

## Code of Conduct

### Air Force Academy adopts changes in response to 2003 sexual assault scandal

By Kathy Witkowski

COLORADO SPRINGS

**T**HE DAY BEFORE she enrolled at the United States Air Force Academy in Colorado Springs, Mryamn Ruth wrote an entry in her new journal, a gift from a friend.

In neat block letters, the former high school valedictorian and martial arts expert (she holds a second-degree black belt in Tae Kwan Do) listed the reasons she had chosen the academy over other institutions of higher education: 1) Love of country; 2) Drive to service; 3) Great education; 4) It's a challenge; 5) Astronautical engineering.

"No matter what happens," Mryamn (pronounced Miriam) added in a note below, "I'm walking across that stage in four years with an astronautical engineering degree."

The slender, self-assured 18-year-old from Oklahoma City is beginning her career at USAFA at a time of radical change, prompted by a sexual assault scandal that hit the academy like a sledgehammer.

In the spring of 2003, the public learned that dozens of women had alleged that they had been sexually assaulted or raped while enrolled at the academy over the past decade; many of them said their claims had been ignored or mishandled. The scandal led to the replacement of USAFA's top

***Between 1993 and 2002, 142 cadets alleged that they were sexually assaulted or raped, according to an Air Force report released in June 2003.***

officials and an overhaul of many of its policies. It also made headlines in national publications ranging from the *New York Times* to *Vanity Fair* (which titled its piece, "Code of Dishonor").



ROD SEARCEY FOR CROSSTALK

***Hoping to undo the damage done by the 2003 sexual assault scandal, the Air Force Academy has adopted new rules and procedures.***

The academy suffered another black eye last spring, when dozens of freshman cadets were suspected of cheating on a basic exam. Nineteen cadets were subsequently found to have violated the honor code: seven others resigned.

Despite the publicity, a record 249 wo-

men entered the academy along with Mryamn; they make up 19 percent of the class of 2008. Mryamn, who wants to be the first woman on Mars, didn't even apply anywhere else. She is putting her faith in herself and in the new USAFA leadership, ***continued on page 15***

## Political Football

### Partisan politics could determine management of Los Alamos laboratory

By Carl Irving

LOS ALAMOS, NEW MEXICO

**S**CIENTISTS at this national laboratory, many of them helping to maintain and protect the world's largest nuclear stockpile, tensely await word whether a university in Texas or California will manage them a year from now.

They expect to find out as soon as the outcome of the November 2 presidential

***The presidential election likely will determine whether or not Texas campuses replace the University of California as manager of Los Alamos national laboratory.***

election is known, even though the present contract with the University of California, first and only manager for 60 years, runs through next September.

Interviews in the swarm of offices and

research labs at this isolated site, 34 miles northwest of Santa Fe and 7,400 feet above sea level, found virtual unanimity that the name of the next president will determine whether or not Texas campuses replace UC as manager. That judgment was confirmed by scientists and officials not connected with the lab, though their comments were mostly not for attribution.

A Bush victory, according to this consensus, means the U.S. Department of Energy (DOE) will opt for the University of Texas and/or Texas A&M University as co-managers, with a private enterprise. And a Kerry win, it is expected, means that UC will be retained as lab manager, also in partnership with a for-profit business.

"It's scary to think decisions about national security will be affected by national politics," said George Blumenthal, chairman of the UC faculty academic senate. "The reality is everyone seems to think that it will."



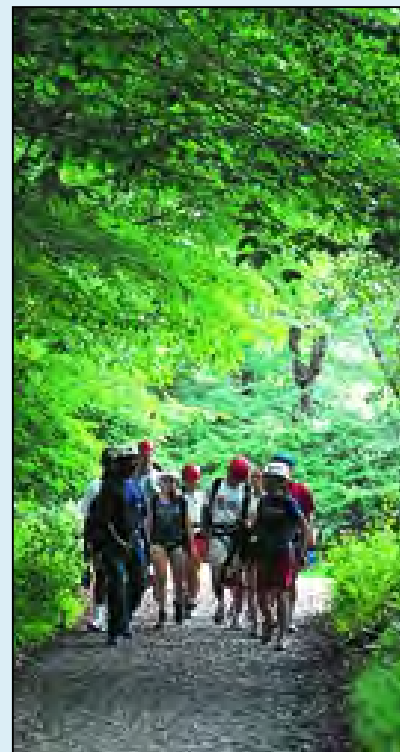
LOS ALAMOS NATIONAL LABORATORY

***The most important mission at Los Alamos is maintenance of an enduring nuclear stockpile, says lab official Donald J. Rej.***

This outlook gained adherents after recent widely publicized allegations of security problems at the lab. Virtually all operations were shut down indefinitely on July 16, and 23 employees ultimately were suspended. DOE Secretary Spencer Abraham said employees had engaged in "widespread disregard of security procedures." Representative Joe Barton, Republican from Texas and chairman of the House Energy and Commerce Committee, promptly traveled to Los Alamos, praised the DOE for moving "aggressively," and called for an

***continued on page 4***

## In This Issue



MIKE PALCO, BLACK STAR, FOR CROSSTALK

**H**ALF OF PRINCETON University's freshman class began the year with a week-long outdoor orientation program. After a soggy, trouble-plagued start, they did just fine. (See page 8.)



# AN INTERVIEW

## MARK WARNER

*Mark Warner became governor of Virginia in January 2002. This summer he was chosen by his colleagues as chairman of the National Governors Association. Governor Warner also serves as Chairman of the Education Commission of the States, a national nonpartisan policy organization. The interview was conducted by Patrick M. Callan, president of the National Center for Public Policy and Higher Education.*

**Patrick M. Callan:** Virginia is one of a handful of states that has made a significant financial investment in higher education. How did you come to make higher education a high priority in these very tight times for state budgets?

**Mark Warner:** In Virginia this new investment was absolutely critical. It was close to \$270 million for our two-year and four-year public institutions, and our Tuition Assistance Grant program for students attending private colleges. This was essential because Virginia's nationally recognized reputation for having great public institutions of higher learning was in jeopardy. And we have been dealing with the same budget crisis that other states have been dealing with.

Colleges and universities traditionally are one of the areas where the legislatures and governors cut (funding), because they can at least make up a bit of the shortfall with tuition increases. But that can only go so far. In Virginia, I believe we were on the verge of losing some of the national stature that our universities have enjoyed.

*It is our goal to make sure that every high school student in Virginia can earn up to a full semester's worth of fully transferable college credit during high school.*

So, luckily, with the bipartisan tax reform, we were able to make a significant step in reinvesting in higher education. But that is only the first step.

**PC:** What do you see as the other steps? What comes next?

**MW:** The next step is to enter into a debate over the coming months and into our General Assembly session that starts in January about what should be the future of higher education in Virginia over the next decade. This debate is spurred by the fact that we have close to 60,000 additional students who want to attend our

higher education institutions before the end of the decade, and we just don't have the space right now.

We have been increasing tuition costs. Our top-tier universities—University of Virginia, Virginia Tech, and William and Mary—have asked for a dramatic restructuring of their relationship with the state. And they have proposed to become charter universities, which would give them more tuition flexibility and oversight flexibility in terms of how they operate their campuses, build their facilities, and compensate their faculty and staff.

While the proposal has a great deal of merit, if we are going to enter into this renegotiation, it needs to take into account how we are going to meet the Commonwealth's overall needs for higher education in terms of access, affordability, completion rates and participation. And that is what we hope to do over the coming months.

**PC:** How will Virginia address the need to accommodate 60,000 additional students in a decade's time?

**MW:** One piece which has been not only a focus here in Virginia, but hopefully will be a focus across the nation, is to redesign the American high school with a particular emphasis on the senior year. You increase the connectivity between secondary education and postsecondary. In Virginia we have recently signed an articulation agreement between every two-year and four-year, public and private university in the state. Sixty-three out of the 65 universities have signed this agreement which will establish a common set of courses that a high school student can take—whether it is through Advanced Placement or dual enrollment at a community college. Those courses will not only be accepted by all of these 63 universities, but will actually count towards the degree requirement.

It is our goal to make sure that every high school student in Virginia can earn up to a full semester's worth of fully transferable college degree credit during high school. In Virginia, that would save a student and his family about \$5,000 at a public university, and substantially more at a private university, by decreasing the number of semesters needed to graduate from eight to seven. It would also make the



DENNIS BRACK, BLACK STAR FOR CROSSTALK

transition between secondary and post-secondary education easier.

It not only saves money, it frees up additional seats or spaces at our four-year institutions, because this articulation agreement makes it easier to transfer from community college into four-year schools. And for certain first-generation college goers, if they can get some college credits under their belt in high school, it may increase their participation in higher education.

That is one area we are looking at.

The second has obviously got to be financial assistance. We have a goal of providing at least 50 percent of the financial needs of all of our students. Some universities, like the University of Virginia, have gone much further on their own to be able to try to help low- and moderate-income students, either with grants, or with a combination of grants and loans. I applaud that, but I also know that we must make sure that we are not only granting this student aid, but that we are maintaining the percentage of students with need who are getting into our colleges and universities. If we only accept a few students with need, then, you know, we can take care of all those needs. We need to make sure that we continue to broaden the access for low- and moderate-income students, and for minority students.

A third thing is to challenge our universities to not simply look at how many students enroll in college, but how many students in fact graduate, and how we can increase those numbers without lowering quality. I have challenged the Virginia system of higher education to move from granting 47,000 degrees, which they did last year, to 57,000 by the end of the decade. If we can grant another 10,000 degrees by the end of the decade and keep those people working in Virginia, the added earning power alone will make up for the necessary additional state investments that will need to be made in higher

education.

Transition to college, affordability and access, and output in terms of degrees granted without diminishing the quality: These are all areas that we are aggressively addressing.

**PC:** You've said at Education Commission of the States and other national meetings that the "K-16" ideas represent more rhetoric than reality. What can be done to put some meat on these bones.

**MW:** Well, I am someone who came from the high-tech world, and more specifically the venture capital world, where perhaps

*We have a goal of providing at least 50 percent of the financial needs of all of our students.*

we could be criticized for acting too quickly at times. But I find that the reverse is true in education. There has to be a happy medium here. I feel particular constraints in Virginia with the one-term governorship. I am very focused on putting forward initiatives that can actually show results during these four years.

So the notion of making sure that every high school in Virginia is offered an opportunity to provide a full semester's worth of college credit—not simply the isolated pilot programs, or the governor's schools or the well-performing schools—but making this available in every school in the course offerings. Equally important as the course offerings is making sure that these courses are accepted towards the degrees. And we have accomplished that in Virginia.

With regard to the challenge of moving from 47,000 to 57,000 degrees, the universities are coming back with plans for in-

creasing those output numbers. And, in effect, this is a quid pro quo: We are fighting for additional money that is needed for higher education; they have got to show how they are going to increase their output.

Another area where we have seen some significant improvement, but have still got a long way to go, is research and development in our colleges and universities. Virginia has got a great system, but on a relative basis in terms of university-sponsored R&D, we are in the \$600 million range. I have challenged our colleges and universities to get above \$1 billion be-

***We need to make sure that we continue to broaden the access for low- and moderate-income students, and for minority students.***

fore the end of the decade. I think that is very doable.

Virginia does a little better when you look at the research done in our federal labs, but I think our colleges and universities can do more. To try to focus our colleges and universities, we brought in a series of national experts to do an outside peer review of the status of our research work. Where should we focus our research efforts? For instance, we don't need four different duplicative nanotechnology efforts going on in Virginia. With this outside review, hopefully our focus and emphasis on research will again show real discernable results.

Finally, coming back to our high school reform initiative, I think that is particularly significant not only because it makes the senior year of high school more meaningful, but because it really does offer a cost benefit, and a benefit in terms of the space available at our institutions.

When you look at some of the other reforms that took place in the mid to late '90s—particularly in the south with the HOPE Scholarship-type programs, great initiatives—many of them, especially those that were funded entirely by lottery proceeds, are coming up against a financial wall. This Early College Scholars program in many ways is a similar kind of approach. It is merit-based; it is offered to every student in Virginia; and it has a significant financial value at about \$5,000. But because we can deliver this course work through AP or dual enrollment, it is significantly cheaper. In many ways, it actually saves money to the state as well. It may cost a little bit more for an AP exam or to have the state pick up the cost of a community college course. But that is still significantly less than the subsidy the state provides for every student at a four-year institution in Virginia.

**PC: How long is it going to take to get these opportunities in place for every high school senior in Virginia?**

**MW:** We had 6,500 students participate last year. There were about 78,000 seniors in our high schools, so we were close to ten percent. I would like to see that number more than double this year. And with the efforts we've made, I won't be satisfied unless we see that kind of return.

**PC: You've stated that Virginia has had to go through a difficult exercise of tax restructuring to be able to pay for the investments in higher education and other state priorities. Do you expect that other states will have to take similar steps?**

**MW:** Yes. As painful as it was in Virginia, we went through a kind of straight-forward debate with the people of the state. What do you expect from state government, and what are you willing to pay? And how do we make sure that the way we collect those revenues, taxes, is fair?

In our tax reform agenda, we didn't create a series of new programs. We simply asked how we can pay in a fairer way for what Virginians have come to expect in terms of law enforcement, K-12 education, higher education, and some level of Medicaid and healthcare reimbursement. A remarkable thing happened. We forged a broad-based bipartisan coalition that was made up, not only of education advocates and business advocates, but environmentalists, law enforcement supporters, healthcare workers. And a wide swath of Virginia's population turned out, in some cases in record numbers, to be supportive of this agenda.

I think it is going to happen in other states because most states created long-term structural imbalances during the boom years of the late '90s, surrounding the internet frenzy. That structural imbalance was caused by creating massive new government entitlement programs or by substantially cutting revenues.

In Virginia we took the revenue-cutting proposal. It doesn't take a fiscal expert to realize that when you get back to normal revenue growth, and you cut revenues more than ten percent, as we did in Virginia, even with the growing economy you are not going to be able to provide the same level of service. So, while certain states are grasping at (revenues from legalized) gambling, or hoping to patch together one more budget, ultimately I think most states are going to have to have this kind of debate about revenues and about what level of services their people expect.

**PC: The message of *Measuring Up 2004* is that college participation rates in the U.S. have been flat for a decade and that college completion rates have improved only slightly. How important is this? Is it mainly a federal issue, or a state issue?**

**MW:** The wake-up call that the *Measuring Up* study sounded was that this is the first decade, I would imagine, in recent American history, where we didn't see an increase in college participation and completion. That is remarkable. And when we look at our competitors around the world, we see that they still made significant

gains. Thirty years ago, in the aftermath of the G.I. Bill, our country was viewed as the land of educational opportunity. By comparison, the U.K. system was viewed as a more stultified tracking system: Unless you had the family connections, you weren't getting into the university.

That has changed. That has almost flipped, because here in the United States we now see our participation and completion rates flat, and also a declining percentage of minorities and low-income students getting access to higher education, which is vital to the American dream. As a first-generation college graduate, I wouldn't be sitting here today if there had not been programs and initiatives in place that made college both possible and affordable for me through grants and loans. And we are seeing, with the rising tuition costs, with state support for higher education being cut back in virtually every state, with increasing costs to attract quality faculty and to promote research at our universities, that we are going to need to make that investment. And I am not sure it is going to be possible for that investment to come from financially strapped states alone.

