acceleration in rate of change summarizes the fact that since 1950 the manufacturing workforce has declined from nearly 40% of all employees to less than 18%, while the service sector has increased from less than 14% to over 35% (*The Book of Knowledge (TBOK)*, Merrill Lynch, 4/9/99, p. 19). This dramatic upheaval in the U.S. labor force, and, therefore, in its educational and training needs, reflects the fact that a great shift is taking place from an overwhelming reliance on physical capital, fueled by financial capital, to an unprecedented focus on human capital as the primary productive asset (*TBOK*, pp. 17, 19). This phenomenon, well captured by comparing the price-to-book valuations of the ten largest companies in the “Old” industrial and “New” technology-based economies, mirrors the extent to

which today's winners are leveraging people and brands into earnings power as opposed to the old reliance on brick-and-mortar factories and plants.

This unparalleled predicament, combined with the aging of the baby boomers, has been altering the course of higher education at a pace and with a significance undreamed of even five years ago. Likewise, this rate of change in the workforce and its educational needs has been the context for the success of the new for-profit, post-secondary institutions—making it possible, for instance, for the University of Phoenix, with nearly 67,000 full-time and over 26,000 continuing education students, to become the largest accredited private university in the U.S.

In a world where technology expenditures dominate capital spending and the skills that accompany it have half-lives measured in months not years; where knowledge is accumulating at an exponential rate; where information technology (IT) has come to affect nearly every aspect of one's life; where information—its acquisition, management, and deployment—is the key competitive advantage; where the speed of the Internet's penetration has already transformed each consumer into a specific marketing target making it possible for e-commerce to already account for over 2.3 million jobs and nearly \$500 billion in revenue

(www.InternetIndicators.com; *The Industry Standard*, 10/27/99), education can no longer be seen as a discreet phenomenon, an option exercised only at a particular stage in life, or a process following a linear course. Critical in nature and specialized in practice, education is progressively becoming the equivalent for the social body that health care has been to the physical and psychic one: it is the sine qua non of survival, maintenance, and vigorous growth.

Not surprisingly, a new education paradigm, which the University of Phoenix anticipated since its founding in 1976, has been quickly molding itself to fit the needs of our progressively more knowledge-based economy. Briefly, the education required today and into the future assumes that learners will need to be re-skilled numerous times in their working lives if they wish to remain employed. Access to lifelong learning will therefore become progressively more critical for both employees and their employers, who will find themselves pressured to provide or subsidize it if they wish to retain their workforce and remain competitive. This new paradigm is also based on the need to provide learning experiences everywhere which are continually accessible and use the most sophisticated information and telecommunications technologies. It is also characterized by a desire to provide educational products tailored to the learner and, in order to be competitive in the marketplace, it emphasizes both branding and convenience.

It is not difficult to imagine why what were once innovations championed by the University of Phoenix have coalesced into a new paradigm accepted by many in both the corporate and political worlds. A quick survey of the contrasts between the "Old" and "New"

economies helps to elucidate their necessity. The new, knowledge-based economy must depend on networks and teamwork with distributed responsibilities; its reliance on technology makes it inherently risky and extremely competitive; and the opportunities created by new and continually evolving jobs place the emphasis on ownership through entrepreneurship and options, rather than on wages and job preservation. With technology and the Internet have also come globalization and e-commerce, making a virtue of speed, change, customization, and choice, and a vice of the maintenance of the status quo, standardization, or top-down, hierarchical organization. This is a dynamic setting where win-win solutions are emphasized, the lines between for-profit and not-for-profit are becoming quite flexible, and public-private partnerships are widely prized. In such a vibrant milieu as this, many of the risk-averse, traditional rules of higher education are beginning to appear not merely quaint but irrelevant or, to the less charitable, as downright absurd.

