

A Status Report from the Quality Subcommittee
National Commission on the Future of Higher Education
February 2, 2006; San Diego California

A Summary of the Key Recommendations
for Higher Education in America

- To utilize public-private partnerships to unleash and shape market forces to drive world-class quality, performance, efficiency, and public purpose in postsecondary education.
- To support American innovation, by stimulating a more innovative culture in American colleges and universities in developing new academic programs and activities.
- To refocus public subsidies at the state and federal level to enable access.
- To enhance and rebalance the federal support of R&D and graduate education to better serve national priorities such as economic competitiveness and national security.
- To commit the nation to providing universal access to lifelong learning opportunities.

Today the United States faces a crossroads as a global knowledge economy demands a new level of knowledge, skills, and abilities on the part of our citizens. We have entered an era in which educated people, the knowledge they produce, and the innovation and entrepreneurial skills they possess have become the keys to economic prosperity, public health, national security, and social well-being. Hence the strength, prosperity, and leadership of a nation in a global knowledge economy will demand highly educated citizenry and hence upon a world-class system of postsecondary education. An increasingly technology-dependent nation will require as well world-class research universities, capable of discovering new knowledge, developing innovative applications of these discoveries through entrepreneurial activities, and educating those capable of working at the frontiers of knowledge and the professions.

It is clear that today the United States must demand and be prepared to sustain a world-class system of postsecondary educational institutions capable of meeting the changing educational, research, and service needs of the nation.

Yet this goal faces many challenges, including an increasing stratification of access to (and success in) quality higher education based on socioeconomic status, questionable achievement of acceptable student learning outcomes (including critical thinking ability, moral reasoning, communication skills, and quantitative literacy), cost containment and productivity, and the ability of institutions to adapt to changes demanded by the emerging knowledge services economy, globalization, rapidly evolving technologies, an increasingly diverse and aging population, and an evolving marketplace characterized by new needs (e.g., lifelong learning), new providers (e.g., for-profit, cyber, and global universities), and new paradigms (e.g., competency-based educational paradigms, distance learning, open educational resources).

While there is strong evidence that American research universities continue to provide the nation with global leadership in research, advanced education, and knowledge-intensive services such as health care, technology transfer, and innovation, this leadership is threatened today by rising competition from abroad, by stagnant support of advanced education and research in key strategic areas such as physical science and engineering, and by the complacency and resistance to change of the American research university.

The Quality Subcommittee of the National Commission on the Future of Higher Education is exploring five specific issues along with possible strategies to address these general concerns.

1. Quality

Vision: The nation must demand that its postsecondary education enterprise (e.g., colleges and universities, proprietary schools, industry education training programs, and new paradigms such as distance learning and global universities) achieve world-class standards in all important areas, e.g., quality, learning outcomes, access, efficiency, innovation, and responsiveness to changing societal needs. While colleges and universities should be responsive to the projected needs of students, their employers, and the nation, it is also essential that they launch the major transformations of educational programs necessary to prepare students for a much different world, providing them with the knowledge and skills necessary for the jobs of tomorrow and the abilities to face future problems not yet even identified.

Challenges: While some elements of American higher education are clearly world-class, such as its research universities and the emerging for-profit sector, the Commission is less sanguine about the quality and performance of our total postsecondary education enterprise. There are numerous valid concerns about graduation rates, time to degree, learning outcomes, performance, and responsiveness of various elements of postsecondary education in America that could threaten its capacity to serve the needs of the nation. The limited capacity of the enterprise to innovate and adapt to changing needs and conditions, coupled with the lack of transparency concerning costs, prices, and value also raise concerns about quality.