I think it is a national imperative. It is a truism, but the idea that you can build it anywhere and that knowledge-based jobs are going to go to where the knowledge-based workers are, is absolutely true. As governor, I take very seriously my job as chief economic development officer, and the first question people ask me is, how well educated is the workforce. They want to know where the colleges and community colleges are if they are moving to a

***I have challenged the Virginia system of higher education to move from granting 47,000 degrees, which they did last year, to 57,000 by the end of the decade.***

community. And if we see our industrial competitors around the world surpassing us, we need more national focus.

I wish these issues were at a higher level in the presidential debate. We look at higher education, it seems to me, often times from the federal angle, from a federal perspective, only on the basis of particular programs—you know, what level of funding is one program or another going to receive. There has not been the kind of full-fledged federal discussion of what we want from higher education in our country, and I think that discussion is long overdue. And hopefully, the *Measuring Up* study will serve as the catalyst that policymakers, educators and, perhaps most importantly, the business leadership of America, will use to launch this national conversation. ♦



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## LOS ALAMOS from page 1

FBI investigation.

The new lab director, retired Vice Admiral George "Pete" Nanos, joined in the chorus of condemnation. In closed sessions, he used words such as "butt-heads" and "cowboys" in accusing workers of carelessness, according to scientists who were

***"We consider the Los Alamos contract to be an exciting opportunity for the University of Texas system."***

**—CHANCELLOR MARK YUDOF**

there. However, a lab spokesman said recently that the facilities are likely to be almost entirely back in operation before November.

Following the shutdown, Abraham's agency formally added the two Texas university systems to its list of potential prime contractors. Texas' senior senator, Kay Bailey Hutchinson, joined by several Texas congressmen, "actively encouraged UT and A&M to bid," said a well-informed source. "The openness for change is palpable at the DOE." Long-awaited details from DOE on how to go about the formal bidding process now are expected some weeks after the election.

Los Alamos is one of three national laboratories managed for the federal government by the University of California. UC is expected to retain management contracts for the other two—in Berkeley and in Livermore, 50 miles southeast of San Francisco. But stewardship of Los Alamos, where the first atomic bombs were developed 60 years ago, is uncertain.

At issue is a lab with an annual budget in excess of \$2 billion, more than 10,000 workers, and an annual payroll that exceeds a billion dollars. Scientists here and elsewhere generally agree the lab plays a crucial role in American and world security, because of its collective expertise in research and working aspects of nuclear weaponry, here and abroad. UC is paid between \$14 million and \$15 million a year to

manage the lab but says it makes no profit from the arrangement.

About a third of the Los Alamos technical staff are physicists, another one fourth are engineers, and the rest include chemists, materials scientists, mathematicians, and computational, biological and geo-scientists. Many universities other than UC are involved in projects—including the two in Texas—but UC research predominates, according to Donald J. Rej, acting program director for science and technology. Staff scientists reflected varying degrees of uncertainty, fear and frustration over recent developments, as criticisms about lab operations flowed in.

Criticism came from many directions. UC's S. Robert Foley, vice president for laboratory management (and, like Nanos, a former Navy admiral) told the regents in July that "there has been a lack of accountability, virtually a sense of entitlement that developed over the years in the culture at the laboratory."

Inspections subsequently found that the first items to be publicized as missing—two security disks—might not be missing after all. But the shutdown continued amid reports of other missing items, including 19 storage devices and classified e-mails, contents unknown, which had been sent out on the public internet. In August, five employees were suspended after an avoidable misuse of a laser beam had affected the eyes of a student intern.

By September, four employees were fired and a fifth had resigned. Seven others got reprimands, demotions and salary cuts. Meanwhile, a DOE sub-unit, the National Nuclear Security Agency, announced it would move all weapons-grade nuclear material from the part of the Los Alamos lab that has been the subject of security concerns to a Nevada test site.

Last summer's publicity revived years of controversy over security that began with the 1999 arrest of staff engineer Wen Ho Lee, who was charged with spying for China. After nine months in solitary confinement, Lee pleaded guilty to a single charge of mishandling nuclear secrets. Over the next three years, suspicions about security at Los Alamos began to fade, but last summer produced the newest and most controversial moments.

These events led *Nature*, the internationally prominent science journal, to observe that "the plagues afflicting Los Alamos National Laboratory in New Mexico are beginning to reach Biblical proportions."

It would explain, said the August 12 editorial, why the two universities in "the politically well-connected state of Texas... have expressed an interest, and why Representative Barton visited the lab and called for an FBI investigation." The lockdown, it said, has had "a profoundly negative impact on laboratory morale, which was already beaten down by the prospect of staff losing their valued academic affiliations with the University of California... It is intolerable that a national re-

source as important as Los Alamos should be allowed to languish for years as a political football, losing people and prestige with every bounce."

During interviews, several scientists here cited the *Nature* editorial as reflecting their views.

"I don't want to say the sky is falling, but I believe that's true," said Michelle A. Espy, 34, a staff biophysicist, who has worked here for 13 years. Her lab, like others, was shut down indefinitely in July. She and her colleagues had been in a race of international interest against researchers at Berkeley to develop improved brain-imaging technologies. Present MRI scans

can only look at brain anatomy; the new technique might simultaneously find how the brain is functioning.

"The research was so exciting, we were really on fire," Espy said. "Only two places in the world were going down this path." Now she fears the National Institutes of Health will cancel its three-year grant to complete the research, leaving the field to Berkeley. "I really love this place, and most scientists would agree what a great place it is. But we fear what will happen to us," said Espy, who grew up in southern California and got her Ph.D. at the University of Minnesota. "Most of us my age are getting their resumes ready."

The litany of widely publicized problems here has left the University of California officially undecided about competing for contract renewal. That stand might have been reinforced after the *Los Angeles Times*, California's most widely read newspaper, editorialized on August 2 that the UC decision "should be a no-brainer. By bowing out, UC would save itself the millions needed to make a bid and perhaps lessen national security threats."

Two days later, during a Los Alamos visit, UC President Robert C. Dynes said his system had not yet decided whether to invest in a bid to renew the contract. But seven weeks later, Dynes told a UC Board of Regents meeting that "I'd rather have some influence on the decisions than be a bystander." He was "fully committed to restore confidence that the nation has somewhat lost in Los Alamos."

California's senior U.S. senator, Dianne Feinstein, remained steadfastly silent on the issue. "We've been told that if we don't bid with an industrial partner, we might as well not apply," said a top-ranking UC official. Foley, Dynes' lab deputy, said talks had been "far down the road" with aerospace firm Lockheed Martin about a partnership, until the latter had "backed away."

The sole strongly worded argument for contract renewal came from Dynes' advisory council, a mix of university and industrial executives, headed by William L. Friend, a member of the governing board of the National Research Council, and former executive vice president and director of the Bechtel Group, Inc.



LOS ALAMOS NATIONAL LABORATORY

***The Los Alamos National Laboratory covers 40 square miles on top of several mesas, northwest of Santa Fe.***

In an interview, Friend said the council was unanimous on this, because "UC is critical to national security, for world-class research at Los Alamos and Livermore." Los Alamos, he said, had "become almost a whipping post. It was hyped in the media. (Yet) statistics on safety there are quite good."

While UC hesitates, the two Texas universities have been active in seeking other research agreements this year with large national labs. Early last summer, Texas A&M submitted a formal bid to co-manage the newly organized Idaho National Laboratory, which specializes in engineering and energy research. The University of Texas had previously signed an agreement with another engineering center, the Sandia National Laboratories in Albuquerque, New Mexico, for "collaborative research and other activities," including faculty, staff and student exchanges. Sandia does federally sponsored research, which a spokesman said involves the military, homeland security, renewable energy, the environment and "U.S. economic competitiveness."

Los Alamos and Sandia together employ "some of the best scientists in the

***"We hope that President Bush is not playing politics. but the elections could well play a role."***

**— NEW MEXICO HOUSE  
SPEAKER BEN LUJAN**

world and are among the state's main economic drivers," accounting for about 40 percent of all research in New Mexico, said Rick Homans, who heads Governor Bill Richardson's economic development unit.

Juan Sanchez, vice president for research at the UT Austin campus, confirmed that his system was "considering" a bid to manage Los Alamos. Earlier, UT system Chancellor Mark Yudof had announced that he was ready to explore collaboration with Texas A&M as co-manager at Los Alamos. "We consider the Los Alamos



DAVID TOERGE, BLACK STAR, FOR CROSSTALK

***University of California President Robert C. Dynes favors renewal of the Los Alamos contract.***



contract to be an exciting opportunity for the UT system, given the science and engineering strengths at the academic and health science institutions across the system,” Yudof said in a news release.

“Texas A&M has strong ties to the national security history of the United States,” said Lee Peddicord, vice chancellor for federal relations for the A&M system. Of the students at the main campus in

***“There has been a lack of accountability, virtually a sense of entitlement that developed over the years in the culture at the laboratory.”***

**—S. ROBERT FOLEY**

College Station, 2,200 are enrolled in the undergraduate uniformed corps, and the university is the largest provider to the U.S. officer corps after the service academies. Texas A&M also has the “largest nuclear engineering department in the nation,” Peddicord said. The campus historically has many close ties to Los Alamos in both research programs and graduate student training, he added. Peddicord confirmed that his campus has been “in touch” with UT about sharing the Los Alamos management, along with private industry.

In past years, New Mexico politicians have solidly supported the UC connection, largely because of the jobs it provided, but also to escape too tight an embrace from Texas. Officials in Santa Fe say that grudge has roots going back to a bloody conflict during the Civil War, and earlier differences over Hispanic heritage. They still quote a long-ago Governor Peralta, who supposedly observed, with regret, that his state was “so far from Mexico, so close to Texas.”

New Mexico’s two senators, both members of the Energy Committee, have consistently supported the UC management contract, but one of them, Republican Pete Domenici, the committee chairman, backed away a bit from this view after the security issues arose last summer. The other senator, Jeff Bingaman, a Democrat, said in an interview that while what happened at the lab was a cause for concern, he hoped UC would bid. The lab, he said, “benefited greatly from having UC as contractor,” allowing it to “attract and retain top scientists and engineers.”

Democratic Governor Richardson’s public affairs office ignored requests for an interview, and would not respond to questions about his views on the Los Alamos contract. But two fellow Democrats and state legislators, House Speaker Ben Lujan and Senator Phil Griego, co-chairman of the legislature’s Los Alamos oversight committee, said the governor had openly favored renewing the UC contract. “The governor made his support public in open session,” Lujan said. “We hope that President Bush is not playing politics,” he added, “but the elections could well play a role.”

Last spring, before the latest furor over security issues at the lab, a UC faculty survey on whether to renew the contract found three to one in favor. But some question the poll’s significance, because only 26 percent of the faculty bothered to vote. “It’s no longer a hot-button issue,” said one senior UC official. “The passion is gone.”

At the September Board of Regents meeting, Berkeley nuclear engineering professor William E. Kastenbergh strongly supported renewing the ties, citing evidence of extensive joint research: In the past 14 years, he said, UC faculty and students, jointly with lab scientists and engineers, have published 2,080 articles in scientific journals and conference papers. Last year, the lab had 131 ongoing research projects involving UC campuses. “Social and financial” issues should not affect deciding whether to renew the contract, Kastenbergh said. Renewal should be “in the best interest of public service.”

But UC Santa Barbara physicist Walter Kohn argued that classified war-related work was not consistent with the UC mission. All final decisions were made by the Department of Energy, not the university, said Kohn, a Nobel laureate. “It is wrong for our university to help design, develop, even manufacture, nuclear weapons,” he said. “We’re fundamentally incompatible.”

Faculty chairman George Blumenthal, an astronomer who has been at the UC Santa Cruz campus for 32 years, said in an interview that he remained “studiously neutral” about the Los Alamos contract, but added that he is “kind of shocked” by what he has read about alleged misdeeds at the lab.

Changing expectations about Los Alamos might justify a new approach, said Charles V. Shank, director of the Lawrence Berkeley National Lab for the last 15 years. “What has happened is that (in the past) Los Alamos was a weapons design lab. In the last few years, it has actually been manufacturing and producing parts for bombs, such as plutonium tips—the core of the primary stage in a weapon. Its job had been to prevent scientific surprise; today, after 60 years, it has a new role—

stockpile stewardship. If you read what’s in the newspapers and what DOE says, you see where the priorities are. They have shifted. The world has changed from the university being an asset to a liability. We’ve seen that take place,” said Shank, a professor in the physics, chemistry, electrical engineering and computer sciences departments at the adjoining Berkeley campus, who retired as lab director in September.

While Los Alamos and other national weapons labs remain very important to American security, Shank asked, “Does that play to the strengths of a university? Does UC fulfill its declared mission of public service by managing Los Alamos now that it’s being transformed...to doing weapons production?...My view is that the university is not as central (to Los Alamos) as it once was, because of its transition from scientific innovation to stewardship and archival activities. The country’s losing patience, because what matters now is rigor and discipline, not what a university’s good at—science and capability. So the university has seen the world change; the university finds it difficult to change. It’s not clear to me where we go.”

In response, acting program director Rej, a veteran physicist, said the Los Alamos lab’s mission—to maintain an enduring nuclear stockpile—needs constant work by a wide range of scientists on new kinds of instruments, not only to protect the stockpile but to prevent nuclear terrorism elsewhere in the world.

“It’s an ominous task, where the lab director goes to the secretary of energy, who goes to the president of the United States and says ‘it is safe,’ or ‘it is not safe,’” Rej said. “And there’s also proliferation and non-proliferation, a legacy of 60 years of manufacturing, waste and environmental issues. We send people all over the world to deploy devices and portable monitors.” Over the past 40 years, most of the inspectors that work for the International Atomic Energy Agency were trained at the Los Alamos, he said.

Scientists who worked here, past and present, echoed these sentiments, including Charles Keller, who worked under every director who followed the first one, Robert J. Oppenheimer. “UC is so much better than anybody else,” said Keller, who did weapons research here before heading the Los Alamos branch of the UC Institute of Geophysics and Planetary Physics.

Current promising collaborative research includes defenses against what frequently has been cited as a serious potential threat: the smuggling of dangerous nuclear weapons into ports. Devices are being developed here that might be able to scrutinize cargo containers and detect such threats. The process, called proton radiography, examines cosmic rays scattered off the containers. Such discoveries come from “clever people outside defense” who help manage security, Rej said. “It’s incredibly important, and not just in nuclear physics.” He cited the discovery

three years ago by chemists and others here of ways to detect hidden supplies of deadly anthrax.

Scientists had time to spare during the recent shutdown to display unclassified research that could some day save many lives. One example, described by Charles R. Farrar, who deals with engineering science and applications as well as weapon research, involves studies done jointly with faculty and students at UC San Diego that might promptly pinpoint damage after earthquakes affecting major bridges, such as San Diego’s Coronado or San Francisco’s Golden Gate.

Staffers such as biophysicist Espy extol the advantages of the lab’s multidisciplinary research. “Los Alamos is one of the few places in the world where you’ve got multidisciplinary chemists across the street, and the best computer scientists, and best computer science resources in the other direction,” she said. “Unlike at a university, people actually talk to each other. Here there is a real collaborative spirit.”

Dean E. Peterson, who heads the lab’s superconductivity technology center, recently directed a mix of scientists who made important discoveries, such as wires that can carry 100 times more power, and vastly more efficient fuel cells. “We’re on the cutting edge of doing things probably no one has ever done in all the world,” he said.