The contemporary disconnect between what traditional higher education provides, especially in research institutions and four-year colleges, and what that society wants can be gleaned in part through a 1998 poll of the fifty state governors. The aptly titled inquest, “Transforming Post-secondary Education for the 21st Century,” reveals that the top four items perceived to be most important were (1) to encourage lifelong learning (97%), (2) to allow students to obtain education any time and any place via technology (83%), (3) to require post-secondary institutions to collaborate with business and industry in curriculum and program development (77%), and (4) to integrate applied or on-the-job experience into academic programs (66%). In contrast—and most tellingly—the bottom four items were: (1) maintain faculty authority for curriculum content, quality, and degree requirements (44%); (2) maintain the present balance of faculty research, teaching load, and community service (32%); (3) insure a campus-based experience for the majority of students (21%); and (4) in last place—enjoying the support of only one of the governors responding—maintain traditional faculty roles and tenure (3%).

But politicians and business leaders are not the only ones having second thoughts about the structure and rules undergirding U.S. higher education today. In a recent poll of primarily university presidents, administrators, and faculty by one of the six official accrediting bodies (the North Central Association of Colleges and Schools [“NCA”]), the issues receiving the highest ratings responding to the question, what are the “highest impact trends on future NCA [i.e., regulatory] activities” were: increasing demands for accountability (80%), expanding use of distance education (78%), increasing attention to teaching and learning (72%), and expanding use of the Internet (71%). It bears underlining that these are the very issues that have been widely

championed by innovative community colleges, often at the price of scorn from local four-year public institutions.

The University of Phoenix did not, of course, cause these polls to be so profoundly concerned with changing the rules that have guided the modern centers of higher education. But perhaps more than any other institution, UOP has contributed to the recognition that education today must be ubiquitous, continuous, consumer-driven, concerned with quality assurance, and outcomes oriented. In effect, the University of Phoenix has truly shattered the myth for many that youth is the predominant age for schooling, that learning is a top-down localized activity, and that credentialing should depend on time spent on task, rather than measurable competence. From its inception, the University of Phoenix took as its market working adults and, given what it has done in this niche, it has not only become the largest private university in the United States, but also the country's first truly national university, and in doing so it has helped to prove that the age of learning is always, the place of learning is everywhere, and the goal of learning for most people is best reached when treated as tactical (with clear, immediate aims), as opposed to strategic (with broad aims and distant goals).

By restricting itself to working adults (all students must be 23 or older and employed), the University of Phoenix contributes to U.S. society in a straightforward fashion: In educating a sector previously neglected or underserved (e.g., 35 to 39 year old seekers of baccalaureate or graduate degrees make up only 3% of the enrollments of public and private U.S. institutions, while making up 30% of UOP's), it helps to increase the productivity of individuals, companies, and regions. The most recent survey of UOP's alumni (1998)—with a 41% response rate—eloquently expresses my point that the University of Phoenix, in responding to a changed world, serves a neglected or underserved population:

- ◆ 63% of the respondents stated UOP was their only choice and
- ◆ 48% said they could not have completed their degree if it were not for UOP.

That said, how the University of Phoenix, or any other institution of higher education, is likely to contribute to human well-being in the coming century is, not surprisingly, less straightforward. UOP must continually balance the inevitable need to invest in its transformation with the necessity to fulfill its present promises to its students, their employers, its regulators and shareholders, and to its own past. But maintaining this balance is a difficult task because the road leading to the new millenium has been made bumpy by the uncertainty that has accompanied the rapid technological and economic changes.

To begin with, the New Economy can be characterized by unprecedented employment churn, which is making a potential student out of every worker and is transforming the

community colleges into labor's first line of defense against skill obsolescence. Although nationally the U.S. currently experiences a combined figure of approximately 60,000 layoffs a month, the number of workers who change their employment status in a typical month has now reached a staggering 13 million (Bureau of Labor Statistics in NYT 7/22/99, C10). That is—as Labor Department officials claim (NYT 7/22/99)—an estimated 50 million workers, or about 40% of the workforce, change jobs within any one year. In manufacturing alone, over the last decades, 10 to 12 percent of jobs disappear each year. And these figures must be considered conservative because the baby boomers are aging quickly yet we know that 35 to 40 percent of workers over 35 years old have been employed by their current employers more than 10 years.

