

State Scholars Initiative
NATIONAL SUMMIT
on Academic Rigor and Relevance



NO LONGER AT RISK: A NATION IN PERIL

SUMMARY OF PROCEEDINGS



"All education springs from some image of the future. If the image of the future held by a society is grossly inaccurate, its education system will betray its youth."

–Alvin Toffler
Author/Futurist

Introduction

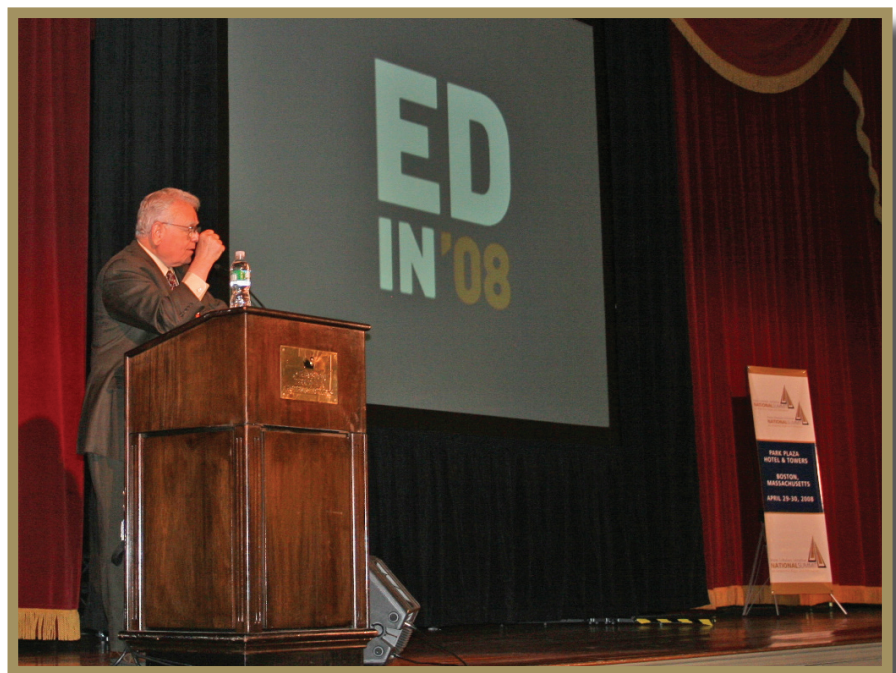
We are a nation in peril. "The rising tide of mediocrity" foreshadowed 25 years ago in *A Nation at Risk* has given way to a host of ills. High school students who are actually reading less well than 25 years ago.¹ A steep decline in our production of college graduates, relative to that of other nations.² An impending shortage of 12 million educated workers.³ These discouraging realities have led to a deep dissatisfaction in our business communities, which are eager for capable, skilled workers and unable to find them. Once an international leader in education, the United States has forfeited this position to other countries. No longer "a nation at risk," we are a nation in the midst of an educational crisis that threatens to undermine our position in the world.

These were the central issues addressed at the National Summit on Academic Rigor and Relevance, hosted by the State Scholars Initiative (SSI) on April 29-30, 2008, in Boston. The summit brought together almost 300 participants: business leaders, policymakers, educators, administrators, and others. Participants were asked to examine the role and effectiveness of the business community in driving national education reform conversations; and to discuss policy reform efforts to increase academic rigor and improve academic relevance in high school. Thirty-six states and territories were represented, including: Alabama,

Alaska, Arkansas, Arizona, Colorado, Connecticut, Florida, Georgia, Guam, Hawaii, Indiana, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Maryland, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Mexico, North Dakota, Oklahoma, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Virgin Islands, Virginia, West Virginia, and Wyoming.

Plenary speakers included:

- ◆ **Phyllis Hudecki**, executive director of the Oklahoma Business and Education Coalition.
- ◆ **Charles Kolb**, president of the Committee for Economic Development and SSI Advisory Board member.
- ◆ **Leon Lederman**, Nobel laureate in physics, resident scholar at the Illinois Math and Science Academy, and SSI Advisory Board member.
- ◆ **Mark Milliron**, CEO of Catalyze Learning International.
- ◆ **Lorena Riffo Jenson**, chairwoman of the Utah Hispanic Chamber of Commerce.
- ◆ **Roy Romer**, former governor of Colorado and superintendent of the Los Angeles



Roy Romer, Former Governor of Colorado and Chairman, Strong American Schools.