Like others interviewed, Peterson emphasized that UC ties make a difference:

“You couldn’t have some small university that couldn’t provide oversight or guidance with what’s going on here, while giving us the respect we need. California has that in spades. We need to have that tie with professors and students to build on collaboration that we may not have with a lesser university system. [The University of Texas and Texas A&M] are perfectly good universities, but their reputations in physics and fundamental science is tiny compared with that at UC.”

While acknowledging that much of the research carries risks, Peterson said, “We have one of the best safety records compared with anyone, in terms of lost work days.”

“Until recently, our public record has been as good as you can expect from any organization in the world,” said Albert Migliori, a top-ranking laboratory fellow, who has been here for 34 years, working on both nuclear weapons and peaceful projects.

Like others here, Migliori is concerned about who becomes the next manager. “I think the prize of running the labs...has to do with control, and which senator and which congressman can make the biggest stink over how a university system is running the lab. The UC contract is critically important to maintaining the very strong scientific credentials we really need to support nuclear weapons and defense programs—by having really smart people around, broad-based scientific talent when you need it. To keep nuclear weapons functioning, you can’t hire machinists.” ♦

*Freelance writer Carl Irving lives in the San Francisco Bay area.*

DAVID TOERGE, BLACK STAR, FOR CROSSTALK



**UC Santa Barbara physicist Walter Kohn thinks it is “wrong for our university to help design, develop, even manufacture, nuclear weapons.”**



# Preparing for Success in College

## California State University is working closely with high schools to improve English and math skills

By Kay Mills

CHULA VISTA, CALIFORNIA

**A**NN RANSBURG and Kim Armbrust, teachers in the Sweetwater Union High School District south of San Diego, are on the front line of change as their schools and others in California try to prepare students for success in college. Ransburg teaches rhetoric and writing, and Armbrust teaches math. Both have helped to develop new courses because state educators felt that too many California students were not learning how to read expository texts, or needed another math class, even though they might not major in math or in science.

For many years, students had demonstrated these weaknesses with failure rates on the California State University system's placement tests, taken by all first-time freshmen, that alarmed the Cal State Board of Trustees. In 1996, the trustees established a goal that all freshmen would be ready for college English and math by 2007. But it became clear as the years went by that too many students were still not doing well on the tests. A year ago, only 52 percent of entering freshmen passed the system's English placement test. Sixty-three percent passed the math placement test. The rest needed remediation.

Faced with thousands of freshmen needing remedial work, Cal State has launched an effort to try to identify earlier those students who should receive help, and then to assist the schools in providing it. Unless Cal State is able to offer a warning and help school districts prepare the courses students might need in order to do college work, "it's not fair to the students," said David Spence, Cal State executive vice chancellor and chief academic officer. "They've been getting B's; then they're admitted, and we're telling them they're not ready."

In an era of severe budget pressures, money is a problem. It's hard to put a dol-

lar figure on the cost of remedial courses that these students take, Spence said, but it could be as much as \$30 to \$35 million a year, in a system with more than 400,000 students.

The new courses that are being developed sometimes aren't an easy sell to either teachers or students—teachers, because they require a new mindset and new preparation; students, because either they are not courses their parents took, or they are not yet perceived as college preparatory. But "this is the type of reading students are going to do in college and for life," said Ransburg, who teaches at Bonita Vista High School, in Chula Vista. "In the past, we have been preparing kids to be mini-literature majors, reading Shakespeare and the Romantic poets," adding that she has nothing against them. "But in reality many don't go on to be English majors. They need to read in science, to read in history. They are not succeeding in college, because they cannot read critically."

"Our problem is reading—it's not writing," Spence told the Board of Trustees earlier this year. "It's a tougher nut to crack than math or writing."

There are vast discrepancies among the 23 Cal State campuses. At those with the largest freshman classes, the percentage of students who demonstrated math proficiency ranged from 80 percent at San Diego State University to 45.4 percent at Cal State Northridge. On the English test, 70 percent of San Diego State freshmen demonstrated proficiency, while only 37 percent at Northridge did so. Among schools with smaller first-year classes, scores ranged as low as 25.1 percent passing the math test, and 18.2 percent the English test (at Cal State Dominguez Hills), and 38.4 percent passing the math test, 23.5 percent the English test (at Cal State Los Angeles).

Explanations for the disparities vary: San Diego State receives far more applications than it can accept, so higher grade point averages are required for admission; Cal State campuses at Dominguez Hills, Los Angeles and Northridge have many students for whom English is not their first language or who attended high schools that might not have prepared them for college-level work.

"By connecting the Cal State's college placement standards in English and math to existing school tests, we believe we can better determine if students are ready for college," said Cal State Chancellor Charles B. Reed, when the three-year collaboration between his system, the California Department of Education, and the State Board of Education was officially unveiled last November. "The better prepared students are when they come to Cal State, the better the chances are that they will succeed and graduate."

California is not alone in this work, although Janis Somerville of the Education Trust, an expert in school-college relationships, thinks the state's effort is very special because Cal State faculty members

are working closely with K-12 schools. "It wouldn't have been possible without collaboration," she said.

Some other states, among them Colorado and Oklahoma, are using the national ACT as a statewide measurement for high school juniors so that students, parents and local school districts can see who needs additional help.

But California educators felt that existing tests, such as the ACT or the SAT, were not tied closely enough to the state's standards, which mandate what students should know in English and math. They needed their own measuring sticks, but couldn't develop an entirely new test because many Californians—especially some state legislators—thought students already were being asked to take too many standardized tests.

So, starting in 2001, Cal State faculty began to develop math and English items to add to existing tests that all public high school students take in the junior year. Designed to help high schools assess their own programs, these tests did not contain enough high-level math problems to help predict college success, said Marshall Cates, a Cal State Los Angeles professor who serves on the math test review panel. Fifteen questions, designed to measure deeper understanding of mathematics, were added to the end of the California Standards Test (CST). "If you can do these multi-step problems," Cates said of the students taking the exam, "we think they're in your workbook rather than just on the shelf—you really know how to use things."

The augmented CST English test also contains 15 additional questions and an essay. As with the extra math problems, this portion of the test is voluntary, although last spring about half of the state's high school juniors took it. Both the math and English tests measure proficiency in areas covered by the state standards. In English, for example, a student must be able to read a passage and understand what is being said in a more than superficial way, said Robert Noreen, a Cal State Northridge English professor who helped develop the questions.

If students pass the English test, they will be exempt from the Cal State placement exam that all entering freshmen must take. If they don't pass the English test, they will be advised to take some course during their senior high school year—like the one Ann Ransburg teaches—that will improve their critical reading skills.

On the math test, there are three possible results: Students who pass will be exempt from the Cal State math placement exam; those with marginal scores

may receive a conditional exemption (if they take an approved senior-year course, and pass, then they are also exempt from the placement test); students who do poorly on the CST in their junior year are advised to take another math class. Then they take the math placement test the summer before they start college to determine whether they will need a remedial course once on campus.

School and Cal State officials are hoping that students will come to see the value of the augmented CST and will take it more seriously. "Now there's something in it for the students," Cates said. "It may take a couple of [years] for the high school culture to convince them of that."

About 100 high schools across the state

**California State University has launched an effort to try to identify students who should receive help, and then to assist the schools in providing it.**

piloted the new tests in spring 2003, including those in the Sweetwater district. Last spring the augmented CST was offered to all juniors. Of the state's 400,000 juniors, some 186,000 took the English exam, and 118,200 took the math exam, surprising Cal State officials. "We thought we would be fortunate to have 100,000 take the English exam," said David Spence. "This exceeded everybody's expectation."

Last year, high school staff members did not receive the pilot program results until April, too late for counselors to advise students about anything except summer school opportunities. Cal State



**Kim Armbrust, a California high school teacher, has developed a new math course for prospective California State University students.**



**Marshall Cates, a Cal State Los Angeles mathematics professor, worked on the math test being taken by high school students bound for Cal State.**

PHOTOS BY AXEL KOESTER FOR CROSSTALK



pledged to provide the results in a more timely fashion this year. However, because of the large number of students taking the tests, schools did not receive results until the end of September.

"We are absolutely committed to having the results for the schools no later than August 15 next year," Spence said. "We didn't want to cut off the number taking the test this year, and so it took longer than expected. The good news remains that students still have time to engage in math and English activities to get up to speed."

Among 11th graders who completed the English test, 30,000 to 35,000—or 20 to 25 percent—were deemed ready for college-level English and will be exempt from taking Cal State's English placement test if they are admitted for fall 2005. Between 60,000 and 65,000—or 50 to 55 percent—of those who took the math test were assessed as ready for college-level work. Ten to 12 percent of those students will be exempt from taking the Cal State placement test. The others did well enough to earn exemption from the Cal State test if they successfully complete an approved math course or activity during their senior year.

Spence remains confident that Cal State and the local school districts can meet a 90 percent proficiency goal. "I know we can do it," he said. "The real change will be next year, because we will have had a year to tell them they aren't prepared and they have to do something about that."

The essay portion of the English exam takes the most time to grade. The essays are based on a "prompt," that is, a short paragraph setting out an author's position on topics such as, perhaps, whether manufacturers of legal but harmful products should have to pay financial settlements like those to which cigarette makers agreed, or whether working mothers should always be immediately accessible for their children. The students have 45 minutes to plan and write an essay in which they explain the author's argument and whether or not they agree, using supporting information from the paragraph or from their own experience. The essays are scored on a six-point scale, six being strongest.

There are many good writers in 11th grade, said Robert Noreen, but reading is the problem. They know the mechanics but "they don't have sufficient training in reading prose, whereas when they get to freshman English that's usually what they are reading." Instead of reading, this generation of students watches television. "They are very visual, oral," he added. "Watching TV, talking non-stop to friends, even e-mailing, fosters a very superficial kind of response."

Students who do not do well on the English portion of the CST now can take a rhetoric and writing course like the one Ann Ransburg teaches in Chula Vista. "The biggest problem students have coming in to the class is understanding the author's argument," Ransburg said. "They'll read something about cloning, for example, and instead of looking at the author's evidence, they want to give their own

opinion. To understand the author's evidence takes critical reading," she added. Her students are used to reading fiction and talking about how they feel about it. "This is more focused reading."

Ransburg asks her students to preview the reading, whether it is a newspaper editorial or a political commentary. "Look at the title. What are they saying? Who wrote it? Where did it appear? What's the audience? Is it by a group like the American Civil Liberties Union or the Southern Poverty Law Center, with a point of view? Read the first and last paragraphs—try to make a prediction about what the person's point of view will be."

Then she asks the students to chart the reading, paragraph by paragraph, and answer questions about the evidence presented. They need to learn new vocabulary as well. English is not the first language for many of Ransburg's students, so they may not be familiar with expressions like "Good Samaritan" or "Madison Avenue." In the Sweetwater district, which stretches from the southern end of San Diego to San Ysidro on California's border with Mexico, about 66 percent of the students are Hispanic. Nine percent of the district's 38,000 students are Filipino. One fourth of the Sweetwater students speak limited English.

"This is not a remedial course in any way," said Marsha Zandi, the district's English curriculum specialist. "This is senior-year work that is valid and needs to be done. It is not a substitute for college, but to prepare them for college courses." Ninety percent of reading after high school is expository, Zandi added. "We want them to be more critical so they question what's handed to them."

Ransburg, who serves on a committee helping Zandi develop the course locally, thinks the effort is worthwhile. "But I'll tell you, I'm certainly out there by myself," she said. "Many of my colleagues don't want to do it. And it's so new the kids grumble." But several of her students who had failed

***A year ago, only 52 percent of entering freshmen passed Cal State's English placement test.***

the English placement test before now have passed it. "I don't think they would have without this class," she said.

Cal State plans to make modules of a critical reading and writing course like Ransburg's available this year so that teachers can plug them into existing English courses, David Spence said. So far, however, the University of California, which must approve courses acceptable for admission to both UC and Cal State campuses, has not approved the English course so that it would be required for high school seniors.

UC wanted more literature in the course, Spence explained, but he expressed confidence that the course will be approved soon. In the meantime, the Sweetwater district's course has been ap-

proved as meeting the 12th grade English requirement.

Teachers know that the material they are presenting to students in both English and math must be offered in a different context from the one they have already studied, said Karen Cliffe, the Sweetwater district's math curriculum specialist and an Advanced Placement calculus teacher. "Even though some of these students need remediation, you will lose them if they say, 'I did that already.'"

At Chula Vista High School, Kim Armbrust teaches what is called finite math. She explained that the typical finite math course involves study of numerical sequences and series. In addition to that work, the course that she and others helped devise for the Sweetwater district includes a unit on logic, one on probability and statistics, and college study skills. As a result, said Cliffe, "they are learning some new math at the same time we are doing the remediation we need."

Many students typically would not take math in the senior year and have forgotten much of what they learned by the time they take the placement test, said Cal State Los Angeles's Marshall Cates. "If we can get them to do some math in their senior year, we believe they will retain the information."

In addition to testing and preparing courses to help students do better on the placement exams, Cal State also is training teachers to teach these new courses. The system is sponsoring institutes and developing materials through which teachers can improve their own skills. This year, 555 high school teachers have been participating in 80-hour professional development reading institutes at 13 Cal State campuses, in a program paid for by the university. Basically, they are learning "what is university-level work and what process does it take to bring students to that level," said Nancy Brynson, co-director of the Cal State Center for the Advancement of Reading.

The institutes involve teachers of history, science and other subjects, as well as English, because "literacy is not something you do only in English," she added. "We find students need a lot of support in reading carefully, synthesizing what they have read, and writing (about it)."

Next year Cal State officials are hoping another 550 teachers will participate in similar reading programs. They will also be starting three-day programs for people who teach English to high school seniors, and who are willing to take the lessons that are being developed on reading and integrate them into their current courses. "Not every teacher is willing to commit to 80 hours, and we need to get a lot of them involved to get their feedback," Brynson said.



***High school teacher Ann Ransburg believes her new critical reading and writing course will help students pass the Cal State English placement test.***

Cal State allocated \$3.2 million to administer the augmented test to all 944 of the state's public comprehensive high schools last spring, and has budgeted the same amount for next year. That money covers printing, distributing, collecting and grading the tests, as well as reporting scores to students and their school districts.

In addition, \$3.9 million has been set aside for the training institutes for English teachers, development of the writing and finite math courses, and online diagnostic writing and math services for students, Spence said. Through the writing service, for example, students can submit an essay electronically and receive comments from Cal State faculty about their strengths and weaknesses as writers. In addition, each Cal State campus has received money to hire a coordinator to work with local high schools to develop appropriate programs for seniors who did not do well on the math or English tests.

As California tries to dig out of a fiscal crisis, the Cal State system's 2004-05 budget was cut by \$157 million, but the early assessment program remains a priority, Spence said. "We've protected this because it's so important."

To try to reach 90 percent student proficiency on the placement tests by 2007, Cal State's trustees have set an interim 2004 goal of 74 percent math proficiency and 78 percent English proficiency—clearly, as yet, unmet. At a January board meeting, Cal State trustee Roberta Achtenberg asked Spence, "Is it really true that we'll make our goal?"

"Yes," said Spence.

"Are you willing to bet your job on it?" he was asked by Chancellor Reed.