As the data make evident, most of this churn comes from increases in productivity made possible, in part, by companies reducing their labor force in unprofitable or under-performing sectors and expanding their headcount in more profitable areas. In addition, a significant part of the churn is resulting from shifts in the ways companies are managed and organized. Today's companies, facing more and more varied competition than in the past, must be more flexible than ever before. To accomplish this they need management and a workforce that has been re-educated and re-trained to be cross-functional, cross-skilled, self-managed, able to communicate and work in teams, and able to change on a moment's notice. In this new, far more demanding workplace, managers and others who do not meet the criteria are usually the first dropped, but the more fortunate are retrained or re-educated. Little wonder the private and public sectors of the U.S. are spending nearly \$98 billion a year in IT and job-related skills, soft skills, and management training (*TBOK*, p. 21).

In an environment with this level of churn and organizational and managerial transformation, where the median age is in the mid-thirties, and where adults represent nearly 50% of college students, a growing number of learners are turning to community colleges for their learning needs. However, although 44% of all undergraduates today are community college students, these students are taking an average of six years to complete a so-called "two-year" degree (American Association for Higher Education Board Seminar 10/5/99). Clearly, although they are generally more responsive to student training and education needs than are four-year institutions, the community colleges are unable to address in a timely fashion the complex re-education and re-training needs implied by the level of employment churn facing the labor force. In addition, as is the case with most higher education institutions, in general, they are unable to provide for the growing demand by today's students for a professional, businesslike relationship with their campus that is characterized by convenience, cost and time effective services and education, predictable and consistent quality, seriousness of purpose, and high customer service

geared to their needs, not those of faculty members, administrators, or staff. Put another way, when companies, such as Sun Microsystems, generate nearly 100% of their revenues from products produced over the previous 12 to 18 months, it is clear that students who want to be players in the New Economy are unlikely to tolerate a just-in case education that is not practical, efficiently delivered, up-to-date, or career focused.

This is not to imply, as some zealots of the new believe, that traditional institutions, especially research driven ones, are going to disappear. What I mean, instead, is that the ideal of higher education, as represented by Harvard, is an ideal that not even today's Harvard has of itself, especially as it charges forward with entrepreneurial zeal and profit-oriented energy into cyberspace and the mass education market (Boston Globe 9/19/99). Indeed, as much of Harvard remakes itself into a best-practices practitioner of the contemporary (New Yorker, 7/19/99) it has been overtaken by much soul-searching. For instance, Harvey Fineberg, Harvard's provost, reflecting on the cyber future of his institution recently spoke about the University of Phoenix model by making reference to Intel founder Andy Grove's anxious observation that the domestic steel industry of the U.S. is moribund today because it chose not to produce rebar—the steel used to reinforce concrete—and thereby permitted the Japanese to gain market share in the country. Nervous about the future of his venerable institution, he asked “Is the University of Phoenix our rebar?” And fearful of being left behind by the future UOP is helping to create, Fineberg concluded his interview in last month's Boston Globe with the observation, “I know that Harvard has to change. No institution remains at the forefront of its field if it does the same things in 20 years that it does today” (Boston Globe 9/19/99).

Indeed, no institution of higher education in today's economy can afford to resist change. Yet, while the new forms educational institutions at all ends of the spectrum are taking—with their for-profit concerns, their lack of permanent buildings and faculties, and their need to be customer service oriented—may seem shocking to most academic traditionalists, ironically, these characteristics accurately describe the ancestral universities of the West, which were, let us recall, corporations that, having received their charters from popes, emperors, and kings, were free to govern themselves, but as the price of their independence, had to finance themselves. In addition, they had no permanent buildings and little corporate property, and they were subject to the loss of dissatisfied customers (i.e., “students”) who were always free to migrate to the competition in other cities (from the Encyclopedia Britannica, quoted by Robin Lustig, Opening Presentation, New Model Universities Conference, London, 4/29/99).

What these old institutions had in common with their traditional descendants, however, is that both were and continue to be geographically centered, committed to the pedagogical

importance of memorization (rather than information management), and, perhaps even more importantly, synchronous in their demand that all students meet at regular intervals, at specific times and places, to hear masters preach to passive subjects.