Public policy alone is unlikely to be effective in stimulating higher education to become more responsive to national needs. Traditional policy tools such as regulation have proven relatively ineffective in driving substantive change in the American higher education system. Furthermore public funds at both the state and federal level will be limited for at least a generation by the priority given the needs of an aging population (Medicaid, Medicare, Social Security), national security, and tax relief, and will likely be insufficient to meet the growing need for lifelong access to postsecondary education for the majority of our population. Unlike most other nations, American higher education is supported by comparable balance of public and private resources (roughly 40% public and 60% private). While public funds are likely to be constrained, the resources available in the private sector through capital markets and intergenerational wealth transfer will be very substantial, likely intensifying even further the market forces on colleges, universities, and other elements of the postsecondary education sector.

Beyond this, academia and government must be open to new ways of leveraging industry and private-sector resources to address national priorities. Business acumen can be an extremely valuable asset in addressing issues such as teacher training, new measures of institutional performance and standards of learning, and reform of the accreditation process. New partnerships among higher education, business and industry, and state and federal government must be established and sustained to achieve world-class quality in the American postsecondary education enterprise.

Yet it is also clear that if markets are allowed to dominate and reshape the higher education enterprise without constraint, some of the most important values and roles of the university will likely fall by the wayside. Creating an effective market requires thoughtfully structured strategic interventions and enlightened public policy to ensure that the market is a force supporting the broader public purposes of higher education.

Possible Strategy: In its pursuit of the vision of a world-class system of postsecondary education better aligned with national needs, the United States should rely heavily upon market forces shaped by public policy and investment and public-private sector partnerships rather than government regulation. Market competition within higher education should be strongly encouraged and facilitated by removing unnecessary regulation and bureaucracy at the state and federal level, challenging monopolistic practices, providing information to better educate consumers of educational services, and providing incentives for institutions to develop or adopt best practices in areas such as cost containment, productivity, the assessment of student learning outcomes, and innovative academic programs. Key will be new partnerships among higher education, business and industry, and government, both in developing best practices in achieving quality, cost-effectiveness, and academic programs responsive to national needs as well as new mechanisms such as a student unit records system to track student access and progress, consumer reports on institutional quality, and more sophisticated mechanisms to measure learning outcomes. Such a market-focused approach to the achievement of quality and responsiveness will also require enlightened public policies and interventions to ensure that the market is a force supporting the broader public purposes of higher education.

2. Innovation

Vision: Leadership in innovation—the transformation of knowledge into products, processes, and services—is critical to competitiveness, long-term productivity growth, and the generation of wealth and hence to United States prosperity and security. Institutions of higher learning must collaborate with industry and government to create a national educational climate and culture that enables innovation to thrive. This will require all elements of America’s post-secondary education enterprise to develop and demonstrate the capacity for continuous innovation and quality improvement at both the institution and enterprise level.

Challenge: There is increasing agreement that the prosperity and security of all Americans will depend on our nation’s enduring and evolving capacity to learn, inspire, create, and innovate. Today American leadership in innovation is challenged not only by a global, knowledge-driven economy, but by the need for college graduates capable of applying technology, talent, and capital in new ways, with deep analytical skills and the ability to manage ambiguity, to meet business and societal demands. Here part of the

challenge is the changing nature of innovation itself; it is far more open; it spans virtually all disciplines; and it is increasingly global. And it arises not in the isolated laboratory but in the marketplace, the workplace, the community, and the classroom. It requires the development of new academic disciplines such as services systems management, increasingly multidisciplinary research and instruction across the traditional disciplines, and continual learning opportunities to keep abreast of the fast-changing dynamic nature of work. Clearly, sustaining the nation's leadership in innovation will require institutions of higher learning capable of embracing innovation as key both to their quality and capacity to serve the changing needs of our society.

Yet today many segments of American postsecondary education are currently not well positioned to meet the changing needs of the nation. Although there are bright spots of innovation, by and large American higher education is a mature industry that has become increasingly risk-adverse, and frequently complacent and ponderous. Furthermore, much of the enterprise has yet to address the fundamental issues of how academic programs and institutions must be transformed to serve the changing educational needs of a knowledge economy. It is not enough simply to intensify current stimuli, policies, management strategies and to make incremental improvements to organizational structures and curricula. Despite the rapidly changing needs of the nation for new educational and training programs (e.g., knowledge services) and the great progress in areas such as brain research, cognitive science, and information technology, neither universities nor the federal government invest adequate resources in R&D concerning learning, pedagogy, technology, and curriculum development.