"I am willing to bet my job on it," Spence replied. ♦

*Kay Mills, a former Los Angeles Times editorial writer, is the author of "Changing Channels: The Civil Rights Case that Transformed Television" (University Press of Mississippi, 2004).*



# Into the Woods

## Outdoor Action program offers a rewarding college orientation experience

By Kathy Witkowsky

BLAIRSTOWN, NEW JERSEY

**I**T WAS a warm and rainy late August night in a northwest New Jersey forest, and things were not going well for Princeton University junior Scott Welfel and Princeton sophomore Aiala Levy. As volunteer leaders for Princeton's Outdoor Action frosh trip, an optional orientation, they were trying desperately to make this six-day camping experience a pleasant one for the eight freshmen assigned to them.

After all, this was the first official activity as Princeton students for these 17- and 18-year-olds, and an opportunity not only to learn about the outdoors but also to

***“Part of the uniqueness of wilderness orientation programs is that you are so dependent on everybody else.”***  
—RICK CURTIS

bond with each other and boost their self-esteem. The idea was for them to start the school year with a support system in place, feeling good about who they were and what they had to offer. Such wilderness orientations have become commonplace at colleges and universities throughout the country. With about half the incoming freshman class participating, Princeton's is

among the largest.

Scott and Aiala (pronounced “EYE-la”) had been through many hours of training to ensure that this orientation would be successful. But from the despairing looks on their group members' wet and dirty faces, they were failing miserably.

Bad enough that the group had slept poorly the previous night, crammed next to each other on a tarp and kept awake by an endless procession of daddy-longlegs that crawled over them. And that they were all sweaty and tired from a seven-mile hike earlier that day. And that it had been more than 48 hours since they'd been able to shower, change their t-shirts or use their cell phones, which they had surrendered to Aiala when they packed up back on campus.

Now it was pouring, they were soaked and hungry, their campsite was a sea of mud, Scott couldn't get the camp stove to stay lit, and their makeshift tent—a blue plastic tarp strung between two trees—was leaking. They seemed to have completely forgotten about their group's “full-value contract”—the orange-and-black plastic football on which they had each written one positive quality they hoped to contribute to the group and one goal for the week. A staple of the Outdoor Action frosh trip, full-value contracts can be signed on other objects, such as Frisbees, but the purpose is always the same: to serve as a tangible reminder of group and individual goals.

Emily Moses, a gregarious blond ballerina from Farmington Hills, Michigan, a suburb of Detroit, had written on the football: “enthusiasm” and “tough it out.” Now she was in tears. “There are puddles in the tent!” she sobbed. Alfredo Robles, a shy, soft-spoken young man from Pico Rivera, California, outside of Los Angeles, who had barely eaten since the trip began, blurted out what everyone else seemed to be thinking: “I want to go home!” So much for “learning to live without meat,” or the “relaxation” he'd hoped to add. (“Make sure to write this in your article,” he implored. “Do not go outdoors!”)

Their faces brightened considerably when Aiala suggested that perhaps the group could spend the night inside the dining hall of the Princeton-Blairstown Center, the summer camp whose grounds they were on. They immediately began collecting their sleeping bags to make the quarter mile trek there.

But then Scott, who had stepped away from the group to phone his boss' office back



A group of Princeton frosh buckles up for the “high ropes” course, part of the outdoor orientation program.

at Princeton (group leaders all have cellular or satellite phones in case of emergencies), returned, looking chagrined: His call had been greeted with derisive laughter. A leaky tarp, he had been told, did not qualify as an emergency. So he had rustled up two extra sheets of plastic from the summer camp, and even though they weren't big enough to cover the entire length of the group tarp, he hoped they would stem the worst of the leaks.

Scott, a sweet and lanky 20-year-old philosophy major from Roseland, New Jersey, initially had been so excited about introducing his group to the outdoors that he had written “share the love,” and “stokedness,” on the toy football. Now even he felt defeated. Looking back, said Scott, “At that point I decided, the kids aren't going to like the trip, but let's just get through it, and I'll look at it as a learning experience.”

So he did the only thing he could think of: He leveled with his group. “This sucks,” he acknowledged. “But we have to deal with this.”

And then something funny happened. They did deal with it. They slung the new tarps over the center of the old one. They made a little dam at the uphill end of the ground tarp so it would prevent any more water from flowing in. Rearranged their sleeping bags and pads, crowding them closer together into the driest section of the tarp. And then they took cover, fortifying themselves against the damp, at Scott and Aiala's insistence, with peanut butter, tortillas and trail mix.

When the rain let up a bit, Scott managed to light the stove, and even though the green peppers and onions he sauteed were covered in flecks of dirt, everyone—even Alfredo and Emily, who by then had apologized for her meltdown—emerged from the tarp long enough to have a chicken fajita. Afterwards, without being asked, they all helped lug the nylon sacks filled with food to a spot several hundred feet from the campsite, where they hoisted the sacks high overhead, out of reach of black bears and other forest critters. The

rope was so wet it required a group effort to get a grip on it, but there was singing and laughter as they tugged in unison.

And that was when everything began to shift. By the next morning, the group's mood was as sunny as the weather, which had completely cleared up. A short hike that day in Worthington State Forest provided the setting for a number of amusing riddles and other group games. At a lunch spot on the trail they treated a group of backpackers, who were on a similar wilderness orientation trip from rival University of Pennsylvania, to a spirited rendition of “Ride That Pony,” one of the many silly songs Aiala and Scott had taught them.

Afterwards, Aiala and Scott addressed a more serious topic: alcohol, a subject Outdoor Action (OA) leaders are encouraged to talk about. A study conducted in 1998 indicated that the trips can help give freshmen a more realistic view of drinking on campus, so that they do not feel compelled to keep up with an imaginary and

***“It's not that I like doing things that are scary, 'cause I totally don't. But it helps me to see how far I am able to push myself.”***

—FRESHMAN LIZ MALTA

false social norm.

Both non-drinkers, Scott and Aiala emphasized that it was possible to have a social life that didn't center on drinking.

It's true, Scott said, that much of Princeton's social life revolves around “The Street”—the colloquial term for Prospect Street, home to the school's venerable eating clubs, which host parties featuring free beer. “Freshman year, I was completely overwhelmed by the amount of drinking at Princeton,” Scott acknowledged. But he warned his group not to get pressured into over-indulging. “Don't feel like everyone's



Rick Curtis, director of Princeton's “Outdoor Action,” organized 69 trips, in eight states, for 548 frosh this summer.





THE NATIONAL CENTER FOR  
PUBLIC POLICY AND  
HIGHER EDUCATION

# GRADING THE NATIONAL REPORT CARD

## Critics and supporters respond to *Measuring Up 2004*

By William Trombley and Lori Valigra

**M**EASURING UP 2004, the National Center for Public Policy and Higher Education's third biennial "report card" on state higher education performance, has received mixed reviews.

"I think the process is good for us," said Daniel LaVista, executive director of the State Council of Higher Education for Virginia. "To have this information and know that it comes from an objective source is good because we don't often have a mirror to hold up to ourselves."

E. Joseph Savoie, commissioner of higher education in Louisiana, said the report will be helpful as he and others press the legislature for an increase in need-based financial aid for students.

Sally Clausen, president of the University of Louisiana System, said that when legislators ask why Louisiana received low grades, "I tell them they've flunked, and I give them a list of what it will cost" to make improvements.

Travis Reindl, director of state policy analysis for the American Association of State Colleges and Universities, said the report "still is a very good diagnostic tool," though it contains "few surprises."

"It's kind of akin to your mother's reminder to eat your green vegetables when you go off to college," he said.

Quentin Wilson, Commissioner of Higher Education in Missouri, said, "I was pleased that we were making progress in several of the categories... despite the dramatic state funding cuts over the last few years."

Rolf Wegenke, president of the Wisconsin Association of Independent Colleges and Universities, said he hoped the report would spur state policymakers to take steps to increase minority participation in higher education, and to provide more money for student financial aid.

However, several critics found fault with the way *Measuring Up 2004* dealt with affordability, one of five categories of state performance that are examined. Thirty-six of the 50 states received an F in affordability, 27 more than in the 2002 survey. Another 11 states were graded D; one state (Utah) received a C, one (Minnesota) a C-minus and one (California) a B; there were no A grades.

"The affordability grades don't make sense," Mark Musick, president of the 16-state Southern Regional Education Board, said in an interview. He noted that Georgia, for example, "has the lowest tuition in the south and a pretty good student financial aid program (though it is based on merit, not financial need), yet it gets an F in affordability."

"The report has gotten attention," Musick added, "but the fact that some of it doesn't seem to make common sense detracts from its credibility and makes it less likely that legislators will do much" to change state policies.

Giving so many F's "gives the states no idea where they are," said David A. Longanecker, executive director of the Western Interstate Commission for Higher Education. "Many see it as not a very useful number."

Joni E. Finney, vice president of the National Center, who directed the staff work on *Measuring Up 2004*, said the low affordability grades reflect what has been happening in recent years—support for higher education has dropped in most states, tuition has been increasing, and student financial aid has declined in some states and has remained flat in others.

"What the report shows is that there is no longer any public consensus on how to fund higher education," Finney said. In the absence of such agreement, "we're shoving the costs on to the students" and their families.

Among those interviewed, there seemed to be general agreement with the report's other major findings:

- High school students are significantly better prepared for college-level work than they were a decade ago; more are taking upper-level math and science courses and more are taking, and performing well, on Advanced Placement exams.

- The gap in college participation between affluent and poor students has

widened, and white students still are attending college at much higher rates than African Americans or Latinos.

- Despite improvements in college preparation, smaller proportions of young and working-age adults are enrolling in education and training beyond high school. For instance, the percentage of Minnesota 18-to-24-year-olds enrolled in college dropped from 43 percent in 1990-92 to 36 percent ten years later. In Wisconsin, the decline was from 39 percent to 31 percent.

- Only modest gains have been made in the percentage of students completing certificate or degree programs over the last decade. Most of the gains were in certificate programs, which increased by 50 percent in the last decade, while the gain in associate's and bachelor's degrees awarded was only ten percent. Dropout rates remain high in many states, in both community colleges and four-year institutions.

- Substantial gains were made in the "benefits" category, which includes such measurements as the percentage of a state's citizens who hold a bachelor's degree or higher, and increases in total state personal income due to higher percentages of people holding these degrees.

- Progress is being made in the effort to grade student learning—what college-educated people know and can do. Forty-five states received an "incomplete" grade in this category because of a lack of data that would allow state-by-state comparisons. However, a pilot study of five states (Illinois, Kentucky, Nevada, Oklahoma and South Carolina) has persuaded the National Center that it will be possible to grade this category in the future.

Travis Reindl, of the state college and university association, questioned the report's findings that much larger numbers of high school students are ready to do college work than was true a decade ago. "We have to be really careful not to string up the 'mission accomplished' banner," he said. "There is still a lot of work to be done."

Patrick M. Callan, president of the National Center, agreed. "We're not saying the problem is solved; it certainly isn't," Callan said. "But we do think there is evidence that there has been demonstrable progress" in the nation's high schools in the last ten years.

Most of the criticism of the report was directed at the affordability category and the low grades given to almost every state.

"The unique way they measure affordability, and the unique way in which they look at it over a ten-year period, really distorted a lot of things in terms of affordability for the state of Oklahoma," said Ben Hardcastle, a spokesman for the Oklahoma State Regents for Higher Education. Oklahoma "has one of the lowest tuition rates in the country, so it sort of distorts the view."

"*Measuring Up 2004*" evaluates affordability mainly on the basis of the percentage of family income it takes to pay net college costs (tuition and fees, room and board, minus financial aid), a percentage that has risen rapidly in the last decade. For

### MEASURING UP 2004 THE NATIONAL REPORT CARD ON HIGHER EDUCATION



**Several critics found fault with the way *Measuring Up 2004* dealt with affordability, one of five categories of state performance that are examined.**

(continued on page 4A)



# Washington, D.C. symposium marks the release of *Measuring Up 2004*

Photographs by Dennis Brack, Black Star

**"A college education is now required to participate in the prosperity that America can generate."**

—*Thomas J. Tierney, chairman and founder, the Bridgespan Group*



James B. Hunt Jr., former governor of North Carolina and chairman of the Board of Directors of the National Center for Public Policy and Higher Education, Mark Warner, governor of Virginia, and Garrey Carruthers, former governor of New Mexico and vice chairman of the Board of Directors, National Center for Public Policy and Higher Education

**"Although more students are prepared for college, our nation's progress in improving college opportunities has literally stalled."**

—*James B. Hunt Jr., former governor of North Carolina and chairman of the Board of Directors of the National Center for Public Policy and Higher Education*



Thomas J. Tierney, chairman and founder, the Bridgespan Group

**"This is going to be the first decade at least since the GI Bill...where both participation and completion rates are flat. That is stunning."**

—*Mark Warner, governor of Virginia*



Peter Ewell, vice president, National Center for Higher Education Management Systems



Dolores Cross, visiting professor of education, DePaul University

**"We have a serious problem here—higher education is in fact becoming a bottleneck to opportunity in America."**

—*Anthony Carnevale*



Anthony Carnevale, senior fellow, the National Center on Education and the Economy



Matt Kisber, commissioner, Tennessee Department of Economic and Community Development

**"Our data indicate that in [Fiscal Year 2003], the rate of growth in higher education spending across the 50 states was about .03 percent. In 2004 it actually declined for the first time since the early '90s."**

—*William Pound, executive director, National Conference of State Legislatures*



Margaret Miller, professor of education, Curry School of Education, University of Virginia



William Pound, executive director, National Conference of State Legislatures



**"I have sensed in my life in higher education a good two decades of policy drift in the higher ed arena."**

**—David Breneman, dean of the Curry School of Education, University of Virginia**



Kati Haycock, director, The Education Trust and David Breneman, dean of the Curry School of Education, University of Virginia

**"Low-income youngsters in this country who are performing in the top quarter of all kids nationally are exactly as likely to go on to college as kids from upper-income families performing in the bottom quartile nationally."**

**—Kati Haycock, director, The Education Trust**



—Charles Kolb, president, Committee for Economic Development

**"I think that this report and today's data have the potential to do for higher education what the 1983 report, A Nation at Risk, did for K-12."**

**—Charles Kolb, president, Committee for Economic Development**



Robert Atwell, President Emeritus, American Council on Education

**"The sum total of institutional self-interest...doesn't necessarily get you good public policy, and that is the system we have had."**

**—Robert Atwell, President Emeritus, American Council on Education**



Dennis Jones, president, National Center for Higher Education Management Systems



Paul Lingenfelter, executive director, State Higher Education Executive Officers

**"We want to increase graduation rates with no compromise on quality—that is what we have got to figure out how to do."**

**—Paul Lingenfelter, executive director, State Higher Education Executive Officers**



Arturo Madrid, Murchison Distinguished Professor, Trinity University

**"We have made extraordinary strides in improving the quality of our elementary and, increasingly, our secondary institutions. But we have failed woefully, as this report says, in increasing participation and making institutions affordable, and in having our students complete their programs of study."**

**—Arturo Madrid, Murchison Distinguished Professor, Trinity University**



Virginia Edwards, editor, Education Week



from preceding page

example, in New Hampshire it has climbed from 23 percent to 32 percent, and in New Jersey from 24 percent to 34 percent.

The *Rocky Mountain News*, published in Denver, editorialized, “Since somewhere around 14 million people are attending college right now in the United States, it must be somewhat more affordable nationwide than this measure suggests.”