But the needs of the New Economy challenge higher education to provide something different. Web-based education, an inherently locationless medium, is likely to push to the margins or dustbin a substantial part of those institutions and regulatory bodies that seek to remain geographically centered. Meanwhile, the Internet and the database management systems that make useful the information they transport and handle, can provide time constrained consumers with just-in-time information and learning that, because it can be accessed asynchronously, places the pedagogical focus on arriving at syntheses and developing critical thinking while making localized learning and mere memorization secondary. And with asynchronicity and high electronic interactivity, socialization can be refocused on the educational process, a phenomenon that is reinforced by the “New School’s” commitment to results-oriented learning based on actual performance of specified and testable outcomes, rather than, as in the traditional situation, relying primarily on predetermined inputs and subjective criteria to maintain and assess quality.

But all this represents a huge challenge for higher education and technology. A brief comparison of traditional and online university/college settings may help here. To begin with, there is the issue of content and its delivery. The predominance of the lecturing faculty member, the bored or passive student, and the one-size-fits-all textbooks is subject to much condemnation, yet the alternatives are also problematic. Discussion oriented education, which characterizes e-education, is not easily undertaken successfully. It requires the right structure to make everyone contribute actively to his or her own education, it calls for unlimited access to unlimited resources, and it is best unconstrained by locations in “brick and mortar” classrooms and libraries. Likewise, it calls for a guidance, maturity, and discipline that is often well beyond the reach of indifferent faculty members and unmotivated students, and it is helpless in the face of a disorganized or illogical curriculum. In short, the online education world needed by the New Economy is a daunting one, with no place for jaded teachers or faulty pedagogy.

With these challenges in mind, who can step forward within the world of traditional higher education to force a changing of the rules so as to transform the institutions of the past into those that can serve the needs of the knowledge-based economy of today and tomorrow?

Making front and back office functions convenient and accessible 24 X 7 is today primarily a matter of will, patience, and money. But creating access to nearly 24 X 7 academic programs able to meet the needs of the New Economy is a totally different matter. This also calls

for rethinking the rules that guide higher education today. To drive home the point that this is not a simple matter and to answer the question I just posed, I must remark on the catechism that articulates our faith at the University of Phoenix. We believe that the needs of working adult students can be distilled into six basic propositions. As is evident, like the Ten Commandments, these are simple to state, but living up to them is a daily challenge. And what is required by them is nearly impossible for traditional institutions to meet.

- ◆ First, these students want to complete their education while working full-time. In effect, they want all necessary classes to be available in the sequence they need them in and at times that do not conflict with their work hours. But for this to become a reality, the rule that permits faculty to decide what they will teach and when must be modified, and that is not an easy matter, especially when it comes to tenured faculty.
- ◆ Second, they want a curriculum and faculty relevant to the workplace. In short, they want the course content to contribute to their success at work and in their career and they want a faculty member who knows more than they do about the subject and who knows it as the subject is currently understood and as it is being practiced in fact, not merely in theory. To make this desideratum a reality, the rule that would have to be revamped is the one that decrees faculty will decide on their own what the content of their courses will be. In addition, faculty would have to maintain themselves abreast of the most recent knowledge and most up-to-date practices in their field. Here the dominant trade version of the meaning of academic freedom would have to be reconsidered, for otherwise there would be no force that could compel a tenured professor to either be up to date or to teach a particular content in a particular way.
- ◆ Third, they want a time-efficient education. That is, they want to learn what they need to learn, not what the professor may desire to teach that day; they want it in the structure that will maximize their learning; and they want to complete their degree in a timely fashion.
- ◆ Fourth, they also want their education to be cost-effective. They do not want to subsidize what they do not consume (e.g., dorms, student unions, stadiums, etc.) and they do not want to pay much overhead for the education they seek.
- ◆ Fifth, and this should be no surprise, they expect a high level of customer service. They want their needs to be anticipated, immediately addressed, and courteously handled. They do not want to wait, stand in line, deal with indifferent bureaucrats, or be treated like petitioning intruders as opposed to valued customers.