Unified School District from 2001-06, now head of the Strong American Schools initiative.

- ◆ **Belle Wheelan**, president of the Commission on Colleges of the Southern Association of Colleges and Schools.

Also addressing the summit were David Longanecker, president of the Western Interstate Commission for Higher Education, which manages SSI; and Troy Justesen, assistant secretary of the U.S. Department of Education's Office of Vocational and Adult Education. Speakers and participants addressed the critical need to improve rigor and relevance in high school in order for the United States to actively participate in an increasingly competitive global economy and society.

Globalization

This is an era of international competitiveness and market globalization. In the last 25 years, we have seen a shift from placebound economies with relatively fixed metrics to a rapidly growing, quickly changing global economy with emerging markets in developing nations. According to a Council on Competitiveness report, "billions of people have entered the global trading system, opening consumer markets and labor pools of unprecedented size."⁴ As a result U.S. firms compete with more companies from more countries than at any time in history.

Despite an increased focus on American educational performance and some improvement in educational achievement, the last 25 years have not brought the progress we might have



L-R: Leon Lederman, Nobel Laureate in Physics, Resident Scholar at the Illinois Math and Science Academy, and SSI Advisory Board Member; David Longanecker, WICHE President; and Troy Justesen, Assistant Secretary of the Office of Vocational and Adult Education, U.S. Department of Education.

anticipated. As a nation we simply have not been able to mobilize for change. Why not? Some argue that the slow, steady decline we're experiencing is inevitable: the natural drop-off of an advanced civilization that has peaked. Others argue that our own pride and complacency are the culprits. Prosperity has brought malaise. We've been a nation with so much for so long that we don't see the need for change.

Whatever the reason, the facts remain. Other countries are rapidly and steadily increasing the educational attainment of their youth, while

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the United States continues to fall behind many countries in student achievement and educational attainment.

Across the globe, from Ireland to India and South Korea, other countries appreciate the need to improve educational attainment levels in multiple subject areas. Indeed, they have successfully improved their educational attainment rates – and have done it relatively quickly. Though critics and cynics argue that such improvement is incremental and takes decades, data from the Organisation for Economic Co-operation and Development (OECD) demonstrate that educational progress can be made in one generation.⁵

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Stated plainly, the United States does not have another 25 years to make the attainment gains necessary to support our population and our economy. We need to shift our perspective now. We must look to the world’s performance as the new benchmark for American educational achievement and attainment.

STEM Declines

Critical to the prosperity of the country is our performance in science, technology, engineering, and math – the so-called STEM fields. Once a leader in math and science, the United States is slowly relinquishing this position. Despite the trend toward global outsourcing, the United States has more than enough jobs in the STEM fields. What we lack are the scientists, engineers, and mathematicians to fill those jobs and advance these fields and their associated technologies: we simply don’t have enough STEM professionals to meet the nation’s needs. As a result U.S. companies are forced to go to other countries to find the skilled professionals they seek. In 2001 the U.S. Commission on

National Security/21st Century reported that “fully 37 percent of doctorates in natural science, 50 percent of doctorates in mathematics and computer science, and 53 percent of doctorates in engineering at U.S. universities are awarded to non-U.S. citizens.”⁶ For these doctoral recipients, a growing emphasis on the STEM fields in their own countries is enticing them to return home. We have become dependent on foreign-born scientists and mathematicians. So dependent, in fact, that should they “further accelerate their return home, the American population alone may not be able to sustain the needs of the U.S. economy.”⁷ Ironically, getting H-1B work visas for foreign-born scientists, mathematicians, and engineers is increasingly difficult: Microsoft’s campaign to lift the cap and increase the number of these visas illustrates the point.

There is a deeper need to educate all of our students with the fundamentals of biology, chemistry, physics, and mathematics through algebra II (at the very least). Today, for



Charles Kolb, President, Committee for Economic Development, and SSI Advisory Board Member.