But the report’s authors pointed out that students, realizing the value of a degree, are working extra hours or taking out large student loans to pay for higher college costs.

Ronald Kermani, a spokesman for the New York State Higher Education Services Corporation, said that state’s Tuition Assistance Program (TAP) gave \$846 million to 390,000 students in public and private schools during the 2003-04 academic year—making it the largest state financial aid program in the nation—yet was graded F in affordability. He said this happened because *Measuring Up* divides the financial aid money among all of the state’s college students, not just those receiving TAP grants.

The National Center’s Joni Finney said the report considers a state’s entire student population, not just aid recipients, because “we know that

many low-income students don’t have the same opportunities” to learn about financial aid plans that might enable them to attend college.

Some state officials supported the report’s approach to the affordability issue.

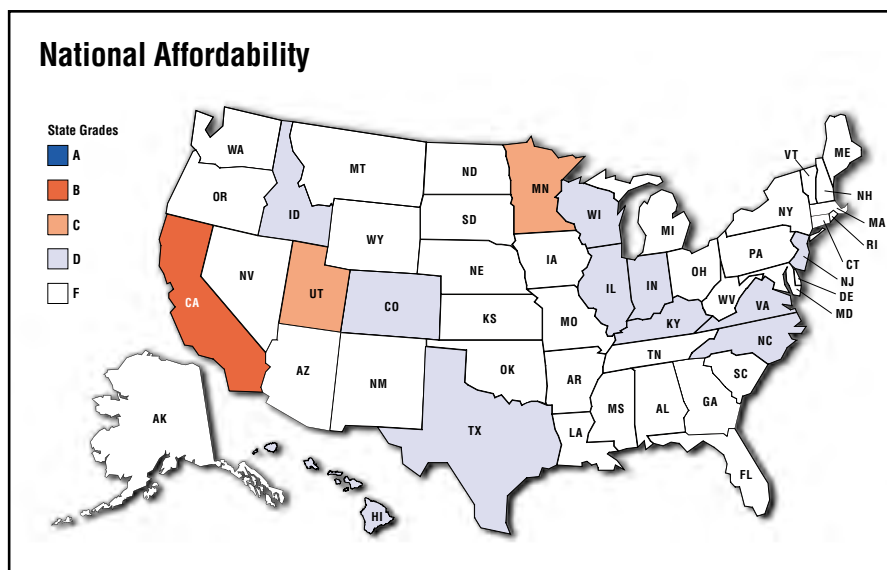
“We don’t like the low grade, but I think it’s an accurate one,” said Patrick Dallet, deputy director of the Council for Education Policy, Research and Improvement in Florida, which received an F in affordability. “Hopefully it will get some folks in states paying attention to the fact that

putting a lot of money into merit-based aid isn’t necessarily the most effective strategy if you’re really interested in access and affordability.”

Don Sevenser, a spokesman for the Illinois Board of Higher Education, said the board was “disappointed that Illinois has gone from being one of the leading states, and, in some aspects of affordability, the leading state, to a grade of D in the four years that have spanned the three report cards.

“All states have declined in this category, and most of them had far greater declines than Illinois has seen. But that really is small solace for the state and for its higher education community, and certainly for the students who are struggling to pay for college.” ♦

William Trombley is editor of National CrossTalk. Lori Valigra is a freelance writer in Boston.



# Eight Days a Week

## Working your way through college is a thing of the past

By Javier Serrano

**M**ANY STUDENTS would jump at the chance to pay all their college costs by working full-time during summers and holidays. But in today’s environment of skyrocketing tuition and deficit-ridden budgets, working to pay your own way through college is a thing of the past.

In some states, students would have to work full-time up to 17 months—of course a logical impossibility—in order to pay for just one year of college. The harsh truth is that in many states, hard work just isn’t enough to pay for the exorbitant costs of college.

While research was being conducted in higher education finance at the National Center for Public Policy and Higher Education last summer, a seemingly simple question popped up: What would it take for a student to pay for his own higher education, after financial aid, if his only source of income was his work wages while in college?

Here is a look at how the “work-to-college ratio” is determined. There are two levels of analysis: national and state. A basic assumption is that college students earn the minimum wage while in college: \$5.15 at the national level, and ranging from \$2.65 (Kansas) to \$7.16 (Washington) at the state level. Many states, primarily in the South, have no minimum wage, in which case the analysis uses the national minimum wage as a default.

The next step involves finding the “net price” of college (from the family ability to pay indicator in *Measuring Up 2004*), which is derived by adding up expenses (tuition, fees, room and board), and subtracting financial aid (federal, state and institutional). The tricky part is that net price varies by income group, since lower income students generally receive greater amounts of need-based financial aid. The analysis included the net price for three income groups: the lowest income quintile; the two lowest income quintiles (or poorest 40 percent of the population); and the net price for all income quintiles (which is the average price for the total student population).

Finally, dividing the net price by the minimum wage results in the number of “work hours” necessary to pay for a year of college (with the unrealistic assumptions that no taxes are deducted and that all the income goes toward college costs). This figure is then divided by 40 (the average number of hours in a work week) to get the number of “work weeks” necessary to pay for college. Dividing again by four (to get the number of months of full-time work necessary to pay for one year of college) gives the final work-to-college ratio.

It is not as complicated as it might sound.

First, consider the national context. For the two lowest-income quintiles (40 percent of the student population), the average net price of community college is \$6,779. Assuming a national minimum wage of \$5.15, the work-to-college ratio would be 8.23 months. This means that a college student (in this segment of the population) would have to work full-time for more than eight months just to pay for a year of community college. If he were attending a public four-year college, the same student would face a net price of \$8,571, and would have to work full-time for almost ten months to pay for a year of college.

Things are no better at the state level; in fact, the national aggregate only masks the bleak work-to-college ratios across the nation. For example, a community college in Ohio has an average net price of \$8,681 for the 40 percent of the population with the lowest incomes. (Again, “net price” takes into account financial aid, so we are *not* talking about the oft-quoted “sticker price” here.) In Ohio, the minimum wage is \$4.25, so the work-to-college ratio is 12.77. That’s right: A student

would have to work full-time for more than a year just to pay for one year of community college.

In this same income range, a student at a public four-year university in Kansas faces a net price of \$7,233, and a minimum wage of \$2.65. This indefatigable student would have to work more than 17 months just to pay for a year of college!

Ohio and Kansas are not alone in presenting students with impossible work-to-college ratios. Colleges in New Hampshire, New Jersey and Maryland would also

require more than a year’s work to pay for a year of college. In fact, students in states with *good* work-to-college ratios would still have to work full-time for six or seven months to pay for a year of college.

The traditional idea of a student earning enough money through three or four months of summer work just does not hold.

Like all studies, this analysis is limited by its assumptions. Students of the lowest income group have lower net prices for college. Not all students make the minimum wage. Some students receive full-ride scholarships, while others receive outside aid from private groups. Parents and relatives usually help with financial resources, somewhat easing the student’s burden. Last, students can borrow, instead of work, to pay for their education expenses.

But calculating a work-to-college ratio is really meant as a thought-experiment. In the real world, few students would have to depend only on their own work income to pay for college. But the point of the hypothetical exercise stands: Working, no matter how hard or long, to pay for your own higher education is nearly impossible while the costs of college remain so high. ♦

Javier Serrano was in intern at the National Center for Public Policy and Higher Education last summer. He is now a student at the Stanford University law school.



going there and getting plastered,” he said. “There’s stuff for everyone at Princeton,” he added, including plenty of activities for non-drinkers.

That came as a relief to most of the group, including Paul Kompfner, a surfer from San Diego, California. “It’s nice to know that Scott and Aiala don’t drink and don’t have a problem,” he said on the hike back.

By the next morning, Emily reported that she had slept “great,” a relief since she thought she might be fighting off one of her routine migraine headaches. Alfredo, whom the group had taken to calling Alfie, said he was having fun, now that he had gotten a handle on his all-consuming desire for a shower.

All told, Scott said, in an interview two weeks after returning to campus, “the trip

***Outdoor Action leaders are encouraged to talk about alcohol. The trips can help give freshmen a more realistic view of drinking on campus.***

turned out absolutely amazing. Everyone loved it.” Since then, he said, the group had gotten together for several “reunions,” and many of the individual group members had been hanging out together on campus.

“The trip has definitely helped me settle in at Princeton,” freshman Kristen Molloy of Long Island wrote in an e-mail the first week of classes. “Before the trip, I didn’t know anyone at Princeton, but now I have a great group of friends.”

Kira Schiavello, of Saddle River, New Jersey, agreed. “The OA leaders have helped me adjust to college so easily because they shared with us everything we

should know, and are still there to answer any questions we have,” she wrote. And though she dwelled on the “horror stories” when she described the trip to her parents, she would definitely do it all over again, she said.

Even Alfredo gave the experience positive marks. “I made lots of friends and learned to appreciate the luxuries I often take for granted,” he wrote in a post-trip e-mail.

None of this surprises Rick Curtis. For 24 of its 30 years, he’s been the director of Princeton’s Outdoor Action program, and has watched as its frosh trips grew in popularity. This year, he organized 69 trips for 548 first-year students (slightly less than half the class) and another 186 upperclass leaders, who were sent out to experience the outdoors in eight Northeast and mid-Atlantic states. Each group is composed of eight to 12 freshmen, and two or three upperclass student leaders. The trips cost \$420, but about a quarter of the participants were awarded some scholarship money.

Sure, students can—and do—make friends on campus, said Curtis, a 1979 Princeton graduate. But the immediacy of the outdoor setting helps strip away pretenses and forces the students to engage with each other on a far more intense and intimate level than they would normally.

“The challenge and hardship part of it helps bring the group together,” said Curtis. “Part of the uniqueness of wilderness orientation programs is that you are so dependent on everybody else. Somebody next to you is carrying the stove, somebody else is carrying breakfast, somebody else is carrying the tarp.”

Those friendships can reduce the anxiety that freshmen often experience when they start school—anxiety that is exaggerated at a place like Princeton, Curtis said. “Because it’s a high-pressure academic environment, people are very nervous,” said Curtis. “They wonder, ‘Am I going to be



***The six-day outdoor orientation program helps Princeton University frosh meet new friends and build self-confidence.***

able to cut it here?’” Through informal discussions as well as organized group activities such as “fear in a hat,” in which participants anonymously write down a fear for the group to discuss, they learn that their concerns are not so unique, he said.

That was exactly what happened to 18-year-old Liz Malta of Ocean Township, New Jersey, a self-described “girly-girl” whose upbeat, outgoing nature and ability to laugh at herself belied an underlying insecurity. Like virtually all of her Princeton classmates, she was a stellar high school student. Still, she said, “I was nervous at first about meeting all these crazy genius people.” Her Outdoor Action trip helped put those “crazy geniuses” into perspective. “It was really a great equalizer,” she said. “These people are really down to earth. They too freak out when they see a spider. They too are freaking out about not getting to shower.”

And she heard other things that she found reassuring: Her OA leaders encouraged her not to take on too much academically, not to be intimidated by her professors, and not to be too disappointed if she didn’t make all A’s—an idea she was having a hard time getting used to. Still, she said, it was good to hear it from people she respected.

The trips vary in terms of their difficulty. Some backpacking groups hike as many as eight to ten tough miles in a day, with packs that weigh 50 to 70 pounds; the canoe trips cover eight to 20 miles a day. Some trips combine backpacking with a day of rock-climbing.

Other trips, like the one that Scott and Aiala led and that Liz Malta was in, are less strenuous. These trips are based on the grounds of the Princeton-Blairstown Center, a summer camp in Blairstown, New Jersey, that is affiliated with the university. They were added in 1998 to appeal to students who might be reluctant to sign up for the more arduous itineraries, and include a variety of activities, such as hiking, group games, rappelling, a high ropes

course, and a day of outdoor community service.

But even these easier trips present challenges. Mid-week through her trip, for instance, Liz Malta had yet to pee in the woods, preferring instead to use the portapotty near her group’s campsite. Neither had she given up her mascara, which she tried to apply surreptitiously.

She never did give up the mascara (though she did have to endure some teasing from other group members when they discovered her secret). But she did pee in the woods—once. In keeping with the program’s Leave No Trace philosophy, she

***“The trip has definitely helped me settle in at Princeton. Before the trip, I didn’t know anyone at Princeton, but now I have a great group of friends.”***

**—FRESHMAN KRISTEN MOLLOY**

also learned to routinely eat food off the ground, no matter if it meant swallowing some dirt, too.

And even though it brought her to tears, she managed to complete a tough high ropes course that required her to climb up swinging tires, then walk across a wire strung between two trees.

“It’s not that I like doing things that are scary, ‘cause I totally don’t,” she said. “But it helps me to see how far I am able to push myself.”

That’s by design. The hope is that she will be willing to bring that same attitude to her life at Princeton.

“I think the most important thing we try to teach our frosh is to experiment—with classes, extracurriculars, friends, etc.,”

***continued next page***



***Rajiv Ayyengnr, an 18-year-old freshman from Menlo Park, California, struggles up a rock face, part of his “Outdoor Action” experience.***



## PRINCETON

from preceding page

OA leader Adi Hirshberg, a Princeton junior from North Woodmere, on New York's Long Island, wrote in a post-trip e-mail. "OA is just an example of facing a challenge, something new, experimenting, or whatever you want to call it. We try to teach them not to be afraid of experimenting because it's new. Try it, and then see what happens."

Curtis and others have long based their faith in these trips on the overwhelmingly positive anecdotal evidence indicating that they are effective in terms of helping freshmen form friendships and a social support system. Now more scientific evidence appears to back that up, said Brent Bell, di-

***Some backpacking groups hike as many as eight to ten tough miles in a day, with packs that weigh 50 to 70 pounds.***

rector of Harvard's First-Year Outdoor Program, which is nearly identical to Princeton's.

Bell, who is also a Ph.D. candidate in experiential education at the University of New Hampshire, surveyed more than 1,600 students at two Ivy League schools.

His analysis isn't complete, but preliminary results indicate that students who had participated in the schools' wilderness orientation programs reported having significantly more social support than those who had not, and also more than students who had participated in other pre-matriculation orientations, such as community service programs or pre-season athletics.

The trips also fill a second, equally important function, said Curtis: They're a vehicle to provide valuable leadership train-

ing and experience for upperclassmen.

Years ago, OA leaders simply took a first aid course and went on a backpack trip before they were sent out with their freshmen. Now they're required to take a 21-hour first aid/CPR course; a six-hour team-building and group facilitator workshop; a six-hour leadership and group dynamics workshop; and six two-hour workshops on the use of equipment such as stoves, maps and compasses. It culminates in a rigorous six-day leadership training backpack trip. Canoe and rock-climbing leaders also take specialized courses with professionals.

In addition, all OA leaders have to go through a two-day pre-trip refresher course that includes diversity training as well as alcohol awareness—a concern that OA training began to address five years ago. This year, leaders gathered in Dillon Gym for a presentation by a professional drug and alcohol counselor; last year they heard from a Princeton alum who had to drop out of school to go through alcohol treatment. Student leaders are urged not to glorify drinking and to remind frosh that there are numerous non-alcohol related activities at Princeton. A policy adopted last year goes even further: Because they are considered role models even after they return to campus, OA leaders are not supposed to serve alcohol to "their" freshmen—those who have been on their trips—anytime during the coming year.