- ◆ Lastly, they want convenience: campuses that are nearby, safe, with well-lit parking lots, and with all administrative and student services provided where the teaching takes place.

The University of Phoenix model has been addressing these needs for over a quarter of a century by focusing on an education that has been designed specifically for working adults (as noted earlier, all our students must be at least 23 years old and employed). This means an education with concentrated programs that are offered all year around during the evening, and where students take their courses sequentially, one at a time, with attendance being mandatory (if they miss more than one, properly excused class, they are administratively dropped). All classes are seminar-based, with an average of 14 students in each class (9 in the Online courses), and these are facilitated by academically qualified practitioner faculty members, all of whom hold Doctorates or have Master's degrees, all of whom have been trained by UOP to teach after undergoing an extensive selection review process, and all of whom must work full-time in the field in which they are specifically certified to teach. In turn, all of the curriculum is outcomes oriented and centrally developed by subject matter experts, within and outside the faculty, supported by the continuous input and oversight provided by UOP's over 6,500 practitioner faculty members who, although spread across the entire country and overseas, are each individually integrated into the University's faculty governance structure. This curriculum integrates theory and practice, while emphasizing workplace competencies along with teamwork and communication skills—skills that are well developed in the study groups that are an integral part of each course. Lastly, every aspect of the academic and administrative process is continually measured, assessed, and integrated into the quality improvement mechanisms responsible for the institution's quality assurance.

Still, my tone of confidence, and indeed pride, should not lead us away from the question that follows the critical observation made of his own institution by Harvard's provost: In the face of the challenges the new millenium portends, how durable is the UOP model, or the many others it has inspired, likely to be?

For instance, while content is quickly becoming king, as the landscape becomes further populated with distribution systems, content, frequently parading as knowledge or information, is becoming as ubiquitous as disloyal subjects. In the U.S., and to a great extent in the developed and emerging worlds, this phenomenon is placing a premium on Web portals, online enablers, marketing channels, and information organizing schemes. In turn, these initiatives—demanded by the knowledge-based economy—have the capacity to transform higher education institutions into totally unrecognizable entities. Online enablers, the outsourcers who create virtual campuses

within “brick and mortar” colleges, can provide potentially unlimited access to seemingly unlimited content sources. And through the marketing channels opened up by their e-commerce capacity, they can easily be expanded not only into educational shopping centers, but also into merchandise marts, which are focused on a nearly 75 million strong market of potential users, whose 15 million college student sector alone spends \$90 billion annually on discretionary consumption (*e-Education: “.com Meets .edu,”* Thomas Weisel Partners (TWP), 6/25/99, pp. 5, 29).

Online information portals can provide remote proprietary and non-proprietary educational content and, more importantly, they can integrate into the “brick and mortar” campus information systems, providing the connectivity, functionality, and data base management necessary to make available to the institution all the academic, administrative, financial, and student services, and possibly the content, necessary for them to operate. By providing institutions a way to outsource the technological infrastructure that automates the administrative tasks that burden every institution and its customers, both the technology costs and the transaction costs can be reduced while offering levels of convenience to students that were undreamed of until now. And, again, they also can provide the wherewithal to add a shopping mall of educational and consumer goods to any campus.

The importance of the role portals and online enablers will play in the transformation of the traditional academy cannot be overestimated. Quite apart from the Amazon.com-like possibilities they open for some higher education institutions, another way to appreciate their effect is to think of them in terms of the parallel represented by the shift of retail banking out of the branch to the ATM and then onto the desktop. Not only has the relationship between the customer and the process (“banking”) been transformed, but just like many banks can use the same ATM machine, these IT vehicles will make it possible for students to replace or supplement their alma mater’s courses with courses or learning experiences—that can be exchanged for graduation credits—derived from any other accredited institution, corporate university, or relevant database. Now, although this should be a point of concern to the educational institutions addressing the needs of the New Economy, the fear surrounding such a phenomenon among the traditional institutions is itself so great that they have already undermined the ill-fated California Virtual University, they continue to plague the efforts of Western Governors University, and I suspect they will continue to dash water on the overheated plans of the UK’s Open University in the United States. In effect, as long as local faculty members continue to control the curriculum, geography-centered campuses will have difficulty

competing for new learners but they will also make the goals of these traditional-based virtual campus conglomerates nearly impossible to reach.

