A TEST OF LEADERSHIP

Charting the Future of U.S. Higher Education

A Report of the Commission Appointed by
Secretary of Education Margaret Spellings

Pre-Publicaton Copy September 2006

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U.S. Department of Education
Margaret Spellings
Secretary

The Secretary of Education's Commission on the Future of Higher Education
Cheryl Oldham
Executive Director

September 2006

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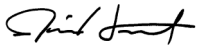
A NATIONAL DIALOGUE:
THE SECRETARY OF EDUCATION'S COMMISSION ON THE FUTURE OF HIGHER EDUCATION

The Honorable Margaret Spellings
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-0001

Dear Madam Secretary:

The undersigned members of the commission respectfully hereby submit this report resulting from your assignment.

Charles Miller (Chairman)
Private Investor
Former Chairman of the Board of Regents, University of Texas System



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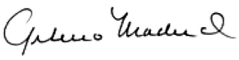

Arturo Madrid
Murchison Distinguished Professor of Humanities, Department of Modern Languages and Literatures
Trinity University

Louis W. Sullivan
President *Emeritus*, Morehouse School of Medicine, Former Secretary of the U.S. Department of Health and Human Services

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President *Emeritus*
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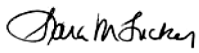

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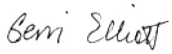

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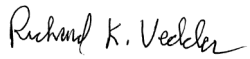
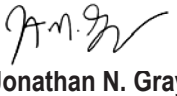


Richard Vedder
Adjunct Scholar, American Enterprise Institute, Distinguished Professor of Economics Ohio University



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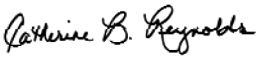

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Robert M. Zemsky
Chair and Professor
The Learning Alliance for Higher Education
University of Pennsylvania

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The commission wishes to express its appreciation and gratitude to Cheryl Oldham, executive director, and to the dedicated staff: Vickie Schray, deputy director for management and planning; Eleanor Schiff, deputy director for research and external affairs; Kristen Vetri, chief of staff; and Archie Cubarrubia, senior analyst.

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PREAMBLE

Three hundred and seventy years after the first college in our fledgling nation was established to train Puritan ministers in the Massachusetts Bay Colony, it is no exaggeration to declare that higher education in the United States has become one of our greatest success stories. Whether America's colleges and universities are measured by their sheer number and variety, by the increasingly open access so many citizens enjoy to their campuses, by their crucial role in advancing the frontiers of knowledge through research discoveries, or by the new forms of teaching and learning that they have pioneered to meet students' changing needs, these postsecondary institutions have accomplished much of which they and the nation can be proud.

Despite these achievements, however, this commission believes U.S. higher education needs to improve in dramatic ways. As we enter the 21st century, it is no slight to the successes of American colleges and universities thus far in our history to note the unfulfilled promise that remains. Our yearlong examination of the challenges facing higher education has brought us to the uneasy conclusion that the sector's past attainments have led our nation to unwarranted complacency about its future.

It is time to be frank. Among the vast and varied institutions that make up U.S. higher education, we have found much to applaud but also much that requires urgent reform. As Americans, we can take pride in our Nobel Prizes, our scientific breakthroughs, our Rhodes Scholars. But we must not be blind to the less inspiring realities of postsecondary education in our country.

To be sure, at first glance most Americans don't see colleges and universities as a trouble spot in our educational system. After all, American higher education has been the envy of the world for years. In 1862, the *First Morrill Act* created an influential network of land-grant universities across the country. After World War II, the *Serviceman's Readjustment Act of 1944*, also known as the G.I. Bill made access to higher education a national priority. In the 1960s and 1970s, the launching and rapid growth of community colleges further expanded postsecondary educational opportunities. For a long time, we educated more people to higher levels than any other nation.

Among the vast and varied institutions that make up U.S. higher education, we have found much to applaud, but also much that requires urgent reform.

We remained so far ahead of our competitors for so long, however, that we began to take our postsecondary superiority for granted. The results of this inattention, though little known to many of our fellow citizens, are sobering.

We may still have more than our share of the world's best universities. But a lot of other countries have followed our lead, and **they are now educating more of their citizens to more advanced levels than we are**. Worse, they are passing us by at a time when education is more important to our collective prosperity than ever.

We remained so far ahead of our competitors for so long, however, that we began to take our postsecondary superiority for granted. The results of this inattention, though little known to many of our fellow citizens, are sobering.

We acknowledge that not everyone needs to go to college. But everyone needs a postsecondary education. Indeed, we have seen ample evidence that some form of postsecondary instruction is increasingly vital to an individual's economic security. Yet too many Americans just aren't getting the education that they need—and that they deserve.

- We are losing some students in our high schools, which do not yet see preparing all pupils for postsecondary education and training as their responsibility.
- Others don't enter college because of inadequate information and rising costs, combined with a confusing financial aid system that spends too little on those who need help the most.
- Among high school graduates who do make it on to postsecondary education, a troubling number waste time—and taxpayer dollars—mastering English and math skills that they should have learned in high school. And some never complete their degrees at all, at least in part because most colleges and universities don't accept responsibility for making sure that those they admit actually succeed.
- As if this weren't bad enough, there are also disturbing signs that many students who do earn degrees have not actually mastered the reading, writing, and thinking skills we expect of college graduates. Over the past decade, literacy among college graduates has actually declined. Unacceptable numbers of college graduates enter the workforce without the skills employers say they need in an economy where, as the truism holds correctly, knowledge matters more than ever.
- The consequences of these problems are most severe for students from low-income families and for racial and ethnic minorities. But they affect us all.
- Compounding all of these difficulties is a lack of clear, reliable information about the cost and quality of postsecondary institutions, along with a remarkable absence of accountability mechanisms to ensure that colleges succeed in educating students. The result is that students, parents, and policymakers are often left scratching their heads over the answers to basic questions, from the true cost of private colleges (where most students don't pay the official sticker price) to which institutions do a better job than others not only of graduating students but of teaching them what they need to learn.

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As higher education evolves in unexpected ways, this new landscape demands innovation and flexibility from the institutions that serve the nation's learners.

In the face of such challenges, this commission believes change is overdue. But when it comes—as it must—it will need to take account of the new realities that are sometimes overlooked in public discussions about the future of higher education. While many Americans still envision the typical undergraduate as an 18- to 22-year-old with a recently acquired high school diploma attending classes at a four-year institution, the facts are more complex. Of the nation's nearly 14 million undergraduates, more than four in ten attend two-year community colleges. Nearly one-third are older than 24 years old. Forty percent are enrolled part-time.

As higher education evolves in unexpected ways, this new landscape demands innovation and flexibility from the institutions that serve the nation's learners. Beyond high school, more students than ever before have adopted a "cafeteria" approach to their education, taking classes at multiple institutions before obtaining a credential. And the growing numbers of adult learners aren't necessarily seeking degrees at all. Many simply want to improve their career prospects by acquiring the new skills that employers are demanding.

In this consumer-driven environment, students increasingly care little about the distinctions that sometimes preoccupy the academic establishment, from whether a college has for-profit or nonprofit status to whether its classes are offered online or in brick-and-mortar buildings. Instead, they care—as we do—about results.

Against this backdrop, we have adopted an ambitious set of goals that spell out what our commission expects from American higher education, which we define as broadly and richly as possible to include all public and private education that is available after high school, from trade schools, online professional-training institutions and technical colleges to community colleges, traditional four-year colleges and universities, and graduate and professional programs.

- We want a world-class higher-education system that creates new knowledge, contributes to economic prosperity and global competitiveness, and empowers citizens;
- We want a system that is accessible to all Americans, throughout their lives;
- We want postsecondary institutions to provide high-quality instruction while improving their efficiency in order to be more affordable to the students, taxpayers, and donors who sustain them;
- We want a higher-education system that gives Americans the workplace skills they need to adapt to a rapidly changing economy;
- We want postsecondary institutions to adapt to a world altered by technology, changing demographics and globalization, in which the higher-education landscape includes new providers and new paradigms, from for-profit universities to distance learning.