The idea is that, while leaders teach "Leave No Trace" skills in the outdoors, they should "Leave a Trace" when it comes to their freshmen.

The message was dramatically underscored just before the freshmen arrived, as nearly 200 OA leaders sat on the gym floor, surrounded by camping equipment and anxiously waiting for Rick Curtis to open the front doors and let in the crush of students gathering outside. But before he did, Princeton senior Tim Churchill, his face half-covered in blue paint, stormed into the gym as music from the movie "Braveheart" blared over the sound sys-

tem. Clad in a kilt and carrying a plastic battle axe, he addressed the OA leaders from a balcony.

"Sons of Princeton," he began, as his classmates cheered his Mel Gibson imitation. In a speech adapted from the film, he exhorted them to lead, concluding with this thought: "And dying in your beds, many years from now, would you be willing to trade all the days from this day to that, for one chance, just one chance, to come back here, and tell our enemies that they may take our lives, but they may never take our freshmen!"

It was a humorous riff, but the real point—that the OA leaders were undertaking a huge responsibility—was not lost on them.

Scott Welfel, for instance, was so nervous about the coming week that on the bus ride to the campsite, he said, "My stomach was in knots. I was physically getting ill."

His worst fears appeared to be coming true when the tarp started leaking and the group started to panic, which in turn caused him and his co-leader, Aiala, to panic as well.

Looking back, he said, "The tarp leaking wasn't a big deal; kids' tarps leak all the time. Our approach was a big deal," he said. Still, he said, "I think I learned a great deal—that you have to be cool when shit happens!"

And shit does happen. In the past, numerous students have broken bones; and in 1989, one student was struck and killed by a car as he crossed a road to set up camp. Last year, most of the groups had to contend with six straight days of rain; several abandoned their trips for a night to dry out at nearby motels. This year, said Curtis, three groups got lost and had to be met by support staff and shuttled to their correct hiking trail, and 22 freshmen had to be evacuated for various medical reasons ranging from cuts to hot water burns to sprained ankles. One of those students suffered a serious anaphylactic reaction.

And twice a group returned to its campsite at Blairstown



**Alexis Tucker, of West Orange, New Jersey, tackles rock climbing as part of the "Outdoor Action" program.**

to discover that a black bear had gotten into the food bags, which apparently had not been hung far enough out of reach.

That made for a couple of tense nights for the group's co-leader, 20-year-old Adi

***Alfredo said he was having fun, now that he had gotten a handle on his all-consuming desire for a shower.***

Hirshberg, who also found herself frustrated by other issues that came up during the week, she said. "Looking back, I don't think I handled the stress too well," she wrote in a mid-September e-mail. But, she added philosophically, "That being said, OA is a time for leaders to learn about their weaknesses, and I think the trip brought out a lot of mine."

Still, her group loved the trip, she said, and so did she. "The best part of being an OA leader is just easing the transition for the frosh," she wrote. "They've e-mailed me numerous times this week with concerns about classes and extracurriculars and other advice, and it's great for me to be able to help them." ♦

*Kathy Witkowski, who also wrote about the Air Force Academy in this issue, is a freelance reporter in Missoula, Montana, and a frequent contributor to National Public Radio.*



**Student leaders of the orientation groups, and freshman participants, gather in Dillon Gym, on the Princeton campus.**



# OTHER VOICES



## Trouble at the Border

### How U.S. anti-terrorism efforts affect foreign students and visiting scholars

By Robert M. O'Neil

AS THE NEW ACADEMIC YEAR opened on the nation's college and university campuses, there was an alarming decline in the number of international graduate students. The Council of Graduate Schools reported in early September that the number of such students admitted to U.S. graduate programs had declined by eighteen percent from the previous year.

Such a loss reverses a trend that has been generally positive since World War II. A nation that for decades had actively sought, and eagerly welcomed, graduate students from all parts of the world, now appears to many prospective scholarly visitors to be ambivalent at best and downright hostile at worst. The causes and consequences of so dramatic a change merit the urgent attention of the academic community.

The case for embracing foreign graduate students needs little documentation. The quantitative measures alone are striking. During the past two decades, non-citizens have accounted for more than half the growth in the number of Ph.D.s earned in this country, most especially in the biological and agricultural sciences. As Princeton University President Shirley Tilghman (herself once a foreign graduate student in the U.S.) recently reminded a Congressional committee, nearly a third of current doctoral degrees in science and engineering go to foreign nationals; even more impressive, she stressed, is that "two thirds of foreign students who receive a Ph.D. in science or engineering stay in the U.S., taking positions in academia and industry. And nearly 400 of the current U.S. engineering faculty are foreign-born."

The qualitative assessment is equally compelling. American Council on Education President David Ward (who first came to the University of Wisconsin from the U.K. for graduate study) may have put it best in recent Congressional testimony: "International students and exchange visitor programs... dramatically increase the knowledge and skills of our workforce. They boost worldwide appreciation for democracy and market-based economics and give future world leaders first-hand exposure to America and Americans. At the same time, international education generates billions of dollars in economic activity every year."

If one views Dr. Ward as a possibly biased source, similar claims pervade a May, 2002, statement by Attorney General John Ashcroft: "Allowing foreign students to study here is one of the ways we convey our love of freedom to foreign students who will one day return to their countries and take on leadership positions." Thus there is little question that, in the abstract, the presence at our universities of substantial foreign graduate enrollments has been a laudable objective.

Sadly, the climate has greatly changed since the attacks of September 11, 2001. This nation has felt compelled, as President Tilghman described the dilemma in her testimony, to "balance two exceedingly important objectives: to minimize the risk that our laboratories and the materials in them will be used for terrorist purposes, and to maximize the likelihood that the American scientific enterprise will flourish."

The source of this tension was the realization that, as Homeland Security Undersecretary Asa Hutchinson cautioned, "[One of the hijackers] came in on a student visa and was on the flight that went into the Pentagon, and so 9/11 reminds us that there are foreign students that come into the United States not to get an education, but to do us harm." He might have

added that, incredibly, some six months after their deaths, student visas for two of the deceased hijackers were routinely reissued.

The initial response in Congress was clearly overkill. Senator Dianne Feinstein, a California Democrat whose state probably hosts the largest number of foreign doctoral students, seriously proposed a six-month moratorium on all student visas. The higher education community protested so draconian a move, and Feinstein relented. Several weeks later, the House of Representatives passed a version of the USA PATRIOT Act that would have barred foreign students from working in any research laboratories. Mercifully a calmer, wiser Senate did not concur, settling instead for specific restrictions on certain persons and certain hazardous materials, but no blanket ban.

What did emerge was a refinement and tightening of the visa-granting process through the Student Exchange Visitor and Information Service (SEVIS), a web-based system designed to track foreign students and scholars. Although such a system had been in development since 1996, two major changes were made. All colleges and universities were required to participate in the system by the spring of 2003, and the Immigration and Naturalization Service (which had maintained the system) became part of the Department of Homeland Security in the spring of 2003. The administration of SEVIS was then transferred to a new Bureau of Immigration and Customs Enforcement within Homeland Security.

Two aspects of the current system seem to have depressed international applications and enrollments. One has simply been the protracted process of implementing SEVIS—missed deadlines, incompatible reporting systems and the like—which has caused far more grief to the institutions that enroll foreign students than to the students themselves. Recent reports suggest, however, steady improvement in the operation of SEVIS, along with a heightened federal government concern. A General Accounting Office report in late June acknowledged some residual problems and delays with SEVIS, notably in preparing to collect the \$100 fee which every foreign student or visiting scholar must pay as of September 1, 2004.

For students from abroad who seek to study in this country, far graver concerns involve obtaining visas for entry and re-entry. A mid-August letter from the major higher education groups to the chair of the House Committee on International Relations laments that "many foreign students and scholars have experienced significant problems in securing visas" and warns that "the extraordinary delays that affect some foreign students and scholars have had the unintended effect of making the nation seem less welcoming than it truly is." The letter closes by urging the committee to hold hearings as soon as possible on the visa system and its effect upon international academic exchange.

Much evidence of the impact of such delays is anecdotal—a Chinese graduate business student at MIT who went home to visit his family but could not return to Cambridge for three months, missing two conferences, a semester of classes and eligibility for summer internships; or a French doctoral archeology student at Berkeley whose Iranian birthplace has kept him in France for more than a year awaiting a return visa; or a Pakistani engineering doctoral student at MIT who was in limbo for more than two months after a home visit.

While such experiences are not easily aggregated, an informal survey last spring of 1,700 foreign students and scholars at Berkeley revealed that sixty percent of them had experienced delays at U.S. consulates and embassies or at U.S. ports of entry—even among the lucky ones who did eventually get to the campus in reasonably timely fashion.

More ominous than such individual horror stories are broader impressions one gleans from visitors; the MIT Pakistani engineering student, for example, lamented that most of his classmates had initially applied for U.S. visas, but gave up along the way—"given the general perception that, oh, it takes so long and why waste one year of your life, when you can continue somewhere else. Now I would say the top ten percent of my high school class is either in Germany or France right now." Association of American Universities President Nils Hasselmo, urging improvements in the visa-processing system, recently warned that "many of the best and brightest students from abroad no longer believe that the United States is the destination of choice."

While evidence of such disenchantment remains largely anecdotal, we do now have hard data on recent trends in applications and enrollment of foreign graduate students on U.S. campuses. These data describe disturbing shifts in the presence and prospect of international visitors at our most prestigious institutions. The most reliable information about application and enrollment trends comes from surveys conducted in spring and summer, 2004, by the Council of Graduate Schools.

Of the 230 member institutions that responded to the surveys, almost 90 percent reported declines in the number of international graduate applications for 2004-05, compared with the previous year. That decline averaged 32 percent, covering all types of institutions. This report finds striking confirmation from a wholly different source: One third fewer international students took the Graduate Record Examination (required for most U.S. post-baccalaureate study in the arts and sciences) during the 2003-04 academic year than had taken the test the previous year.

The reported decline was sharpest among applicants from China, India, South Korea and Taiwan, although forty percent of graduate deans reported fewer Western European

***"Many of the best and brightest students from abroad no longer believe that the United States is the destination of choice."***

***Sixty percent of foreign students and scholars at Berkeley revealed that they had experienced delays at U.S. consulates and embassies or at U.S. ports of entry.***

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applications. Non-trivial declines were also noted in applications from Australia and New Zealand, from Central America and Mexico, and from Canada, albeit smaller than the losses in Southeast Asian applicants. By subject matter, the decline was most pronounced in engineering, agriculture and biological sciences, although half reported a drop in humanities applicants, and more than half noted a falling off in business and in the social sciences.

Perhaps most ominous, the CGS survey noted that the reduction in the applicant pool was greatest at the fifty institutions that traditionally enroll the largest numbers of foreign students, all but one of which reported declines in 2002-03. The actual admission data reported in late summer were quite consistent in all respects with the application trends that had been noted earlier.

Although CGS cautioned that eventual enrollments this year may not decline in lockstep with applications, if only because some students apply at many places, prior year

***There is little question that the presence at our universities of substantial foreign graduate enrollments has been a laudable objective.***

data on actual enrollments are consistent. The distribution of registered foreign graduate students reflects significant differences by nation—though not necessarily the differences one would have expected. From the academic year 2001-02 to 2002-03, the numbers of students coming to the U.S. from Indonesia and Thailand declined by more than ten percent, while enrollments even from Canada and Germany declined by five percent and four percent respectively—thus suggesting that the impact of the more restrictive environment has not been limited to “sensitive” or “unfriendly” nations and regions. Eastern Europe, which had been a rapidly growing source of

international enrollments in the United States, for the first time sent fewer students in 2002-03 than the year before.

It would be easy to attribute the entire problem to heightened security measures and a less welcoming climate. Other factors could, however, affect the equation, and might have caused some decline in international enrollments even without the terrorist attacks. The Council of Graduate Schools report summarizes these elements: “Overall, global capacity for graduate education is on the rise. Several countries, notably China, have expanded their systems of graduate education, and several countries, specifically Australia and New Zealand, have become highly active in international graduate education. Foreign governments are making aggressive and conscious decisions to expand graduate access and opportunities, both for domestic and international students. Further, the participation of scientists educated abroad in U.S. research is also increasing.”

In such a complex environment, it would be unfair to blame the foreign student decline solely upon heightened national security measures. Moreover, some regions of the world that seem to be sending fewer graduate students to this country are not primary targets of increased surveillance and visa restriction. Perhaps the most that can be said with confidence is that some part of a deeply disturbing trend may fairly be attributed to current limitations on access, and to a less receptive climate for foreign academic visitors.

There are some modestly promising signs that persistent pleas from the academic community are being heard. In late July, the Citizenship and Immigration Service (a unit within Homeland Security) granted an extension or grace period so that student visa-holders could remain within the U.S. for a month or two while awaiting renewal or extension of work visas. Previously—even before September 11, 2001—when the supply of such visas was exhausted before the end of the academic year, visitors had to return home and await the issuance of a new batch of work permits.

On the very same day, SEVIS announced increased staff support and 24-hour availability, among other measures designed to expedite visa processing during the summer. At the end of August, Homeland Security announced it was seriously considering extending security clearances to foreign students and scholars for the duration of their academic program or teaching appointment. Because current clearances are valid for only one year, regardless of the length of the academic commitment, such a change would markedly improve the experience of many visitors, and would sharply reduce visa delays. Since this was a dispensation for which higher education groups had been pressing for some time, the announcement was applauded in the university world.

A curious irony brings us full circle. This welcome change coincided almost to the day with news that the State Department had canceled the visa of Professor Tariq Ramadan, a distinguished Muslim scholar who was about to assume a senior faculty position at the University of Notre Dame. Although the reasons for this action remain obscure, The Department of Homeland Security apparently found Ramadan to be a “person of prominence” whose admission to the U.S. could be barred under a law that targets visitors deemed likely to “engage after entry in terrorist activity.”

The evident basis for such a harsh judgment seems to be Ramadan’s widely expressed hostility toward Israel, and his association with outspoken Islamic critics of U.S. policy in the

Middle East. Such unexplained hostility toward a senior foreign scholar could well undermine the modest gains that have recently occurred, and might further depress the flow of foreign graduate students who so enhance the quality of our academic programs and our institutions. ♦

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## **A Bold Proposal**

### **Increasing college access without spending more money**

**By Donald E. Heller**

**I** OFTEN SPEAK with state and federal policymakers, legislators and others about the issue of college access in America. The conversation eventually gets to the question of what can be done to close the stubbornly persistent gaps in college participation in the nation. These gaps, whether comparing rich students to poorer students, or white students to African American and Latino students, are as large today as they were thirty years ago. Many people are looking for a quick and easy answer to this question. And given the budget constraints in recent years, any solution must be one that does not require an infusion of large amounts of new money.

As with most social problems, there is no “silver bullet” for solving the access problem in the nation. Most researchers agree that the gaps are due to differences between wealthier students and those who are less well off in a number of factors: academic preparation received in K–12 schools; peer, community and family influences and support for college going; and college costs and the availability of financial resources to pay for them.

The federal No Child Left Behind (NCLB) act has as its key goal improving the quality of the schooling received by students in the K–12 sector. Many efforts, including the federal TRIO and GEAR-UP programs, as well as those of private organizations, are focusing on increasing the college aspirations of lower-income students.

The problem of financial resources for college is different from the first two issues in an important way. Unlike the more difficult tasks of determining how best to improve K–12 education (witness the debates over the effectiveness of NCLB) and how to increase the aspirations and desire of lower-income students, we have a good understanding of what it takes to solve the problem of paying for college for lower-income students.