What institutions, then, are likely to be the winners in the future, those who can best meet the expectations society has for higher education in the next century?

Because staying ahead is critical to the University of Phoenix, let me return to it once more as a source for speculation. In the light of the dramatic shifts taking place, it may be that UOP can better serve the adult learners of the future by transforming a significant part of itself so as to function as a platform or hub that emphasizes its role as a “search engine”—i.e., as an identifier and provider of content—as a “portal”—i.e., as a gateway to databases and links to learning experiences—as a “rubric-meister”—or skilled organizer of complex data—and as an assessor—i.e., as a recognized evaluator of content, process, and effectiveness whose assessments can help take the guesswork out of shopping for education and training. This is a legitimate proposal for any university that has prided itself on its capacity to innovate and to transform itself. It is as legitimate, at least, as the one the railroads everywhere should have posed to themselves when confronted with the question, “Are you in the business of trains, tracks, and warehouses, or of transportation?” And it is worth remembering the fate they suffered for their unanimous adherence to the former position. In effect, if, as any university that wants to survive into the next millennium must believe, the University of Phoenix is primarily in the business of education, rather than of “brick and mortar” classrooms and self-created curriculum, its transformations in the future should be and will no doubt be dictated primarily by what learners need, not by what it has traditionally done.

But before the openness of future possibilities seduces us into cobbling untimely configurations, a simple warning is in order. A proposal such as the one I have laconically described, is not easily implemented even in an innovative university such as mine. After all, the University of Phoenix is fully aware that to serve its markets well in the future it must provide a variety of delivery modes and educational products, but those IT and telecommunication products worth investing in are not easily identified. For instance, although UOP pioneered interactive distance learning as early as 1989, although it has the world’s largest completely online full-time degree-seeking student enrollment—with over 10,400 students—and although UOP rightly prides itself on the effectiveness of its Online degree programs as measured by student performance and retention, we recognize that all our experience and our new Web-enabled platform, which we developed at a substantial cost, cannot in themselves guarantee that we have a solid grasp on the future of interactive distance learning.

First of all, the evolution of distance education has not yet reached its Jurassic Age. Consolidation can be expected, but the behemoths lie unformed and, I suspect, unimagined. An acquisition that does not entail a soon to be extinct technology is hard to spot when technology is changing at warp speed. And opportunities to integrate the next hot model are easy to pass up. Only deep pockets and steel nerves are likely to survive the seismic technological displacements to come.

That said, to serve its markets and thrive, UOP, like any other higher education provider that seeks to survive the next few decades, will need to keep its focus even as distance education begins to blur with the edutainment and database products born of the large media companies and the entertainment and publishing giants. That focus, always oxymoronicly tempered by flexibility, is most likely to be on the use of any medium—PC, television, Internet appliance, etc.—that permits the level of interaction that leads to effective education and that can command accreditation (if such is still around), premium price points, and customers whose sense of satisfaction transforms them into effective advocates.

Still, although it is a widespread mantra among futurists of higher education that universities and colleges will undergo a profound transformation primarily as a consequence of the quickly evolving information and communication technologies, this does not necessarily imply the demise of site-specific educational venues. To survive deep into the next century, the University of Phoenix, like any other innovative institution, will need to reaggregate some major parts of itself to form a centralized content producing and wide-based distribution network, but it is unlikely to be able to do this without some forms of campus-based delivery. Having already advanced further than any other institution in unbundling faculty roles (that is, in separating teaching from content, development, and assessment), UOP, without abandoning its physical presence of multiple sites distributed globally, is likely to shape itself more along the lines of a media company and educational production unit than to continue as solely a “brick and mortar” university with a massive Online Campus. With media specialists as guides, and content experts on retainer, UOP will likely emerge as a mega-educational system with widely-distributed campuses, multiple sites in cyberspace, and possibly with a capacity for self-regulated expansion based on its track record, its focus on measurable outcomes, and its comprehensive, award winning, quality assurance systems.