Possible Strategy: Working closely with business and industry, higher education must give greater priority to the support of the nation's leadership in innovation through new academic programs in areas such as services science, greater multidisciplinary instruction and research, and key involvement in regional innovation economies. To stimulate the necessary level of innovation and institutional transformation with higher education, the federal government should launch a major interagency federal R&D program concerning learning and education, comparable in both approach and funding level to DOD's DARPA, aimed at tapping the new knowledge (brain research, cognitive science, organizational science) and technologies (information, communications, and systems technology) aimed at stimulating innovation in learning methods, pedagogy, and educational institutions. Key would be efforts to stimulate similar commitments on the part of colleges and universities to substantial internally funded R&D activities associated with improving learning, scholarship, and institutional performance.

3. Access:

Vision: The nation and the states must address and remove those factors that have created a strong dependence of access and success in higher education upon socioeconomic status. America should aspire to the ideal where family income is nearly irrelevant to the ability of a student to attend the college or university best matched to his or her talents, objectives, and motivation.

Challenges: Education has become a key determinant of one's personal standard of living and quality of life. The breakpoint between those who succeed in college and those who fail is perhaps the most critical decision point in one's life. Yet many studies have revealed the degree to which access to higher education in America has become increasingly stratified according to student financial circumstances, thereby undercutting the fundamental principles of equity in providing educational opportunities for a democratic nation. Today even the most academically talented students in the lowest economic quartile are significantly less likely to have access to the benefits of higher education than the least qualified students in the top quartile—a situation clearly intolerable for a democratic society.

A key public policy issue is how public funds for higher education should be allocated among students from differing socioeconomic circumstances and among institutions of differing missions. Today a very significant fraction of public funds, whether allocated directly to public institutions to enable low tuition, or through state and federal financial aid programs, go primarily to benefit affluent students with modest economic needs, at a time when close to a quarter of Americans are disproportionately and severely deprived of educational opportunity at colleges and universities.

Possible Strategy: The highest priority for limited public tax dollars at both the state and federal level should be to provide access to higher education opportunities. While institutional pricing (e.g., tuition and other charges) is important, even more so is the availability of adequate financial aid programs to ensure access regardless of student economic status, even if this requires somewhat higher tuition for those students who can afford to pay. Publicly funded financial aid should rely primarily on need-based rather than merit-based programs, with grants as the preferred mechanism for the

lowest income quartile of students, while loans and tax benefits are the preferred mechanisms to assist students from more affluent backgrounds with access to postsecondary education and lifelong learning opportunities (“higher and further education”).

4. Research and Advanced Education:

Vision: The United States must sustain the capacity of its research universities to achieve global leadership in research and graduate education in key strategic areas such as science and engineering. Research universities, government, and industry should strive to create effective mechanisms for ensuring that the new knowledge developed on the campuses serves society through technology transfer, innovation, and entrepreneurial activities. Furthermore, through enlightened policies and investment, the United States must enable its universities to attract talented students and faculty from around the world into academic programs of key strategic importance to economic competitiveness and national security.

Challenges: There are growing concerns that the scientific and technological building blocks of the nation’s economic leadership and national security are eroding at a time when many other nations are gathering strength. Federal support of R&D as a fraction of GDP has dropped in half over the past three decades (from 2% to less than 0.8% of GDP), while the nation’s research portfolio has become heavily skewed in favor of biomedical research at the expense of research in physical science and engineering, key to the nation’s technological strength. Numerous studies have suggested that the nation’s strategic and economic security is threatened by its current course, living on incremental improvements to past developments and gradually conceding technological leadership to international competitors. It is critical the United States invest at adequate levels in the necessary research, producing the world-class graduates, stimulating the innovation, and creating the high-skill, high-value jobs that define a prosperous nation in a knowledge-driven global economy.