To reach these objectives, we believe that U.S. higher education institutions must recommit themselves to their core public purposes. For close to a century now, access to higher education has been a principal—some would say *the* principal—means of achieving social mobility. Much of our nation's inventiveness has been centered in colleges and universities, as has our commitment to a kind of democracy that only an educated and informed citizenry makes possible. It is not surprising that American institutions of higher education have become a magnet for attracting people of talent and ambition from throughout the world.

But today that world is becoming tougher, more competitive, less forgiving of wasted resources and squandered opportunities. In tomorrow's world a nation's wealth will derive from its capacity to educate, attract, and retain citizens who are to able to work smarter and learn faster—making educational achievement ever more important both for individuals and for society writ large.

What we have learned over the last year makes clear that American higher education has become what, in the business world, would be called a mature enterprise: increasingly risk-averse, at times self-satisfied, and unduly expensive. It is an enterprise that 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 has yet to successfully confront the impact of globalization, rapidly evolving technologies, an increasingly diverse and aging population, and an evolving marketplace characterized by new needs and new paradigms.

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History is littered with examples of industries that, at their peril, failed to respond to—or even to notice—changes in the world around them, from railroads to steel manufacturers. Without serious self-examination and reform, institutions of higher education risk falling into the same trap, seeing their market share substantially reduced and their services increasingly characterized by obsolescence.

Already, troubling signs are abundant. 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 12th among major industrialized countries in higher education attainment. Another half dozen countries are close on our heels. And these global pressures come at a time when data from the U.S. Department of Labor indicate that postsecondary education will be ever more important for workers hoping to fill the fastest-growing jobs in our new economy.

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To implement the goals outlined above, we have distilled our deliberations into a series of findings that range across four key areas that the U.S. secretary of education charged us

with examining when she created this commission: access, affordability, quality, and accountability. Those findings are followed by a series of six far-reaching recommendations aimed at all the parties whose efforts will be needed to ensure that reform takes root: colleges and universities; accrediting bodies and governing boards; state and federal policymakers; elementary and secondary schools; the business community; and parents and students themselves.

We note that the commissioners did not agree unanimously on every single finding and recommendation. This was a diverse group, with varied perspectives and backgrounds, and from the beginning our commission's explicit mandate was to engage in debate and discussion, as indicated by the first part of our panel's formal name: "A National Dialogue." In a higher-education system as diverse and complex as ours, it is no surprise that knowledgeable individuals can and do differ over certain matters. Nevertheless, there has been remarkable consensus among our members not only on the acute challenges facing the nation's colleges and universities but also on how we can begin to address higher education's weaknesses and build a promising foundation for a thriving 21st century postsecondary education system.

In outlining our conclusions and recommendations below, and detailing them in the remainder of this report, we recognize that some who care deeply about higher education—and whose partnership we value in the new endeavors we propose—may not easily accept either our diagnosis or our prescriptions. But we would note that past reforms that later came to be recognized as transformational for American society were not universally embraced at first. The G.I. Bill, for instance, greatly worried such 20th century intellectual luminaries as Robert Maynard Hutchins, president of the University of Chicago, and James B. Conant, president of Harvard University, each of whom fretted that newly returned veterans might overwhelm campuses and be ill-suited to reap the benefits of higher education. In retrospect, such concerns seem positively archaic.

We can make no promise that our proposed reforms would have an impact as enormous as that historic, door-opening measure. Nor do we make light of the inevitable questions and concerns that may be raised by all those who we are asking to participate in the reform measures called for in our recommendations, including postsecondary institutions, federal and state policymakers, and employers.

But were the American system of higher education—and those who want to help it rise to the challenges of a new century—to make the changes our commission recommends, we believe other important changes would follow. The result would be institutions and programs that are more nimble, more efficient, and more effective. What the nation would gain is a heightened capacity to compete in the global market place. What individuals would gain is full access to educational opportunities that allow them to be lifelong learners, productive workers, and engaged citizens.

SUMMARY

THE VALUE OF HIGHER EDUCATION

In an era when intellectual capital is increasingly prized, both for individuals and for the nation, postsecondary education has never been more important. Ninety percent of the fastest-growing jobs in the new knowledge-driven economy will require some postsecondary education. Already, the median earnings of a U.S. worker with only a high school diploma are 37 percent less than those of a worker with a bachelor's degree. Colleges and universities must continue to be the major route for new generations of Americans to achieve social mobility. And for the country as a whole, future economic growth will depend on our ability to sustain excellence, innovation, and leadership in higher education. But even the economic benefits of a college degree could diminish if students don't acquire the appropriate skills.

Substandard high school preparation is compounded by poor alignment between high schools and colleges, which often creates an "expectations gap" between what colleges require and what high schools produce.

ACCESS

We found that access to American higher education is unduly limited by the complex interplay of inadequate preparation, lack of information about college opportunities, and persistent financial barriers. Substandard high school preparation is compounded by poor alignment between high schools and colleges, which often creates an "expectations gap" between what colleges require and what high schools produce. Although the proportion of high school graduates who go on to college has risen substantially in recent decades, the college completion rate has failed to improve at anywhere near the same pace. Shortcomings in high schools mean that an unacceptable number of college students must take costly remedial classes. Moreover, there is a troubling and persistent gap between the college attendance and graduation rates of low-income Americans and their more affluent peers. Similar gaps characterize the college attendance rates—and especially the college completion rates—of the nation's growing population of racial and ethnic minorities. While about one-third of whites have obtained bachelor's degrees by age 25–29, for example, just 18 percent of blacks and ten percent of Latinos in the same age cohort have earned degrees by that time.

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We propose to dramatically expand college participation and success by outlining ways in which postsecondary institutions, K–12 school systems, and state policymakers can work together to create a seamless pathway between high school and college. States' K–12 graduation standards must be closely aligned with college and employer expectations, and states should also provide incentives for postsecondary institutions to work actively and collaboratively with K–12 schools to help underserved students improve college preparation and persistence. While better high-school preparation is imperative, admitted students and colleges themselves must jointly take responsibility for academic success. Improving the information about college available to students—and reducing financial barriers to attendance, which we address below in our discussion of affordability—are also crucial to improving access.

COST AND AFFORDABILITY

In our view, affordability is directly affected by a financing system that provides limited incentives for colleges and universities to take aggressive steps to improve institutional efficiency and productivity.

The commission notes with concern the seemingly inexorable increase in college costs, which have outpaced inflation for the past two decades and have made affordability an ever-growing worry for students, families, and policymakers. Too many students are either discouraged from attending college by rising costs, or take on worrisome debt burdens in order to do so. While students bear the immediate brunt of tuition increases, affordability is also a crucial policy dilemma for those who are asked to fund higher education, notably federal and state taxpayers. Even as institutional costs go up, in recent years state subsidies have decreased on a per capita basis and public concern about affordability may eventually contribute to an erosion of confidence in higher education. In our view, affordability is directly affected by a financing system that provides limited incentives for colleges and universities to take aggressive steps to improve institutional efficiency and productivity.

To improve affordability, we propose a focused program of cost-cutting and productivity improvements in U.S. postsecondary institutions. Higher education institutions should improve institutional cost management through the development of new performance benchmarks, while also lowering per-student educational costs by reducing barriers for transfer students. State and federal policymakers must do their part as well, by supporting the spread of technology that can lower costs, encouraging more high school-based provision of college courses, and working to relieve the regulatory burden on colleges and universities.

FINANCIAL AID

We found that our financial aid system is confusing, complex, inefficient, duplicative, and frequently does not direct aid to students who truly need it. There are at least 20 separate federal programs providing direct financial aid or tax benefits to individuals pursuing postsecondary education. For the typical household, the *Free Application for Federal Student Aid*, or *FAFSA*, is longer and more complicated than the federal tax return. Moreover, the current system does not provide definitive information about freshman year aid until the spring of the senior year of high school, which makes it hard for families to plan and discourages college attendance. Unmet financial need is a growing problem for students from low-income families, who need aid the most.

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We propose replacing the current maze of financial aid programs, rules and regulations with a system more in line with student needs and national priorities. That effort would require a significant increase in need-based financial aid and a complete restructuring of the current federal financial aid system. Our recommendations call for consolidating programs, streamlining processes, and replacing the *FAFSA* with a much shorter and simpler application.