A wide and disparate body of research over more than three decades is consistent in finding that poorer students are the most sensitive to rising tuition prices—they are most likely to choose not to enroll, or be unable to enroll, in college as prices go up, and they are most likely to drop out of college if already enrolled. In the absence of low tuition prices, financial aid—and in particular, grants—has been shown to be most effective in getting these students into college and keeping them there.

It is important to understand that not every student from a poor or moderate-income family is confronted by all three of these barriers—poor K–12 preparation, underdeveloped college aspirations, and a lack of financial resources—when they are making their post-high school plans. Some of these students are able to overcome the challenges they face and prepare themselves academically for college and aspire to go there.

A 2002 report of the federal Advisory Committee on Student Financial Assistance, titled “Empty Promises,” used data from the National Center for Education Statistics to examine the college participation of students who both indicated that they wished to attend a four-year college and were qualified to do so, “having adequate academic course preparation, grades, and aptitude test scores to meet the minimal entrance requirements of most four-year colleges.” The report estimated that there were more than 400,000 students nationally from families with incomes below \$50,000 who met these standards and yet were unable to enroll in a four-year college because of financial barriers. More than 160,000 of these students did not attend any college due to these barriers, not even a two-

***The era of low tuition, which predominated in public higher education for most of our history, is gone and most likely will never be seen again.***

***Eastern Europe, which had been a rapidly growing source of international enrollments in the United States, for the first time sent fewer students in 2002-03 than the year before.***



year institution.

Given that the era of low tuition, which predominated in public higher education for most of our history, is gone and most likely will never be seen again, the easy answer of course is to simply spend more money on financial aid. But as described earlier, that is a solution that most policymakers in both the state and federal governments are not willing to embrace. And as state and college leaders rightfully point out, states and higher education institutions have greatly increased their spending on financial aid.

From 1980 to 2002, tuition prices at public and private four-year institutions have increased at almost the same rate: 412 and 414 percent, respectively (in current dollars). While federal grant spending increased only 135 percent in this same period, institutional grant spending increased more than 1,000 percent. State grant spending increased more than 600 percent, but the fastest-growing type of aid in the states is merit aid, which is awarded disproportionately to higher-income students.

So, absent a major infusion of new financial aid funding, can anything be done to address the college financing barriers faced by the hundreds of thousands of students of moderate means? There is a relatively simple solution, one that does not require spending another penny by either the federal government, states or higher education institutions. And while it likely would not resolve the barriers faced by all these students, it would have a substantial impact on improving college access for many of them.

The solution is to require that all state and institutional grants—money already budgeted and being spent, not new funds—be awarded according to financial need criteria similar to those used in the awarding of federal Pell grants. While funding for the Pell program has lagged behind the increases in tuition prices, as noted above, Pell has remained highly targeted to students from families below the median income in the nation.

***Most policymakers in both the state and federal governments are not willing to embrace spending more money on financial aid.***

Data from the National Postsecondary Student Aid Study, a nationally representative survey of college students conducted in the 1999-2000 academic year, show that 97 percent of Pell grant funds awarded by four-year institutions to traditional-aged college students went to those from families earning below \$45,000 annually, or approximately the median family income in the nation.

The targeting of state and institutional grants is quite different from that of Pell grants, however. In that same year, these four-year institutions awarded more than \$8.5 billion in grants to undergraduates, and 64 percent—\$5.5 billion—was awarded to students from families with income *above* \$45,000. In addition, \$800 million in state grants (38 percent of the total) went to these higher-income students. Thus, more than \$6 billion in grants were awarded to students whose families were too wealthy to qualify for Pell grants.

This \$6 billion, if redirected to Pell-eligible students already attending college, would double the total amount of grant aid they received. Alternatively, all or some of this money could also be used to promote the college participation of the 400,000 students from low- and moderate-income families whom the Advisory Committee found could not afford to enroll in a four-year college. And all of this could be accomplished without adding a single new dollar to the financial aid pool.

But what about the wealthier students from whom the grants were taken? Would the increase in their net cost of attendance cause them to drop out of college or not enroll in the first place? The research tells us that very few of them would respond in this fashion. These students tend to have what economists call a low price elasticity; in simpler terms, their college participation is much more resilient in the face of price increases.

Some may argue that using median income is too harsh a cutoff point, that middle-income students still deserve some grant support. We could increase the cutoff to \$65,000—or approximately 150 percent of median income—and still increase the amount of grant aid available to Pell-eligible students by 63 percent, or \$4 billion.

Others may argue that it would not be fair to take away all the grants going to students above the cutoff point. A compromise that would redirect just half of the aid to poorer students would still generate \$3 billion in new grant aid using the median income cutoff, or almost \$2 billion in new aid using the \$65,000 cutoff. Two billion dollars would provide enough funds to award a Pell grant of \$4,050 (the current maximum) to every one of the 400,000 students identified by the Advisory Commission as being priced out of a four-year college.

It is unlikely that this change would occur if states and higher education institutions were left to their own devices. Merit aid programs, which award their grants disproportionately to higher-income students, have proven to be extremely popular in the states and are the fastest-growing form of state aid. Merit aid is also growing faster than need-based grants in colleges and universities. The competitive environment faced by many institutions has encouraged them to use financial aid for enrollment management purposes, rather than to promote access for needy students. All the jawboning in the world is unlikely to change the recent trend of awarding more and more grants to higher-income students.

***Merit aid programs, which award their grants disproportionately to higher-income students, are the fastest-growing form of state aid.***

The best way to implement this program would be to use a “carrot” approach as a means of encouraging institutional behavior. Six years ago, in their book, “The Student Aid Game,” economists Michael McPherson and Morton Owen Schapiro suggested a new “piggyback” Pell program that would award additional federal grant dollars to students attending institutions that pledge to meet a substantial portion of the financial need of Pell-eligible students.

But in the current policy environment that dominates Washington, it is unlikely that Congress will commit significant new funding for federal grants. If the carrot is not available, then Congress could use the stick by requiring that to participate in the Title IV student aid programs, which provide Pell and other federal grants and guaranteed loans, colleges and universities would have to agree to award all or a significant portion of their own aid using the same financial need criteria used to award Pell grants.

***The crisis in college access for lower-income students calls for bold action.***

Any proposal by Congress to move in this direction is likely to be met with an outcry from higher education institutions and their membership organizations in Washington. Shouts of “institutional autonomy” and “don’t tell us how to spend our own money” will be heard up and down the halls of the Capitol. But Congress does have the legislative authority to make such a change if it so chooses.

As with most other policy proposals, this one could have unintended consequences. With less control over how they can spend their own institutional grant dollars, colleges and universities may cut their spending on financial aid. Alternatively, they may choose to raise tuition even higher, in order to generate more tuition revenue that can be recycled as grant dollars to replace some of those redirected away from the higher-income students. But as long as a significant proportion of this increased grant spending is targeted at lower-income students, this might actually help increase college access.

Accomplishing the redirection of state aid is a bit trickier. The Higher Education Act provides the federal government with no direct authority over state aid programs. States would have to be encouraged to reverse the trend toward non need-tested merit aid. This could be done by implementing income caps on these programs, which would allow them to still reward “merit” as defined by each state while ensuring that the grants are awarded to students who need the money to be able to attend college.

I spend enough time researching and engaging in higher education policy discussions to know that it will be difficult to garner political support for this proposal. But the crisis in college access for lower-income students identified by the Advisory Committee on Student Financial Assistance calls for bold action.

If constrained resources make it unlikely that large new sums of money can be made available for targeted aid, then it is time for the discussions about financial aid policy to examine other alternatives that can help needy students attend college. The debate will likely be emotional, difficult and potentially divisive, but it is a conversation in which this nation needs to engage. ♦

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## Assessment Literacy

### Do educators know how to make use of the new avalanche of standardized test data?

By Rebecca Zwick

IT IS NO SECRET that standardized testing in America’s schools has undergone unprecedented growth in recent years. A 2001 survey showed that California students in grades two through 11 spent an average of six to eight hours per year on standardized tests. To the existing array of state- and district-mandated testing, schools are now adding the tests required by the No Child Left Behind Act of 2001: Annual assessments in reading and mathematics for students in grades three through eight are to be implemented by the 2005-06 school year, and by 2007-08, schools must test students in science at least once in elementary, middle and high school.

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No Child Left Behind (NCLB) has also increased demands on teachers, principals and superintendents to use standardized test data to strengthen instruction and improve the management of schools. Future school leaders “must be adept at using data to improve teaching and learning,” according to a 2002 report from the Center on Education Policy, an independent organization based in Washington, D.C. “Too often, test data are used only for accountability, rather than to diagnose the needs of individual students and improve their education. Much more test data will soon be available, because the new federal requirements require states to produce descriptive and diagnostic information, as well as individual test results.”

But what if teachers and school administrators don’t have the training needed to interpret or use this wealth of information? The educational software industry has been quick to respond to this potential market by generating a raft of new products. For example, according to the website for one software package, the system can create “NCLB-like reports,” as well as “collect real-time data and perform sophisticated analysis of multivariate data such as student demographics, test scores, attendance, discipline, staff development, financial information, and more.” Users are assured that the product will “empower their decision-making processes” and allow them to “assess the relationships between student learning and the learning environment.”

Software availability, however, is not the answer to the assessment training gap. On the contrary, these classroom computer packages often serve only to add to the glut of impenetrable data with which today’s school personnel are inundated. One teacher told me that her school had provided her with classroom software that yielded an abundance of statistical information about student performance. The problem, she said, was that she had no idea how to interpret these student results or use them to improve her teaching.

To get an idea of just one type of standardized test data that teachers must digest, I obtained a report of math and language scores for a local fifth grade class on the Stanford Achievement Test Series, a widely used assessment tool published by Harcourt, Inc. (The report was for the ninth edition; the tenth edition is now in use.)

Assuming the teacher can decode the many obscure abbreviations, she still needs to understand the following terms and concepts in order to comprehend the report: mean raw score, mean national normal-curve equivalent, national individual percentile rank, stanine score, and national grade percentile rank (all of which are provided for ten mathematical and verbal “subtests and totals”). The report also gives the percentage of children who are below average, average and above average in 38 “content clusters.”

When I subsequently met with students pursuing master’s degrees in education and teaching credentials, to get their reactions to the score report, many acknowledged that they found much of it baffling. And in surveys conducted by my research team, both teacher education students and current school personnel revealed substantial gaps in their knowledge of fundamental principles of educational measurement and statistics. Many were unfamiliar with basic concepts, such as the definitions of test reliability and measurement error. And when told that “20 students averaged 90 on an exam, and 30 students averaged 40,” only half of a group of experienced K–12 teachers and administrators were able to calculate the combined average correctly.

This finding, of course, is just the tip of the iceberg. Understanding standardized test results well enough to use them productively requires much more than just a grasp of technical terms and a knowledge of basic statistical principles. A teacher or principal

might well have many questions about the interpretation of a test score report that go beyond definitions and formulas. How precise are these scores? Are some more important than others? When is the difference in scores between two students large enough to be noteworthy? How about the difference in average scores between two classes, or the change in average scores over time? How do changes in the school population affect the interpretation of achievement trends? What does it mean to say that a difference between average scores is statistically significant? How is statistical significance related to educational importance? What information about a student’s particular strengths and weaknesses can be gleaned from the test results?

Although there is little formal research in this area, it is widely recognized that most educators are not well-equipped to respond to the increasing emphasis on the interpretation of standardized assessment results. According to a local superintendent, “Increasingly, school personnel are expected to use test results to make curricular decisions, to identify students, classes or schools that require additional instruction or resources, and to explain test results to parents, students and the media. Many teachers and principals, however, do not have the background needed to perform these tasks effectively.”

Another school administrator said, “In this era of increasing accountability, training is

***Most educators are not well-equipped to respond to the increasing emphasis on the interpretation of standardized assessment results.***

***Teachers should be familiar with terms and concepts such as percentile ranks, percentile bands, grade-equivalents, and errors of measurement.***

needed now more than ever before. Educators must do a better job of using assessments to inform instruction. Good decisions are often hampered by a limited understanding of what test results really mean.”

But why hasn’t the recent boom in state and national testing produced a flurry of training efforts in the area of educational measurement and assessment? Ultimately, the answer lies in state licensing requirements. Students in teacher and administrator training programs have schedules that are jam-packed with required courses and internships. Classes in areas that fall outside the requirements are, at best, reluctantly omitted or, at worst, regarded as unnecessary frills.

In a 2002 *Education Week* article, Rick Stiggins, founder of a company called the Assessment Training Institute, noted that “only a few states explicitly require competence in assessment as a condition for being licensed to teach. No licensing examination now in place at the state or federal level verifies competence in assessment. Since teacher-preparation programs are designed to prepare candidates for certification under these terms, the vast majority of programs fail to provide the assessment literacy required to prepare teachers to face emerging classroom-assessment challenges.

“Furthermore, lest we believe that teachers can turn to their principals for help, almost no states require competence in assessment for licensure as a principal or school administrator at any level. As a result, assessment training is almost nonexistent in administrator-training programs.”

What can be done about this state of affairs? Clearly, state licensing requirements for teachers and administrators, including the licensing exams themselves, must be reformed to reflect the importance of assessment literacy in today’s testing-conscious environment. Required topics must include the educational measurement and statistics concepts needed to interpret the results of large-scale standardized tests, to use these results to inform instructional decisions, and to explain them to others. Once the content of teacher and administrator licensing exams is modified, curricular changes in teacher education programs are sure to follow.

Unfortunately, because changes in licensing and course requirements need to clear multiple bureaucratic hurdles, they are likely to be slow. What steps can be taken in the meantime to address this critical training gap? This question was considered in a 1990 document, *Standards for Teacher Competence in Educational Assessment of Students*, developed by the American Federation of Teachers, the National Council on Measurement in Education, and the National Education Association. The statement proposed standards for training teachers in assessment-related skills, including “competencies underlying teacher participation in decisions related to assessment at the school, district, state and national levels.”

The document enumerated concepts and terms with which teachers should be familiar, such as percentile ranks, percentile bands, grade-equivalents, and errors of measurement. The statement further expressed concern “about the inadequacy with which teachers are prepared for assessing the educational progress of their students” and recommended that “assessment training be widely available to practicing teachers through staff development programs at the district and building levels.” Although this standards document is now 14 years old, it is, regrettably, still current: On-the-job opportunities for teachers and administrators to increase their assessment literacy are still needed.

During the next three years, my research team at UC Santa Barbara will be making one effort in this direction. As part of a project sponsored by the National Science Foundation, we will be developing instructional materials for teachers and administrators at K–12 schools. These 30-minute modules, which will be available in DVD, videotape and web-based formats, will address a variety of questions about the appropriate interpretation of standardized test results.

In order to be successful, on-the-job instruction of this kind needs to have three properties. First, it must be practical, using common-sense language and emphasizing information that is needed in the daily work of school personnel. Second, it must be specific, ideally making use of examples involving the same standardized tests the teacher or principal must administer, score or interpret. Third, the instruction must be convenient: Instructional materials must be made available for teachers and administrators to use at the time and location that is convenient to them. For some, this may involve taking advantage of a free class period; for others, it may involve borrowing materials to take home.