Possible Strategy: The federal government must restore a level of research funding adequate to support its most urgent priorities including national defense, homeland security, health care, energy security, and economic competitiveness, with special attention directed to physical science and engineering. Federal and state governments and industry should invest in upgrading and expanding university laboratories,

equipment, and information technologies and meeting other infrastructural needs of research universities such that the national capacity to conduct world-class research in key strategic disciplines is sufficient to address national priorities. Government and industry should also invest in scholarships, fellowships, curriculum development aimed at enhancing student interest in science, mathematics, engineering, and technology at all educational levels, with particular attention given to encouraging the participation of women and underrepresented minorities, while recruiting talented students from around the world.

5. Lifelong Learning

Vision: Today the United States faces a crossroads, as a global knowledge economy demands a new level of knowledge, skills, and abilities on the part of our citizens. In earlier critical moments in our nation's history, federal initiatives aimed at expanding the role of education had great impact on America, e.g. the Land Grant Acts in the 19th century to provide higher education to the working class, university access to secondary education in the early 20th century, and the G. I. Bill enabling the college education of the returning veterans of World War II. Today, as our nation undergoes a transition from an industrial to a knowledge-based economy, the Commission believes it is time for the United States to take bold action, completing in a sense the series of these earlier federal education initiatives, by providing all American citizens with universal access to lifelong learning opportunities, thereby creating world's most advanced knowledge society. The nation would accept its responsibility as a democratic society in an ever more competitive global, knowledge driven economy to provide all of its citizens with the educational, learning, and training opportunities they need, throughout their lives, whenever, wherever, and however they need it, at high quality and affordable costs, thereby enabling both individuals and the nation itself to prosper.

Challenge: The needs for lifelong learning opportunities in a knowledge society are manifold. The shelf life of education early in one's life, whether K-12 or higher education, is shrinking rapidly in face of the explosion of knowledge in many fields. Today's students and tomorrow's graduates are likely to value access to lifelong learning opportunities more highly than job security, which will be elusive in any event. They understand that in the turbulent world of a knowledge economy, characterized by outsourcing and off-shoring to a global workforce, employees are only one paycheck away from the unemployment line unless they commit to continuous learning and re-

skilling to adapt to every changing work requirements. Furthermore, longer life expectancies and lengthening working careers create additional needs to refresh one's knowledge and skills through. Even today's college graduates expect to change not simply jobs but entire careers many times throughout their lives, and at each transition point, further education will be required—additional training, short courses, degree programs, or even new professions. And, just as students increasingly understand that in a knowledge economy there is no wiser personal investment than education, many nations now accept that the development of their human capital through education must become a higher priority than other social priorities, since this is the only sure path toward prosperity, security, and social well-being in a global knowledge economy.

Of course, establishing as a national goal the universal access to lifelong learning would require not only a very considerable transformation and expansion of the existing postsecondary education enterprise, but it would also require entirely new paradigms for the conduct, organization, financing, leadership, and governance of higher education in America. For example, most of today's colleges and universities are primarily designed to serve the young—either as recent high school graduates or young adults early in their careers. Yet achieving the objective of universal access to lifelong learning would expand enormously the population of adult learners of all ages. Traditional university characteristics such as residential campuses designed primarily to socialize the young with resources such as residence halls, student unions, recreational facilities, and varsity athletics would have marginal value to adult learners with career and family priorities. Such universal lifelong learning could change dramatically the higher education marketplace, providing for-profit institutions already experienced in adult education with significant advantages. Furthermore it seems likely that the only way that such ubiquitous access can be provided to lifelong learning to adults with career and family responsibilities will be through technology-mediated distance learning.