LEARNING

As other nations rapidly improve their higher education systems, we are disturbed by evidence that the quality of student learning at U.S. colleges and universities is inadequate and, in some cases, declining. A number of recent studies highlight the shortcomings of postsecondary institutions in everything from graduation rates and time to degree to learning outcomes and even core literacy skills. According to the most recent National Assessment of Adult Literacy, for instance, the percentage of college graduates deemed proficient in prose literacy has actually declined from 40 to 31 percent in the past decade. These shortcomings have real-world consequences. Employers report repeatedly that many new graduates they hire are not prepared to work, lacking the critical thinking, writing and problem-solving skills needed in today's workplaces. In addition, business and government leaders have repeatedly and urgently called for workers at all stages of life to continually upgrade their academic and practical skills. But both national and state policies and the practices of postsecondary institutions have not always made this easy, by failing to provide financial and logistical support

As other nations rapidly improve their higher-education systems, we are disturbed by evidence that the quality of student learning at U.S. colleges and universities is inadequate and, in some cases, declining.

But both national and state policies and the practices of postsecondary institutions have not always made this easy, by failing to provide financial and logistical support for lifelong learning and by failing to craft flexible credit-transfer systems that allow students to move easily between different kinds of institutions.

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In our view, correcting shortcomings in educational quality and promoting innovation will require a series of related steps, beginning with some of the accountability mechanisms that are summarized below and discussed at greater length later in this report. In addition, we urge postsecondary institutions to make a commitment to embrace new pedagogies, curricula, and technologies to improve student learning.

TRANSPARENCY AND ACCOUNTABILITY

We have noted a remarkable shortage of clear, accessible information about crucial aspects of American colleges and universities, from financial aid to graduation rates. Because data systems are so limited and inadequate, it is hard for policymakers to obtain reliable information on students' progress through the educational pipeline. This lack of useful data and accountability hinders policymakers and the public from making informed decisions and prevents higher education from demonstrating its contribution to the public good.

We believe that improved accountability is vital to ensuring the success of all the other reforms we propose. Colleges and universities must become more transparent about cost, price, and student success outcomes, and must willingly share this information with students and families. Student achievement, which is inextricably connected to institutional success, must be measured by institutions on a "value-added" basis that takes into account students' academic baseline when assessing their results. This information should be made available to students, and reported publicly in aggregate form to provide consumers and policymakers an accessible, understandable way to measure the relative effectiveness of different colleges and universities.

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INNOVATION

Finally, we found that numerous barriers to investment in innovation risk hampering the ability of postsecondary institutions to address national workforce needs and compete in the global marketplace. Too many of our colleges and universities have not embraced opportunities to be entrepreneurial, from testing new methods of teaching

and content delivery to meeting the increased demand for lifelong learning. For their part, state and federal policymakers have also failed to make supporting innovation a priority. Accreditation, along with federal and state regulation, can impede creative new approaches as well.

We recommend that America's colleges and universities embrace a culture of continuous innovation and quality improvement. We urge these institutions to develop new pedagogies, curricula and technologies to improve learning, particularly in the areas of science and mathematics. At the same time, we recommend the development of a national strategy for lifelong learning designed to keep our citizens and our nation at the forefront of the knowledge revolution.

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FINDINGS

The U.S. secretary of education asked this commission to examine four central issues in American higher education: access, affordability, quality, and accountability. Despite the many successes of our system, we have found that significant shortcomings remain. Our recommendations for improving U.S. higher education, and thus fulfilling the untapped promise of our colleges and universities, stem from the following findings:

FINDINGS REGARDING THE VALUE OF HIGHER EDUCATION

In today's knowledge-driven society, higher education has never been more important.

America's national capacity for excellence, innovation and leadership in higher education will be central to our ability to sustain economic growth and social cohesiveness. Our colleges and universities will be a key source of the human and intellectual capital needed to increase workforce productivity and growth. They must also continue to be the major route for new generations of Americans to achieve social mobility.

- The transformation of the world economy increasingly demands a more highly educated workforce with postsecondary skills and credentials. Ninety percent of the fastest-growing jobs in the new information and service economy will require some postsecondary education.[1] Job categories that require only on-the-job training are expected to see the greatest decline.[2] In high-demand fields, the value of postsecondary credentials and skills is likely to rise. The Department of Labor projects, for instance, that by 2014 there will be close to four million new job openings combined in health care, education, and computer and mathematical sciences.[3]
- The benefits of higher education are significant both for individuals and for the nation as a whole. In 2003, for example, the median annual salary of an American worker with only a high school diploma was $30,800, compared with the $37,600 median for those with an associate's degree and the $49,900 median for those with a bachelor's degree.[4] Over a lifetime, an individual with a bachelor's degree will earn an average of $2.1 million—nearly twice as much as a worker with only a high school diploma.[5] Higher education also produces broader social gains. Colleges and universities are major economic engines, while also serving as civic and cultural centers.

FINDINGS REGARDING ACCESS

Too few Americans prepare for, participate in, and complete higher education—especially those underserved and nontraditional groups who make up an ever-greater proportion of the population. The nation will rely on these groups as a major source of new workers as demographic shifts in the U.S. population continue.

This commission believes the nation must be committed to building and sustaining a higher education system that is accessible to all qualified students in all life stages. While the proportion of high school graduates who immediately enter college has risen in recent decades, unfortunately, it has largely stalled at around 60 percent since the late 1990s.[6] The national rate of college completion has also remained largely stagnant.[7] Most important, and most worrisome, too many Americans who could benefit from postsecondary education do not continue their studies at all, whether as conventional undergraduates or as adult learners furthering their workplace skills.[8]

We found that access to higher education in the United States is *unduly limited by the complex interplay of inadequate preparation, lack of information about college opportunities, and persistent financial barriers.* Inadequate high school preparation is compounded by poor alignment between high schools and colleges, which often creates an "expectations gap" between what colleges require and what high schools produce. The result is a high level of remediation by colleges (and by employers), a practice that is both costly and inefficient. *We are especially troubled by gaps in college access for low-income Americans and ethnic and racial minorities. Notwithstanding our nation's egalitarian principles, there is ample evidence that qualified young people from low-income families are far less likely to go to college than their similarly qualified peers from high-income families.*

- Several national studies confirm the insufficient preparation of high school graduates for *either* college-level work or the changing needs of the workforce.[9] Dismal high school achievement rates nationwide have barely budged in the last decade. Close to 25 percent of all students in public high schools do not graduate[10]—a proportion that rises among low-income, rural, and minority students.
- The educational achievement levels of our young people who do complete high school are simply not high enough to allow them to succeed in college. According to the National Assessment of Educational Progress (NAEP), only 17 percent of seniors are considered proficient in mathematics,[11] and just 36 percent are proficient in reading.[12]
- Ample evidence demonstrates that a key component of our national achievement problem is insufficient alignment between K-12 and higher education. Studies show the overwhelming majority of both college and

high school faculty and administrators are unaware of the standards and assessments being used by their counterparts in the other sector. For example, only eight states require high school graduates to take at least Algebra II—a threshold course for college-level success in math-based disciplines including engineering and science.[13] Fewer than 22 percent of the 1.2 million students who took the ACT college-entrance examinations in 2004 were ready for college-level work in the core subjects of mathematics, English and science.[14] Forty-four percent of faculty members say students aren't well prepared for college-level writing, in contrast to the 90 percent of high school teachers who think they are prepared.[15]

- Not surprisingly, the consequences of substandard preparation and poor alignment between high schools and colleges persist in college. Remediation has become far too common an experience for American postsecondary students. Some 40 percent of all college students end up taking at least one remedial course[16]—at an estimated cost to the taxpayers of $1 billion.[17,18] Additionally, industry spends significant financial resources on remediation and retraining.