We have entered an era in which teachers and school administrators are expected to use standardized test results to make instructional decisions, pinpoint schools, classes and individuals that require added attention or resources, and explain test results to students, parents, the school board and the press. At least until certification programs are restructured to provide the required instruction, on-the job training efforts will be needed to help school personnel perform these functions effectively. ♦

***The No Child Left Behind Act has increased pressure to use standardized test data to strengthen instruction and improve the management of schools.***

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## AIR FORCE ACADEMY

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which has begun a remarkable effort to transform the academy into a safer and more effective school.

"This is the only place I wanted to be. It's been a lifetime dream for me," Mryamn said in early August, shortly after completing five grueling weeks of basic training, and the day before she was officially accepted into the cadet wing during an elaborate outdoor ceremony that included a marching parade and a flyover by a fighter jet. "I could have gone to an Ivy League School, but it's not the same."

Not the same, indeed. As a USAFA

***"We looked under the rock of sexual assault, and there was a rattlesnake."***

**—LT. COL. CHRIS LUEDTKE**

cadet, she is a member of the armed services. So, except on rare occasions, she must wear a uniform on campus. She must snap to attention when an officer enters her dormitory area or classroom, salute when an officer passes her outside, and address all those who outrank her as "sir" or "ma'am." Her room must be neat and orderly, her bed made to specifications, and her clothes neatly folded in the drawer beneath it, laid out according to a diagram provided her. She can't display more than two pieces of personal memorabilia, like photographs, or use non-issue bedding until her second year; can't have a plant or a coffeepot until her third year; can't have a television until her last year.

Several times a week, she must march to lunch in formation. Attending classes and extracurricular activities is a military duty; skipping them could lead to disciplinary action. As a freshman, known as a "four-degree" or "fourth-classman," she is expected to memorize academy trivia and Air Force regulations, and other information that she can recite on demand. At football games, she has to do "motivational" push-ups whenever the Air Force team scores.

Throughout her academy career, she



**Lt. Colonel Chris Luedtke is deputy director of the team that makes sure sexual assault and harassment allegations are investigated.**

must respect strict curfews. The door to her room must remain open if a male is with her. She may never engage in public displays of affection on campus or when in uniform, nor may she engage in sexual relations on campus.

In exchange, she receives a tuition-free education at one of the nation's top colleges (*The Princeton Review* recently rated the academy 18th for overall undergraduate academic experience), and a monthly stipend of nearly \$800. Upon graduating, she will be commissioned as a second lieutenant, at which time she must serve at least five years in the Air Force.

If the new leadership is successful, she will earn her degree from a much-reformed academy, one that not only does a better job of protecting its female students, but ensures that all of its cadets are treated more professionally than in the past. It will be an institution that demands the highest standards of integrity, rather than reflecting what leadership has come to believe is society's lack of it.

That will not be an easy task, but it is imperative, said Brigadier General Johnny Weida, who in April 2003 was appointed commandant of cadets and acting superintendent (he has since relinquished the latter post). Immediately, Weida set about implementing sweeping changes called for by Air Force Secretary James Roche. Laid out in a March 2003 document called "Agenda for Change," those new policies cover virtually every aspect of cadet life: from how women are housed at the academy, to how cadets are disciplined, to how reports of sexual assaults are handled.

"It's extremely important that we get this right," said Weida. The United States Air Force wields lethal instruments of national power, and its officers, Weida said, "can do great harm, because they've been given great responsibility and are asked to do things in far-flung places where there's very little supervision."

So, what happens at the academy, which graduates 20 percent of all Air Force officers, has implications that extend well beyond its secluded 18,000-acre campus at the base of the Rocky Mountains.

Weida arrived at the academy to find the cadets reeling in the wake of the scandal, focused on what they quietly referred to amongst themselves as "Operation Graduation," and little else. "We were just counting the days," said Priscilla Giddings, 21, of Riggins, Idaho, a biology major and competitive power lifter who wants to train to be a pilot after she graduates in June.

"I almost cried the first time I came back (in April 2003)," said Colonel Debra Gray, vice commandant of cadets. A graduate of the academy's class of 1980, the first class to admit women, Gray had served in the administration twice before. But never had she seen the cadets like this. "They were dejected, they were demoralized. And I was so sad. It broke my heart."

Female cadets are fond of saying that they think of their male classmates as "brothers," and all eight who were interviewed for this article insisted they feel safe and always have. Male cadets were distressed to find themselves thought of as rapists.

To add insult to injury, many cadets were dismayed to have learned about the allegations from the media rather than from USAFA leaders. "All of us were surprised," said cadet Christine Knieff, 20, a political science major from Brookings, South Dakota, who is in her third year at the academy. "We were caught in the middle of a storm." And, she added, "It was frustrating, because I felt the media was attacking us."

Some cadets—especially females—downplay the legitimacy of the sexual assault allegations. "No" should mean "no," but some of the girls involved were "a little sketchy," said Jessa Liegl, 21, a senior (or "first-degree") from Lincoln, Nebraska, echoing a common theme voiced by female cadets and their parents.

"These things happen on all college campuses," said Kim Dalrymple, of O'Fallon, Illinois, who is thrilled that her daughter, Diana, is one of five members of her high school class to enroll at USAFA this year. "They want to be with people as patriotic, motivated and as concerned about life as they are," said Dalrymple, a retired Air Force colonel who came to the academy in early August to watch her daughter in the Acceptance Parade. "I know that the officials here will take care of everything. I don't fear for my daughter at all."

Mryamn's father, retired Air Force Lt. Col. John Ruth, also attended the parade. At Mryamn's request, he had made the journey from Oklahoma City so that he could pin on her newly earned epaulets, or "shoulder boards." He was so proud, he said, that he was nearly in tears. He is not worried that his daughter could be sexually assaulted, because he trusts Mryamn to make good choices. "Each one of those girls put themselves in that situation," said Ruth, adding, "I think it's overblown by the media."

But there is no such equivocating or denial by the USAFA leadership.

"Sometimes it takes a crisis to address an issue," said Commandant Weida. "Every challenge is an opportunity to make your organization better, and that's the approach we're taking. We're not hiding from it. We're admitting it, and we're going to make it better, if it can be made better by human effort."

Between 1993 and 2002, 142 cadets (including three males) alleged that they were sexually assaulted or raped, according to an internal Air Force general counsel's report released in June 2003. Nearly two-thirds of those allegations involved cases in which both the victim and perpetrator were cadets, according to the report, but only 61 cases were investigated. The actual number of sexual assaults may be much higher: According to a May 2003 survey of female cadets conducted by the Department of Defense Inspector General, 80 percent of those who said they had been victims of a sexual assault did not report it.

An independent commission chaired by former U.S. Congresswoman Tillie Fowler subsequently blasted the academy and the Air Force leadership for failing to respond aggressively to the charges, and blamed what the commission called "a chasm of leadership," and "an atmosphere that



PHOTOS BY ROD SEARCEY FOR CROSSTALK

***"This is the only place I wanted to be," says first-year cadet Mryamn Ruth. "It's been a lifetime dream for me."***

helped foster a breakdown in values which led to the pervasiveness of sexual assaults."

When Weida set out to examine and define the issues the school faced, he was disturbed by what he learned. "The problem was described as a sexual assault issue," he said. "But what we found was that it was really broader and deeper than that. And it's not just at the Air Force Academy."

The sexual assaults, USAFA officials have come to believe, were symptomatic of far more deep-seated and insidious problems that have their roots outside the academy, but which festered inside its gates. Alcohol was often involved in the incidents. Officials also believe a general decline in societal values and integrity is partly to blame.

***"Every challenge is an opportunity to make your organization better, and that's the approach we're taking."***

**—BRIGADIER GENERAL JOHNNY WEIDA**

"We looked under the rock of sexual assault, and there was a rattlesnake," said Lt. Col. Chris Luedtke, deputy director of the Academy Response Team, which was created to ensure that allegations of sexual assault and sexual harassment are properly handled and investigated.

In a "commandant's guidance" memo distributed to all the cadets and officer squadron commanders in September 2003, Weida wrote: "If we are to right the course and put this institution back on an honorable footing, we must embrace the problems and seize the opportunity to do what's right. We must recognize we have an environment that incubates sexual harassment until it festers into sexual assault. We must recognize we have an environment that sometimes marginalizes the achievements of our teammates based on their gender. We must recognize we have

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an environment that...tolerates the unlawful and inappropriate use of alcohol...tolerates violations of cadet wing standards...tolerates cynicism."

That environment was fomented by an institutionalized system that pitted the upperclassmen against the freshmen.

**According to a May 2003 survey of female cadets, 80 percent of those who said they had been victims of a sexual assault did not report it.**

"The system got off the tracks," said Lt. General John Rosa Jr., who was appointed USAFA superintendent in July 2003. "Young people did not respect each other. They used power, control, influence."

"As an underclassman, you couldn't do anything that was right," recalled cadet Priscilla Giddings. "Then once you were an upperclassman, you had all this freedom."

And that freedom was in turn used to intimidate the new four-degrees, whose lowly status was reinforced by their other, informally used names: "doulies," derived from the Greek word *doulos*, or slave, and "SMACKs," an acronym for "Soldiers, Minus Aptitude, Character and Knowledge."

Upperclassmen often imposed physical punishments for the smallest infractions. As a four-degree, Priscilla once had to do 50 push-ups because she had used an acronym, which is forbidden.

The threat of such "spot corrections" caused her and her classmates to hide from the upperclassmen. "Fourth-classmen would be scared to walk into the hallway. They would be scared to go to the bathroom," said Priscilla.

"They would be doing push-ups morning, noon and night," recalled Major James Rickman, chief of standardization, evaluation and policy, and a former squadron leader. The idea, he said, was "to put as much stress as they could on fourth-classmen."



**Under the old academy rules, cadet Priscilla Giddings once had to do 50 push-ups for using a forbidden acronym.**

The new leadership concluded that that was not an effective way to train good leaders.

"If you're abusive and disrespectful when you train, then that's what you'll get," said Rosa.

The administration also handed out physical punishments as part of the cadet disciplinary system: Cadets who violated rules could be forced to march in circles, carrying a training rifle, for hours at a time. "We were teaching these cadets the wrong things, things they wouldn't use after graduation," said former squadron leader Rickman.

The new policies have been designed to make the academy more like the operational Air Force. The cadet disciplinary system, which relied on demerits and physical punishment, has been replaced by the Uniform Code of Military Justice, which also governs the Air Force, and which relies on counseling, admonitions and reprimands (and in extreme cases, legal action). Upper-class cadets still are responsible for helping to train the four-degrees, but they no longer impose physical punishments, and they no longer lead the dreaded afternoon training sessions that were known as "beat-downs," which involved prodigious amounts of sit-ups and push-ups and long "rifle runs." Instead, four-degrees have "personal excellence time" to work out on their own.

Even basic training has been modified to reflect the new emphasis on professionalism; there are now limits on the physical feats the upper-class trainers can demand, and a lot less yelling. Gone are the days of 2,005 push-ups, something Priscilla Giddings and her squadron once had to perform.

And a "four-class" system that emphasizes different aspects of leadership training throughout a cadet's career has replaced the "fourth-class" system that was almost exclusively focused on getting the four-degrees to toe the line. In addition, the academy significantly stepped up the number of cadet briefings it holds to address sexual assault and harassment, race, alcohol, and character development. And each of the 36 squadron leaders, known as Air Officers Commanding, or AOCs, must have a master's degree in counseling.

"Initially, everyone's impression was that it was a touchy-feely thing," said AOC Major Joseph Richardson, who already had a master's degree in aeronautical science before he volunteered for his academy assignment. But he has come to appreciate the value of his newly earned graduate degree in counseling and leadership. "The more tools you have in your tool bag, the more equipped you will be to inspire, motivate and lead," he said.

Cadets say that the new emphasis on civility and professionalism has already improved both behavior and morale. Even though the sexual assault and harassment briefings mostly cover common-sense items, "You definitely watch the jokes you tell now," said Eli Supper, 24, of Santa Barbara, California, now in his third year at the academy. "You're more self-conscious now."

Fourth-classmen "will always be fourth-classmen," but "I respect their right to live now," said cadet Justin Hinrichs, 23, of



**"The system got off the tracks," says Academy Superintendent Lt. General John Rosa Jr. "Young people did not respect each other."**

Bloomington, Minnesota. "It was really hard at first to adjust. But it's made us a better academy."

But USAFA officials say true culture change will be years in the making. "We've come a long way, but we still have miles to travel in this journey," said Weida, the academy commandant.

In the academy's most recent annual survey of cadets, conducted in August, 54 percent of respondents said that sexually explicit comments are made occasionally to frequently. That number is down from 86 percent a year ago, but still too high, according to USAFA officials. In addition, fewer cadets—19 percent as compared to 31 percent a year ago—reported witnessing sexual harassment. But underage drinking remains a problem: 43 to 58 percent of underage cadets in the upper three classes reported drinking in the past year.

And while more than 85 percent of the classes of 2007 and 2008 said they supported efforts to change the culture at the academy, less than 80 percent of the classes of 2005 and 2006 did.

"A lot of upperclassmen will tell you we have gone soft," said Major Rickman. Similar concerns have been expressed by academy graduates. To counter some of the criticism, the academy hosted 200-plus alumni at a leadership conference in August designed to educate them about the changes.

The academy has also come under fire from victim advocates for the way it is handling sexual assault allegations. The new policies require that every allegation be reported through the chain of command and investigated by law enforcement.

Victim advocates say the threat of losing anonymity could deter victims from seeking help. But the Air Force can not afford to focus exclusively on the victim at the expense of the institution, said Colonel Gray, who oversees sexual assault allegations. Nearly 85 percent of sexual assaults are committed by non-strangers, and the Air Force Academy cannot allow a sexual predator to remain in its midst and go on to the operational Air Force, she said. "We cannot have those kind of people in our military."

But she acknowledged that hers is a difficult task. "The odds we're up against are astronomical," she said, since most sexual assault victims are unwilling to come forward. (According to the cadet survey,

33 percent of female cadets said they would report a sexual assault. That is up from 22 percent last year, and twice as high as the national average, still, many cadets indicated that they would not report a sexual assault for fear of self-incrimination or ostracism.)

Thirty incidents of sexual assault and harassment have been reported since April 2003, but it is unclear whether that is good news or bad. Even though it is counterintuitive, "You know you're successful if your reporting goes up," Gray said. "If the reporting goes to zero, we know we have a problem."

In the meantime, as part of its "A to Z scrub," as Weida described it, leadership is reviewing proposals that would change how the honor code is taught and implemented.

And USAFA officials are developing an ongoing assessment to track academy graduates who are serving in the Air Force, so that the academy can see what kind of officers it is producing. There have been indications that USAFA graduates in the Air Force misbehave more than their counterparts, said Superintendent Rosa.

"Are the taxpayers getting their money's worth from the Air Force Academy? I don't think you can answer that question with facts right now," said Weida. "Systematically, we ought to do a better job of answering that question."

Finally, USAFA officials are trying to figure out how to prevent trouble before it starts, by more careful screening of applicants. "If we bring in an 18-year-old who doesn't have a moral compass, you're fooled into thinking you can give them one," said Weida.

One thing Weida promises will not happen at the United States Air Force Academy: "We won't change our standards. If we change our standards, lower our standards, then you might as well close the place." ♦

*Kathy Witkowsky is a freelance reporter in Missoula, Montana, and a frequent contributor to National Public Radio.*