Possible Strategies: One approach would be to utilize a combination of transportable education savings accounts and loans, perhaps indexed to future earnings much like Social Security by mandatory earmarking of a portion of an individual's earnings over their careers as a source of funds for their education. Here, in contrast to Social Security than amounts to saving over a career for one's relatively unproductive golden years, instead one would be borrowing and investing on the front-end to enhance their personal productivity and hence prosperity throughout their lives through future education. By making such education savings accounts mandatory, again like Social Security, one would create a sense of ownership on the part of the students, thereby

making it more likely that they would seek to take advantage of the educational opportunities provided by their account. A variation on this theme would be to access the capital markets by using the government (either federal or state) to borrow money at low interest rates to be loaned to students, and then provide strong tax incentives to employers to assist students in paying off these loans during employment. Note employer participation would bring another very important consumer to the table, since clearly employers (private or public) would want to demand high quality learning experiences in disciplines of importance to their enterprise if they are going to pay off the student loans of their employees.

A second approach would be an analog to the Land Grant Acts of the 19th Century that assisted the nation in evolving from an agrarian frontier society into an industrial nation. One might imagine a Learn Grant Act for the 21st Century to assist the United States in evolving still further to respond to the challenges of a global knowledge economy. It would focus on developing our most important asset, our human resources, as its top priority, along with the infrastructure necessary to sustain a knowledge-driven economy. Patterned after the Land Grant Acts, the Learn Grant Act would involve a partnership among the federal government, the states, and the higher education enterprise in which the federal government would provide assets comparable to the land grants (e.g., the funds resulting from the sale or lease of the digital spectrum), the states would commit to providing base support necessary to ensure access to postsecondary education for their populations, and higher education institutions would commit to the major transformations necessary to provide life-long learning opportunities of high quality, affordable cost, and necessary flexibility (asynchronous and ubiquitous learning), along with the other knowledge services needed by our society. However, since the growth in the learning population enabled by universal access to lifelong learning would be financed primarily from private sources, this would also require a partnership among students (learners and borrowers), employers (financiers), and government (facilitator).

Final Comments

In summary, we recommend the following strategic actions for consideration of the Commission:

1. The nation should rely on market forces, shaped by public policy and investments (primarily incentives) and facilitated by university-government-

industry partnerships , to drive the attainment of world-class quality, performance, efficiency, and public purpose of the American postsecondary education enterprise.

2. To better serve the innovation needs of the nation, universities should work closely with business and industry to create new multidisciplinary academic programs and participate in regional innovation economies. The federal government should stimulate greater innovation and transformation within higher education through support of R&D for pedagogy, curriculum development, technology, and educational systems.

3. Both the federal government and the states should set access to higher education as the highest priority for public funds, shifting the balance of public support more toward the support of academically qualified students with financial need.

4. The federal government must restore an adequate level of funding for research and graduate education to address the challenges of the emerging global knowledge driven economy, with particular attention to those areas of physical science and engineering of key strategic importance to economic competitiveness and national security.

5. The nation should commit itself to the vision of providing all American citizens with university access to lifelong learning opportunities, thereby creating the world's most advanced knowledge society and providing for economic prosperity, national security, and social well-being in an age of knowledge in a global economy.

Here, we suggest one final caveat, however: As the nation pursues the objective of building and sustaining a world-class system of postsecondary education capable of meeting its changing education, research and service needs in an ever more competitive world, it is also important that it bear in mind the long-standing history and purpose of higher education in western societies. As Frank Rhodes has observed, "For a thousand years the university has benefited our civilization as a learning community where both the young and the experienced could acquire not only knowledge and skills, but also the values and discipline of the educated mind. It has defended and propagated our cultural

and intellectual heritage, while challenging our norms and beliefs. It has produced the leaders of our governments, commerce, and professions. It has both created and applied new knowledge to serve our society. And it has done so while preserving those values and principles so essential to academic learning: the freedom of inquiry, an openness to new ideas, a commitment to rigorous study, and a love of learning.”

There seems little doubt that these broader roles of higher education will continue to be needed by our nation. Hence, while responsiveness to the needs of a 21st nation in an intensely competitive global, knowledge economy, so too is the need to preserve these more fundamental roles, values, and public purposes of higher education in America.