- Access and achievement gaps disproportionately affect low-income and minority students. Historically these are the very students who have faced the greatest academic and financial challenges in getting access to or completing college. Many will be the first in their families to attend college. Regardless of age, most will work close to full-time while they are in college and attend school close to home. Despite years of funding student aid programs, family income and the quality of high school education remain major factors in college-level access and success.[19, 20] By age 25–29, about 34 of every 100 whites obtain bachelor's degrees, compared to 17 of every 100 blacks and just 11 of every 100 Latinos.[21] Just as dismaying, low-income high school graduates in the top quartile on standardized tests attend college at the same rate as high-income high school graduates in the bottom quartile on the same tests.[22] Only 36 percent of college-qualified low-income students complete bachelor's degrees within eight and a half years, compared with 81 percent of high-income students.[23]

- Access problems also affect adult students. More and more adults are looking for ways to upgrade and expand their skills in an effort to improve or protect their economic position. Nearly 40 percent of today's postsecondary students are self-supporting adults age 24 and up[24]; almost half attend school part-time; more than one-third work full-time; 27 percent have children themselves.[25] In 2005, more than 12 million adults age 25 and older participated in credential or degree-granting programs in colleges and universities.[26] But we are not expanding capacity across higher education to meet this demand. America's community colleges, whose enrollments have been growing significantly, have provided a place to begin for many of these students. In some states, however, community colleges are reaching their capacity limits, a cause for deep concern.

FINDINGS REGARDING COST AND AFFORDABILITY

Our higher education financing system is increasingly dysfunctional. State subsidies are declining; tuition is rising; and cost per student is increasing faster than inflation or family income. Affordability is directly affected by a financing system that provides limited incentives for colleges and universities to take aggressive steps to improve institutional efficiency and productivity. Public concern about rising costs may ultimately contribute to the erosion of public confidence in higher education.

There is no issue that worries the American public more about higher education than the soaring cost of attending college. That may explain why most public discussions of college affordability are framed solely in terms of the financial strain faced by students and families. Yet because students and families only pay a portion of the actual cost of higher education, affordability is also an important public policy concern for those who are asked to fund colleges and universities, notably federal and state taxpayers but also private donors. Tuition increases for students have gone hand in hand with a rapid rise in the cost of operating institutions. While the pattern of cost increases varies (it has been much less pronounced, for example, at community colleges), it is in general unacceptably large and contributes to problems of access discussed elsewhere in this report.

- From 1995 to 2005, average tuition and fees at private four-year colleges and universities rose 36 percent after adjusting for inflation. Over the same period, average tuition and fees rose 51 percent at public four-year institutions and 30 percent at community colleges.[27]
- One of the reasons tuition and fees have increased is that state funding fell to the lowest level in over two decades.[28] State funding for higher education has always followed a zigzag course—going up in times of growth and down during recessions. The prospects for a return to a time of generous state subsidies are not good. States are expected to experience long-term structural deficits in funds for postsecondary education, caused by the squeeze of revenues and pressures on spending from rising health care costs.[29] *The bottom line is that state funding for higher education will not grow enough to support enrollment demand without higher education addressing issues of efficiency, productivity, transparency, and accountability clearly and successfully. However, based on our commission's review of the education needs of our nation, we encourage states to continue their historic and necessary commitment to the support of public higher education.*
- Funding cuts are not the only reason costs are rising. Institutions are spending more money, particularly the wealthiest universities with the greatest access to capital. Next to institutional financial aid, the greatest growth has been in administrative costs for improvements in student services (including state-of-the-art fitness centers and dormitories).

- College and university finances are complex, and are made more so by accounting habits that confuse costs with revenues and obscure production costs. The lack of transparency in financing is not just a problem of public communication or metrics. It reflects a deeper problem: inadequate attention to cost measurement and cost management within institutions.
- A significant obstacle to better cost controls is the fact that a large share of the cost of higher education is subsidized by public funds (local, state and federal) and by private contributions. These third-party payments tend to insulate what economists would call producers—colleges and universities—from the consequences of their own spending decisions, while consumers—students—also lack incentives to make decisions based on their own limited resources. Just as the U.S. healthcare finance system fuels rising costs by shielding consumers from the consequences of their own spending choices, the high level of subsidies to higher education also provides perverse spending incentives at times.
- In addition, colleges and universities have few incentives to contain costs because prestige is often measured by resources, and managers who hold down spending risk losing their academic reputations. With pressures on state funding for higher education continuing, institutional attention to cost—and price—control will inevitably become an urgent priority both for internal institutional accountability and public credibility.
- Another little-recognized source of cost increases is excessive state and federal regulation. Specifically, institutions of higher education must comply with more than 200 federal laws—everything from export administration regulations to the *Financial Services Modernization Act*. At their best, these regulations are a mechanism to support important human values on campuses. At worst, regulations can absorb huge amounts of time and waste scarce campus financial resources with little tangible benefit to anyone.[30]

Table 1: Percentage of family income needed to cover net college costs after grant aid by type of institution from 1992–93 to 2003–04

Distribution of Family Income				
Type of Institution	**Lowest Quartile 2003 (1992)**	**2nd Quartile 2003 (1992)**	**3rd Quartile 2003 (1992)**	**Highest Quartile 2003 (1992)**
Public Two-Year	37% (29%)	19% (15%)	13% (13%)	7% (6%)
Public Four-Year	47% (41%)	26% (22%)	18% (16%)	11% (10%)
Private Four-Year	83% (60%)	41% (33%)	29% (25%)	19% (17%)

Lowest quartile: $0-$34,000; 2nd quartile: $34,000-$62,000; 3rd quartile: $62,000-$94,000; Highest quartile: $94,000+. (Source: College Board, 2005.)

FINDINGS REGARDING FINANCIAL AID

The entire financial aid system—including federal, state, institutional, and private programs—is confusing, complex, inefficient, duplicative, and frequently does not direct aid to students who truly need it. Need-based financial aid is not keeping pace with rising tuition.

- There are at least 20 separate federal programs providing direct financial aid or tax benefits to individuals seeking postsecondary education.[31] The system is overly complicated and its multitude of programs sometimes redundant and incomprehensible to all but a few experts. This complexity has the unfortunate effect of discouraging some low-income students from even applying to college.
- For the typical household, the *Free Application for Federal Student Aid*, or *FAFSA*, is longer and more complicated than the federal tax return.[32] Moreover, the simplest IRS tax form, the 1040EZ, already collects most of the key pieces of data that could determine federal aid eligibility.
- The current system does not provide definitive information about freshman year aid until the spring of the senior year in high school, which makes it difficult for families to plan and discourages college attendance.
- Unmet financial need among the lowest-income families (those with family incomes below $34,000 annually) grew by 80 percent from 1990 to 2004 at four-year institutions, compared with seven percent for the highest-income families.[33] The Advisory Committee on Student Financial Assistance estimates that in the first decade of the new century, financial barriers will keep nearly two million low- and middle-income college qualified high school graduates from attending college.[34] Over half of today's undergraduates take out loans to finance part of their college work. According to the most recent College Board figures, nearly three-quarters of undergraduate students in private, non-profit institutions graduate with some debt, compared with 62 percent in public institutions. Median debt levels among students who graduated from four-year institutions were $15,500 for publics and $19,400 for private, nonprofits.[35]
- Large majorities of adults—59 percent overall and 63 percent among parents of college students—say students today graduate with too much debt. While 80 percent of adults say a college education is more important today than it was a decade ago, two-thirds say that affording college is harder now—and 70 percent say they expect it to be even more difficult in the future.[36]

FINDINGS REGARDING LEARNING

At a time when we need to be increasing the quality of learning outcomes and the economic value of a college education, there are disturbing signs that suggest we are moving in the opposite direction. As a result, the continued ability of American postsecondary institutions to produce informed and skilled citizens who are able to lead and compete in the 21st-century global marketplace may soon be in question.