As education moves more towards the certification of competence with a focus on demonstrated skills and knowledge—that is, on “what you know” rather than “what you have taken” in school, more associations and organizations, who can prove themselves worthy to the U.S. Education Department, will likely be able to gain accreditation. This increased competition

worldwide, from the likes, for instance, of corporate universities, training companies, course content aggregators, and publisher-media conglomerates, will put a premium on the ability of institutions anywhere in the world to provide not only quality education, but to do so on a continuous and highly distributed basis, and with convenient access for those seeking information, testing, and certification. In short, as education becomes more a continuous process of certification—i.e., a filling in of resumes, on a life-long basis, with certificates attesting to the constant accumulation of new skills and competencies—institutional success for any higher education enterprise will depend more on successful marketing, solid quality assurance and control systems, and effective use of the new media, than solely on the production and communication of knowledge. This is a shift that I believe UOP is well positioned to undertake, but I am less confident that many non-elite, especially private, traditional academic institutions will manage to survive successfully.

Which leads me to the following observation: the opportunities for mutually beneficial links between UOP and community colleges—whose transforming mission in the light of the New Economy is sure to guarantee their longevity—have never been better than at this millennial moment. The corporate and business world will continue to demand more and more of our academic communities, and UOP and forward looking community colleges are well positioned to serve it. To do this, partnerships between the corporate sphere and our collective selves will permit the type of collaboration that could help establish minimum standards for job roles and the development of meaningful learning outcomes and measurements to evaluate the relevant learning that has taken place. While corporate universities, such as AT&T, are projected to reach 2000 in number by the end of 2000, their emergence and proliferation demand that we work even closer together than in the past to gain the kind of understanding of their mission and specific goals so as to better participate in helping them to reach these. Many of these corporate universities will surely seek regional accreditation, such as has been done by Motorola University, GM Institute, Bell Atlantic, Arthur D. Little School of Management, and the Rand Graduate School of Policy Studies, but even so, most others, as was noted earlier, are investing billions in their own less formally organized education and training initiatives. In either case they will be looking to us in academe to help them fulfill many of their objectives.

Working together, we have the opportunity to follow in the footsteps established by the American Council on Education/CREDIT's work in evaluating for college credit the learning outcomes of such institutions. In addition, the Council on Adult Experiential Learning (CAEL) has long established principles and guidelines for the evaluation and acceptance of non-collegiate training toward degree completion requirements.

The University of Phoenix has demonstrated support for these principles through its assessment and articulation initiatives with over 130 businesses and industry organizations, formally evaluating and applying the learning outcomes from their training programs toward degree requirements. These transfer credit agreements are published in UOP's "Catalog of Articulation Agreements and Extraintitutional Evaluations" (CASEE Guide). Furthermore, formal articulation agreements between the University of Phoenix and 85 community colleges, along with articulation agreements with complete community college systems in Florida and Missouri, have provided ease of transition for thousands of life long learners to move from Associate to Bachelor's degree programs. In short, UOP firmly believes in close cooperation and partnership with community colleges.

And with this I come to a final conclusion: Societies everywhere expect from higher education the provision of an education that can permit them to flourish in the changing global economic landscape. Those institutions that can continually change to keep up with the needs of the transforming economy they serve will survive. Those that cannot or will not change will become irrelevant, will condemn misled masses to poverty, and will ultimately die, probably at the hands of those they chose to delude by serving up an education for a non-existent world. As I said at the beginning, it is inescapable that higher education around the world must undergo a dramatic makeover if it expects to educate a workforce in profound transformation, and no one in the public higher education sphere has undergone a greater commitment to such a makeover than the community colleges. I salute you and look forward to having UOP join even more of you in articulation agreements and partnerships that can contribute to keep the American workforce at the center of growth of the New Economy.