- While U.S. higher education has long been admired internationally, our continued preeminence is no longer something we can take for granted. The rest of the world is catching up, and by some measures has already overtaken us. We have slipped to 12th in higher education attainment and 16th in high school graduation rates.[37]
- While educators and policymakers have commendably focused on getting more students into college, too little attention has been paid to helping them graduate. The result is that unacceptable numbers of students fail to complete their studies at all, while even those that graduate don't always learn enough.
- Several national studies highlight shortcomings in the quality of U.S. higher education as measured by literacy, rising time to degree, and disturbing racial and ethnic gaps in student achievement:
    - The National Assessment of Adult Literacy indicates that, between 1992 and 2003, average prose literacy (the ability to understand narrative texts such as newspaper articles) decreased for all levels of educational attainment, and document literacy (the ability to understand practical information such as instructions for taking medicine) decreased among those with at least some college education or a bachelor's degree or higher (Figure 1).[38]
    - Only 66 percent of full-time four-year college students complete a baccalaureate degree within six years.[39] (This reflects the percentage of students who begin full-time in four-year institutions and graduate within six years.)
    - Significant attainment gaps between white and Asian students and black and Hispanic students remain during the college years.[40]
    - Employers complain that many college graduates are not prepared for the workplace and lack the new set of skills necessary for successful employment and continuous career development.[41]

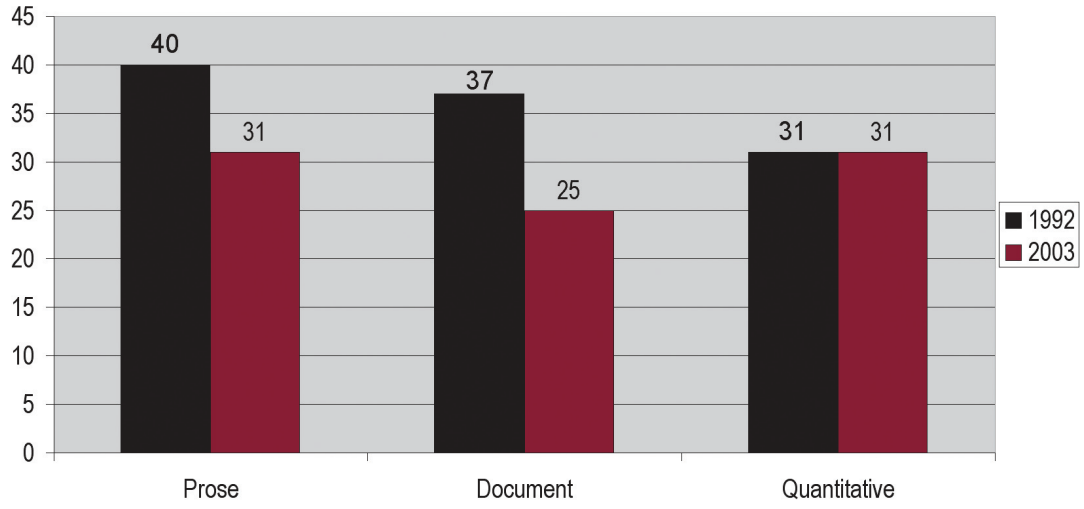
FINDINGS REGARDING TRANSPARENCY AND ACCOUNTABILITY

There is inadequate transparency and accountability for measuring institutional performance, which is more and more necessary to maintaining public trust in higher education.

Our complex, decentralized postsecondary education system has no comprehensive strategy, particularly for undergraduate programs, to provide either adequate internal accountability systems or effective public information. Too many decisions about higher education—from those made by policymakers to those made by students and families—rely heavily on reputation and rankings derived to a large extent from inputs such as financial resources rather than outcomes. Better data about real performance and lifelong working and learning ability is absolutely essential if we are to meet national needs and improve institutional performance.

- Traditionally, institutional quality is measured primarily through financial inputs and resources. In today's environment, these measures of inputs are no longer adequate, either within individual institutions or across all of higher education.
- Despite increased attention to student learning results by colleges and universities and accreditation agencies, parents and students have no solid evidence, comparable across institutions, of how much students learn in colleges or whether they learn more at one college than another. Similarly, policymakers need more comprehensive data to help them decide whether the national investment in higher education is paying off and how taxpayer dollars could be used more effectively.

Figure 1. Percentage of college graduates proficient in prose, document, and quantitative literacy: 1992 and 2003



Source: U.S. Department of Education, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

- Colleges and universities can also use more comparable data about the benchmarks of institutional success—student access, retention, learning and success, educational costs (including the growth in administrative expenses such as executive compensation), and productivity—to stimulate innovation and continuous improvement.
- Extensive government data on higher education do exist, but they leave out large numbers of nontraditional students who are increasingly attending our colleges and universities[42] and rarely focus on outcomes.[43] Data collected by the National Center for Education Statistics through the Graduation Rate Survey under the Integrated Postsecondary Education Systems (IPEDS) are limited to full-time, first-time degree- or certificate-seeking students. Unfortunately, for a significant portion of students—those who enroll on a part-time basis and those who transfer to other institutions—no data exist on time to degree for individual students or completion for students who, in an increasingly common pattern, begin their studies, drop out, and then restart.[44]
- Accreditation, the large and complex public-private system of federal, state and private regulators, has significant shortcomings. Accreditation agencies play a gatekeeper role in determining the eligibility of institutions and programs to receive federal and state grants and loans. However, despite increased attention by accreditors to learning assessments, they continue to play largely an internal role. Accreditation reviews are typically kept private, and those that are made public still focus on process reviews more than bottom-line results for learning or costs. The growing public demand for increased accountability, quality and transparency coupled with the changing structure and globalization of higher education requires a transformation of accreditation.[45]

FINDINGS REGARDING INNOVATION

American higher education has taken little advantage of important innovations that would increase institutional capacity, effectiveness and productivity. Government and institutional policies created during a different era are impeding the expansion of models designed to meet the nation's workforce needs. In addition, policymakers and educators need to do more to build America's capacity to compete and innovate by investing in critical skill sets and basic research.

- Institutions as well as government agencies have failed to sustain and nurture innovation in our colleges and universities. Reports from those working at the grassroots level in fields such as teacher preparation and math and science education indicate that the results of scholarly research on teaching and learning are rarely translated into practice. Little of the significant research of the past decade in areas such as cognitive science, neurosciences, and organizational theory is making it into American classroom practice, whether at the K–12 level or in colleges and universities.

- With the exception of several promising practices, many of our postsecondary institutions have not embraced opportunities for innovation, from new methods of teaching and content delivery to technological advances to meeting the increasing demand for lifelong learning. For their part, both state and federal policymakers have also failed to make supporting innovation a priority by adequately providing incentives for individuals, employers, and institutions to pursue more opportunities for innovative, effective and efficient practice.
- Traditional academic calendars and schedules often result in inefficient use of institution's physical plant and learning programs that are less than optimal.
- Barriers to the recognition of transfer credits between different types of institutions pose challenges to students and prevent institutions from increasing capacity. Students too often receive conflicting information about credit-transfer policies between institutions, leading to an unknown amount of lost time and money (and additional federal financial aid) in needlessly repeated course work. Underlying the information confusion are institutional policies and practice on student transfers that are too often inconsistently applied, even within the same institution.
- Accreditation and federal and state regulations, while designed to assure quality in higher education, can sometimes impede innovation and limit the outside capital investment that is vital for expansion and capacity building.
- Fewer American students are earning degrees in the STEM fields (science, technology, engineering, mathematics), medicine, and other disciplines critical to global competitiveness, national security, and economic prosperity. Even as the Bureau of Labor Statistics projects that 16 of the 30 fastest-growing jobs in the next decade will be in the health professions, current and projected shortages of physicians, registered nurses and other medical specialists may affect the quality of care for the increasingly aging population of baby boomers.[46]
- It is fundamental to U.S. economic interests to provide world-class education while simultaneously providing an efficient immigration system that welcomes highly educated individuals to our nation. Foreign-born students represent about half of all graduate students in computer sciences, and over half of the doctorate degrees awarded in engineering. Almost 30 percent of the actively employed science and engineering doctorate holders in the U.S. are foreign born. However, current limits on employer-sponsored visas preclude many U.S. businesses from hiring many of these graduates, which may discourage some talented students from attending our universities.
- At a time when innovation occurs increasingly at the intersection of multiple disciplines (including business and social sciences), curricula and research funding remain largely contained in individual departments.

RECOMMENDATIONS

Our colleges and universities are treasured national assets, but the shortcomings we have outlined persuade us that it is time for Americans to concentrate on what higher education can become. The challenge before us is nothing less than securing the promise of the future and unleashing the potential of the American people.

To that end, we offer recommendations that aim to improve access to higher education and make it more affordable. We seek to strengthen quality and encourage innovation. And we want to bring much-needed transparency and accountability to our colleges and universities. Secretary Spellings charged us to be bold. The commission believes that America must embrace a new agenda and engage in a new dialogue that places the needs of students and the nation at its center.

1. Every student in the nation should have the opportunity to pursue postsecondary education. We recommend, therefore, that the U.S. commit to an unprecedented effort to expand higher education access and success by improving student preparation and persistence, addressing non academic barriers and providing significant increases in aid to low-income students.

- A high school diploma should signify that a student is ready for college or work. States must adopt high school curricula that prepare all students for participation in postsecondary education and should facilitate seamless integration between high school and college. The commission believes higher education must assume responsibility for working with the K–12 system to ensure that teachers are adequately trained, curricula are aligned and entrance standards are clear. The effort underway in a number of states to align K–12 graduation standards with college and employer expectations should be implemented in all 50 states. States should provide incentives for higher education institutions to make long-term commitments to working actively and collaboratively with K–12 schools and systems to help underserved students improve college preparation and persistence.
- The commission strongly encourages early assessment initiatives that determine whether students are on track for college. A prominent chancellor has described the 12th grade as a “vast wasteland” rather than a time to ensure that students are prepared for college or are enrolled in college-level courses. We endorse the expansion of early college or dual enrollment programs, as well as Advanced Placement and International Baccalaureate courses.

- The commission recommends support for initiatives that help states hold high schools accountable for teaching all students and that provide federal support for effective and timely intervention for those students who are not learning at grade level. Such initiatives would include requirements for state assessments in high school to ensure that diplomas mean students are prepared to enter college or the workforce with the skills to succeed. In addition, the current 12th-grade NAEP test should be redesigned to allow the NAEP proficiency standard to be used to measure college and workforce readiness and provide disaggregated data in state-by-state reports. (Historically, the 12th-grade NAEP has been limited to a national survey with a sample size that precludes state-by-state reporting of assessment results. This is of little value for either improvement or accountability.)

- Students must have clearer pathways among educational levels and institutions and we urge colleges to remove barriers to student mobility and promote new learning paradigms (e.g., distance education, adult education, workplace programs) to accommodate a far more diverse student cohort. States and institutions should review and revise standards for transfer of credit among higher education institutions, subject to rigorous standards designed to ensure educational quality, to improve access and reduce time-to-completion.

- Even though surveys show that most students and parents believe college is essential, numerous non academic barriers undermine these aspirations. Many student and parents don't understand the steps needed to prepare for college and the system fails to address this information gap. The commission calls on businesses to partner with schools and colleges to provide resources for

The California State University System: Increasing Access and Improving Preparation

One of the best national models of how higher-education and K–12 officials can collaborate to help students is the Early Assessment Program (EAP) developed by Chancellor Charles Reed and administrators at the California State University (CSU) system in partnership with the California Department of Education and the State Board of Education. This statewide assessment is designed to test students' proficiency in mathematics and English and to reduce the likelihood that students will have to take remedial classes once they enter college. The award-winning program embeds a voluntary college-placement exam in the state testing program required of all 11th-grade students, using the CSU's admissions placement standards in math and English. The "early" component of the program—testing in the 11th grade, rather than the 12th—provides students an opportunity to make gains in areas of weakness during their senior year.

Additionally, CSU is raising awareness of college opportunities by reaching future students where they are—in their homes, their churches, and their communities. Partnering with community leaders and the state's K–12 system, administrators are targeting low-income and minority students and putting higher education within their reach. For the 54 percent of CSU's 405,000 students who are racial or ethnic minorities, initiatives such as visits by campus presidents to the largest African-American church in Los Angeles and partnerships with Latina mothers of elementary school children show the university system's commitment to bringing underrepresented populations into higher education. An informative "How to Get to College" poster available in English, Spanish, Vietnamese, Korean, and Chinese outlines step-by-step advice on how students and parents can begin getting ready for college as early as the sixth grade. These posters have been distributed to the state's middle and high schools and contain helpful information on the admission process, applying for financial aid, and appropriate courses to take in high school to best prepare students for collegiate-level learning. Finally, the system has a dedicated Web site (http://www.csumentor.edu) to help students and families navigate the college admissions and financial aid application processes.

early and ongoing college awareness activities, academic support, and college planning and financial aid application assistance. Such efforts should include developing students' and parents' knowledge of the economic and social benefits of college through better information, use of role models and extensive career exploration.

2. To address the escalating cost of a college education and the fiscal realities affecting government's ability to finance higher education in the long run, we recommend that the entire student financial aid system be restructured and new incentives put in place to improve the measurement and management of costs and institutional productivity.

Public providers of student financial aid should commit to meeting the needs of students from low-income families.

- The federal government, states, and institutions should significantly increase need-based student aid. To accomplish this, the present student financial aid system should be replaced with a strategically oriented, results-driven system built on the principles of (i) increased access, or enrollment in college by those students who would not otherwise be likely to attend, including nontraditional students; (ii) increased retention, or graduation by students who might not have been able to complete college due to the cost, (iii) decreased debt burden, and (iv) eliminating structural incentives for tuition inflation.
- Any new federal financial aid system should aim to replace the current federal aid form (the *Free Application for Federal Student Aid*, or *FAFSA*) with a much shorter and simpler application form. The application process should be substantially streamlined by analyzing student need through a simple criterion such as family income. Students should have information about financial aid eligibility (such as need or ability to pay) sooner and with early estimates of likely aid available as soon as the eighth grade.
- The financial-aid needs of transfer students, including those who transfer from two-year to four-year institutions, and part-time students should be attended to as part of the restructuring we recommend.
- Federal grant programs should be consolidated to increase the purchasing power of the Pell Grant. Whatever restructuring of federal financial aid takes place, the Pell Grant will remain the core need-based program. A specific benchmark should be established to increase the purchasing power of the average Pell Grant to a level of 70 percent (from 48 percent in 2004–05) of the average in-state tuition at public, four-year institutions over a period of five years. However, even with significant additional federal investment, there is little chance of restoring the Pell's purchasing power if tuition increases absorb most or all of the new money. This effort requires not only federal investment but also strategies by which colleges and universities contain increases in tuition and fees.

- Additionally, administrative and regulatory costs of federal aid programs should be streamlined through a comprehensive review of financial aid regulations.

Policymakers and higher education leaders should develop, at the institutional level, new and innovative means to control costs, improve productivity, and increase the supply of higher education.

- Higher education governing and coordinating boards, entrusted with the responsibility to ensure both internal and external accountability, should work with colleges to improve information about costs as well as prices for consumers, policymakers and institutional leaders.
- Higher education institutions should improve institutional cost management through the development of new performance benchmarks designed to measure and improve productivity and efficiency. Also, better measures of costs, beyond those designed for accounting purposes, should be provided to enable consumers and policymakers to see institutional results in the areas of academic quality, productivity and efficiency. An important benchmark, for example, would be that the growth in college tuition not exceed the growth in median family income over a five-year period. At the same time, the commission opposes the imposition of price controls.
- Colleges should help lower per-student educational costs by reducing barriers for transfer students. This step would be likely to lower costs to the overall postsecondary system by eliminating a great deal of redundancy within the system.
- The commission urges states to provide financial incentives to institutions that show they are fostering access, increasing productivity and cutting costs while maintaining or enhancing educational quality. States can drive improvements in educational learning productivity by encouraging both traditional and electronic delivery of college courses in high school.
- Federal and state policymakers should support the dissemination of technological advances in teaching that lower costs on a quality-adjusted basis. Institutions that reduce instructional costs generally on a quality-adjusted basis should be financially rewarded. States should provide similar incentive payments to institutions that significantly reduce academic attrition and increase graduation rates within the traditional period for the degree (e.g., four years for a bachelor's degree).
- Federal and state policymakers and accrediting organizations should work to eliminate regulatory and accreditation barriers to new models in higher education that will increase supply and drive costs down. To address these barriers, federal and state policymakers should:
    - ❏ Eliminate federal financial aid regulations that differentiate between traditional semesters and non-standard terms or, at a minimum, rewrite those regulations to provide the same benefits to nontraditional programs as to traditional semester programs.

- ❏ Require accreditation agencies to act in a more timely manner to accredit new institutions and new programs at existing institutions, while focusing on results and quality rather than dictating, for example, process, inputs, and governance, which perpetuates current models and impedes innovation.

- Federal and state policymakers should relieve the regulatory burden on colleges and universities by undertaking a review of the hundreds of regulations with which institutions must comply and recommend how they might be streamlined or eliminated. Additionally, nearly every federal agency is involved in regulating some aspect of higher education and each ought to create a compliance calendar to assist colleges and universities with identifying the myriad regulations and meeting their requirements.
- Finally, the federal government should work closely and cooperatively with institutions and higher education associations to develop compliance materials when new regulations are issued and to develop a system for notifying institutions when they are covered by a new law or regulation.

3. To meet the challenges of the 21st century, higher education must change from a system primarily based on reputation to one based on performance. We urge the creation of a robust culture of accountability and transparency throughout higher education. Every one of our goals, from improving access and affordability to enhancing quality and innovation, will be more easily achieved if higher education institutions embraces and implements serious accountability measures.

We recommend the creation of a consumer-friendly information database on higher education with useful, reliable information on institutions, coupled with a search engine to enable students, parents, policymakers and others to weigh and rank comparative institutional performance.

- The Department of Education should collect data and provide information in a common format so that interested parties can create a

Quality and Innovation Through Course Redesign

From 1999 to 2004, Carol Twigg and the National Center for Academic Transformation at the Rensselaer Polytechnic Institute worked with 30 colleges and universities to enhance quality of instruction, improve student learning, and reduce costs through the use of technology and innovative pedagogy. The participating institutions, which included Carnegie Mellon University, Northern Arizona University, and Tallahassee Community College, redesigned instructional approaches to improve some of their large, introductory courses. Instead of offering traditional lecture formats, instructors used active learning strategies to engage students in course material. These redesigned courses provided online access to Web-based tutorials, on-demand feedback, and support from student peer mentors. The use of technology reduced course preparation time for instructors and lowered instructional costs per student.

The results speak for themselves: more learning at a lower cost to the university. Institutions reported an average of 37 percent reduced cost and an increase in student engagement and learning. For example, scores in a redesigned biology course at the University of Massachusetts increased by 20 percent, while the cost to the university per student dropped by nearly 40 percent. For more information, visit http://www.collegecosts.info/pdfs/solution_papers/Collegecosts_Oct2005.pdf.

searchable, consumer-friendly database that provides access to institutional performance and aggregate student outcomes in a secure and flexible format. The strategy for the collection and use of data should be designed to recognize the complexity of higher education, have the capacity to accommodate diverse consumer preferences through standard and customizable searches, and make it easy to obtain comparative information including cost, price, admissions data, college completion rates and, eventually, learning outcomes.

- Third-party organizations should be encouraged and enabled to publish independent, objective information using data from such a database. In addition, comparative studies such as, for example, the National Center for Public Policy and Higher Education's biennial *Measuring Up* report, which gauges how successful state systems are at preparation, participation, affordability, completion and learning, should be published and disseminated by the Department as part of this information system.

In addition to this new consumer-oriented database, more and better information on the quality and cost of higher education is needed by policymakers, researchers and the general public.

- The secretary of education should require the National Center for Education Statistics to prepare timely annual public reports on college revenues and expenditures, including analysis of the major changes from year to year, at the sector and state level. Unlike the data currently available, institutional comparisons should be consumer-friendly and not require a sophisticated understanding of higher education finance.
- The commission supports the development of a *privacy-protected* higher education information system that collects, analyzes and uses student-level data as a vital tool for accountability, policy-making, and consumer choice. A privacy-protected system would not include individually identifiable information such as student names or Social Security numbers at the federal level. Such a system would allow policymakers and consumers to evaluate the performance of institutions by determining the success of each institution's students without knowing the identities of those students. It is essential for policymakers and consumers to have access to a comprehensive higher education information system in order to make informed choices about how well colleges and universities are serving their students, through accurate measures of individual institutions' retention and graduation rates, net tuition price for different categories of students, and other important information. Right now, policymakers, scholarly researchers, and members of the public lack basic information on institutional performance and labor market outcomes for postsecondary institutions. This is particularly true for measuring outcomes from the work of those institutions that serve the growing proportion of nontraditional students who do not begin and finish their higher education at the same institution within a set period of time.

Examples of Student Learning Assessments

The Collegiate Learning Assessment

Among the most comprehensive national efforts to measure how much students actually learn at different campuses, the Collegiate Learning Assessment (CLA) promotes a culture of evidence-based assessment in higher education. Since 2002, 134 colleges and universities have used the exam, which evaluates students' critical thinking, analytic reasoning, and written communication using performance tasks and writing prompts rather than multiple choice questions. Administered to freshmen and seniors, the CLA allows for comparability to national norms and measurement of value added between the freshman and senior years. Additionally, because the CLA's unit of analysis is the institution and not the student, results are aggregated and allow for inter-institutional comparisons that show how each institution contributes to learning. For more information, visit www.cae.org/cla.

The National Survey of Student Engagement and the Community College Survey of Student Engagement

Administered by the Indiana University Center for Postsecondary Research, the National Survey of Student Engagement (NSSE) and its community college counterpart, the Community College Survey of Student Engagement (CCSSE), survey hundreds of institutions annually about student participation and engagement in programs designed to improve their learning and development. The measures of student engagement - the time and effort students put into educational activities in and out of the classroom, from meeting with professors to reading books that weren't assigned in class - serve as a proxy for the value and quality of their undergraduate experience. NSSE and CCSSE provide colleges and universities with readily usable data to improve that experience and create benchmarks against which similar institutions can compare themselves. With surveys from several million students already compiled, these instruments provide a comprehensive picture of the undergraduate student experience at four-year and two-year institutions. Results from NSSE and CCSSE, which are publicly reported, can provide institutions and external stakeholders data for improving institutional performance, setting accountability standards, and strategic planning. For more information, visit http://nsse.iub.edu.

The National Forum on College-Level Learning

The National Forum on College-Level Learning has been called "the first attempt to measure what the college educated know and can do across states." Piloted in 2002 across Illinois, Kentucky, Nevada, Oklahoma, and South Carolina, the study collected data on student learning using multiple assessment instruments already in use or widely available such as the National Adult Literacy Survey, the Collegiate Learning Assessment (for four-year colleges) or WorkKeys (for two-year colleges), and graduate admissions exams. Results from these assessments provide states comparable information on how their colleges and universities contribute to student learning and identify challenges such as performance gaps and inconsistent teacher preparation. Comparable assessment also allows states to identify best practices, providing information useful in creating policy and programs that will improve the states' intellectual capital. For more information, visit http://curry.edschool.virginia.edu/centers/collegelevellearning.

- The philanthropic community and other third-party organizations are urged to invest in the research and development of instruments measuring the intersection of institutional resources, student characteristics, and educational value-added. Tools should be developed that aggregate data at the state level and that also can be used for institutional benchmarking.

Postsecondary education institutions should measure and report meaningful student learning outcomes.

- Higher education institutions should measure student learning using quality-assessment data from instruments such as, for example, the Collegiate Learning Assessment, which measures the growth of student learning taking place in colleges, and the Measure of Academic Proficiency and Progress, which is designed to assess general education outcomes for undergraduates in order to improve the quality of instruction and learning.
- The federal government should provide incentives for states, higher education associations, university systems, and institutions to develop interoperable outcomes-focused accountability systems designed to be accessible and useful for students, policymakers, and the public, as well as for internal management and institutional improvement.
- Faculty must be at the forefront of defining educational objectives for students and developing meaningful, evidence-based measures of their progress toward those goals.
- The results of student learning assessments, including value-added measurements that indicate how much students' skills have improved over time, should be made available to students and reported in the aggregate publicly. Higher education institutions should make aggregate summary results of all postsecondary learning measures, e.g., test scores, certification and licensure attainment, time to degree, graduation rates, and other relevant measures, publicly available in a consumer-friendly form as a condition of accreditation.
- The collection of data from public institutions allowing meaningful interstate comparison of student learning should be encouraged and implemented in all states. By using assessments of adult literacy, licensure, graduate and professional school exams, and specially administered tests of general intellectual skills, state policymakers can make valid interstate comparisons of student learning and identify shortcomings as well as best practices. The federal government should provide financial support for this initiative.
- The National Assessment of Adult Literacy (NAAL), should be administered by U.S. Department of Education at five- instead of ten-year intervals. The survey sample should be of sufficient size to yield state-by-state as well as national results. The NAAL should also survey a sample of graduating students at two and four-year colleges and universities and provide state reports.

- Accreditation agencies should make performance outcomes, including completion rates and student learning, the core of their assessment as a priority over inputs or processes. A framework that aligns and expands existing accreditation standards should be established to (i) allow comparisons among institutions regarding learning outcomes and other performance measures, (ii) encourage innovation and continuous improvement, and (iii) require institutions and programs to move toward world-class quality relative to specific missions and report measurable progress in relationship to their national and international peers. In addition, this framework should require that the accreditation process be more open and accessible by making the findings of final reviews easily accessible to the public and increasing public and private sector representation in the governance of accrediting organizations and on review teams. Accreditation, once primarily a private relationship between an agency and an institution, now has such important public policy implications that accreditors must continue and speed up their efforts towards transparency as this affects public ends.

4. With too few exceptions, higher education has yet to address the fundamental issues of how academic programs and institutions must be transformed to serve the changing needs of a knowledge economy. We recommend that America's colleges and universities embrace a culture of continuous innovation and quality improvement by developing new pedagogies, curricula, and technologies to improve learning, particularly in the area of science and mathematical literacy.

- The Fund for the Improvement of Postsecondary Education (FIPSE) should be revitalized and its funding increased. Its original mission of promoting improvement and innovation in higher education needs to be reenergized to sustain and enhance innovation in postsecondary education. The commission recommends that FIPSE prioritize, disseminate, and promote best practices in innovative teaching and learning models as well as the application of high-quality learning-related research in such rapidly growing areas as neuroscience, cognitive science and organizational sciences.
- An additional purpose of revitalizing FIPSE would be to encourage broad federal support of innovation in higher education from multiple agencies (Departments of Education, Energy, Labor, Defense, and Commerce; the National Science Foundation; the National Institutes of Health; and the National Aeronautics and Space Administration) in order to align and coordinate federal investment of innovation in higher education.
- Institutions should harness the power of information technology by sharing educational resources among institutions, and use distance learning to meet the educational needs of rural students and adult learners, and to enhance workforce development. Effective use of information technology can improve student learning, reduce instructional costs, and meet critical workforce needs. We urge states and institutions to establish course redesign programs using technology-based, learner-centered principles drawing upon the innovative work already

being done by organizations such as the National Center for Academic Transformation. Additionally, we urge institutions to explore emerging interdisciplinary fields such as services sciences, management and engineering and to implement new models of curriculum development and delivery.

- The commission encourages the creation of incentives to promote the development of information technology-based collaborative tools and capabilities at universities and colleges across the United States, enabling access, interaction, and sharing of educational materials from a variety of institutions, disciplines, and educational perspectives. Both commercial development and new collaborative paradigms such as open source, open content, and open learning will be important in building the next generation learning environments for the knowledge economy.

Innovation in Curriculum Development and Program Delivery

Salt Lake City-based Neumont University is educating the most sought-after software developers in the world. Neumont's curriculum is project-based and focuses on the skills most valued by today's employers. The institution's unique instructional approach is built on a project-based, experiential foundation that incorporates the tools and technologies important to the industry. Students learn both the theory of computer science and then apply that theory in real-world projects, initially mentored by faculty, and ultimately mentored by other senior students in peer-to-peer relationships. Neumont offers an accelerated program; in about 28 months graduates can earn a Bachelor of Science in computer science degree; IBM, .NET and other leading industry certifications; and a digital portfolio of projects. For more information, visit www.neumont.edu.

5. America must ensure that our citizens have access to high quality and affordable educational, learning, and training opportunities throughout their lives. We recommend the development of a national strategy for lifelong learning that helps all citizens understand the importance of preparing for and participating in higher education throughout their lives.

- The commission encourages institutions to expand their reach to adults through technology such as distance learning, workplace learning, and alternative scheduling programs.
- The secretary of education, in partnership with states and other federal agencies, should develop a national strategy that would result in better and more flexible learning opportunities, especially for adult learners. The comprehensive plan should include better integration of policy, funding and accountability between postsecondary education, adult education, vocational education, and workforce development and training programs. Emphasis should be placed on innovation incentives, development of tailored, new delivery mechanisms, ability to transfer credits among institutions easily (subject to rigorous standards designed to ensure educational quality), and the ability to acquire credits linked to skill certifications that could lead to a degree. The plan should include specific recommendations for legislative and regulatory changes needed to create an efficient, transparent and cost-effective system needed to enhance student mobility and meet U.S. workforce needs.

6. The United States must ensure the capacity of its universities to achieve global leadership in key strategic areas such as science, engineering, medicine, and other knowledge-intensive professions. We recommend increased federal investment in areas critical to our nation's global competitiveness and a renewed commitment to attract the best and brightest minds from across the nation and around the world to lead the next wave of American innovation.

- The commission supports increasing federal and state investment in education and research in critical areas such as the STEM fields, teaching, nursing, biomedicine, and other professions along the lines recommended by President George W. Bush's American Competitiveness Initiative; *Rising Above the Gathering Storm*, published by the National Academies' Committee on Science, Engineering, and Public Policy; and the National Innovation Initiative by the Council on Competitiveness.
- The administration should encourage more research collaboration, multi-disciplinary research and curricula, including those related to the growing services economy, through existing programs at the Department of Education, the National Science Foundation, the Department of Defense, and the Department of Energy's Office of Science.
- The need to produce a globally literate citizenry is critical to the nation's continued success in the global economy. The federal government has recently embarked on an initiative to dramatically increase the number of Americans learning critically needed foreign languages from K–16 and into the workforce. Higher education, too, must put greater emphasis on international education, including foreign language instruction and study abroad, in order to ensure that graduates have the skills necessary to function effectively in the global workforce.
- In addition to these competitiveness trends, the racial and ethnic diversity of our citizens is also changing. The U.S. must respond with public policies that encourage and channel capable students from diverse populations into the health care pipeline to become doctors, nurses, dentists, public health officers and related health professionals and similarly into the pipelines of other STEM professions. Two-year and four-year colleges should expand partnerships that encourage the progression of low-income and minority students through STEM fields, teaching, nursing, biomedicine, and other knowledge-intensive fields.
- In an effort to retain the best and brightest students and professionals from around the world, the federal government must address immigration policies specifically aimed at international students. The commission recommends that these international students who graduate with an advanced STEM degree from a U.S. college or university should have an expedited path to an employer-sponsored green card and also be exempted from the numerical cap for green cards. The commission also recommends eliminating the requirement that in order to receive a student visa, all students must prove that they have no intent to remain in the United States after graduating. After all, talented graduates with sought-after advanced training represent precisely the kind of intellectual capital our nation needs.

CONCLUSION

In short, the commission believes it is imperative that the nation give urgent attention to improving its system of higher education.

The future of our country's colleges and universities is threatened by global competitive pressures, powerful technological developments, restraints on public finance and serious structural limitations that cry out for reform.

Our report has recommended strategic actions designed to make higher education more accessible, more affordable, and more accountable, while maintaining world-class quality. Our colleges and universities must become more transparent, faster to respond to rapidly changing circumstances and increasingly productive in order to deal effectively with the powerful forces of change they now face.

But reaching these goals will also require difficult decisions and major changes from many others beyond the higher education community.

The commission calls on policymakers to address the needs of higher education in order to maintain social mobility and a high standard of living. We call on the business community to become directly and fully engaged with government and higher education leaders in developing innovative structures for delivering 21st-century educational services—and in providing the necessary financial and human resources for that purpose.

Finally, we call on the American public to join in our commitment to improving the postsecondary institutions on which so much of our future—as individuals and as a nation—relies.

Working together, we can build on the past successes of U.S. higher education to create an improved and revitalized postsecondary system that is better tailored to the demands, as well as the opportunities, of a new century.

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