L-R: Lorena Rizzo Jenson, President, DPR Communications, and Chair, Utah Hispanic Chamber; Phyllis Hudecki, Executive Director, Oklahoma Business and Education Coalition; Mark Milliron, President and CEO, Catalyze Learning International; and Belle Wheelan, President, Commission on Colleges of the Southern Association of Colleges and Schools.

professionals and laypeople alike, an active civic life requires that we have a solid grasp of these subjects: to understand global warming, for instance, we need to know something about physics, environmental science, biology, and biological transitions. Mundane daily activities like cleaning the kitchen, driving to work, and talking on the phone require laypeople to understand technology. Today, refrigerators have motherboards, cars are “smart,” and cellphones transmit not only voices but news and information from around the globe. According to Joe Schoendorf of Accel Partners, “Roughly five to ten years from now 5 billion of the 6 billion-plus people on earth will have a cell phone.”⁸ An understanding of science and technology is essential to understanding how the world works.

Changing Demographics

As the United States embraces the opportunities and challenges of globalization, it is also undergoing another change: experiencing a demographic shift that will continue into the foreseeable future. While many industrialized

nations are experiencing declining population rates, the United States’ population is projected to increase .8 percent annually, resulting in 420 million people by 2050.⁹ In addition, we are becoming a “minority-majority” nation. Take a look at demographic data for high school graduates: according to WICHE’s 7th edition of *Knocking at the College Door*, U.S. public high schools will graduate about 207,000 more Hispanics in 2014-15 than in 2004-05, a 54 percent increase; we’ll also see almost 46,000 more Asians/Pacific Islanders (a 32 percent increase), some 12,000 more Black non-Hispanics (3 percent increase), about 2,000 more American Indian/Alaskan natives – and 197,000 fewer White non-Hispanics, a

drop of 11 percent.¹⁰ This growth, however, is unevenly distributed throughout the country, with some states, like Arizona, Florida, Georgia, Nevada, Texas, and Utah, experiencing explosive increases – 20 percent or greater.

This is all good news – or it could be. We have the population growth necessary to meet the nation’s needs, and our diversity will better reflect the world as a whole. The challenge, and it’s a big one, is to make our diversity work for us and to serve our minority populations well – something we haven’t done in the past. According to Kati Haycock of The Education Trust, “While we are making some progress as a nation in improving achievement and narrowing long-standing gaps between groups at the elementary grades, achievement is mostly stagnant in our high schools. And the gaps between groups at the end of high school are very large.”¹¹ In fact, the image of the future we’re providing for minority youth as they near adulthood is incongruent with the needs of the nation. Too often these students are left in academically rigor-

less and irrelevant learning environments that do not prepare them to participate in a global economy that demands creativity and innovation from businesses and workers at virtually every level.

Curriculum, Competencies, and Evidence

Twenty-five years ago, *A Nation at Risk* called us to action, demanding that we increase rigor in our high schools (among other things). Twenty-five years later, little progress has been made. To complicate matters further, there is an emerging tension between those who advocate for the courses students need to take and those who advocate for the competencies that students need to demonstrate. Support for one group over another detracts from this fundamental truth: students need both. Very few of us learn subject matter that we have never been exposed to – so courses do matter. But courses, while necessary, are not sufficient. Equally important are the quality and content of those courses. Courses must be both academically rigorous and relevant. Students must be given the opportunity to learn subject matter, as well as being given the opportunity to show they can apply their knowledge to real-life circumstances. They need to be able to demonstrate both subject matter knowledge and competency.

For this, four components are important. First, a single, rigorous standard must be developed. In our multilayered, multileveled system of education, we suggest benchmarking performance to the top 10 performing countries in the world. This allows a standard of rigor that is usable at every level of education and

lets students and their parents *really know* how well they are doing, compared to the rest of the world. Second, we need to define and implement one rigorous course of study for *all* students. Third, teacher training and teacher professional development must be provided to support the demands of a global standard and a rigorous curriculum. Finally, and significantly, relevant assessment must be conducted and used to improve teacher instruction and student achievement.

It is important to underscore our need for evidence-based educational practice. In large measure we continue to pursue education reform on a hunch. We simply don't know much about what students are learning, in part because we don't have a basic data infrastructure that would allow us to know what courses high school students are taking. Our data systems have been designed to answer administrative questions, not

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instructional questions. In some states we literally know more about the gender of bus drivers than we know about how many students are enrolled in a given course, like physics or geometry.

The goal here is not to create harder courses for their own sake. Rather, the goal is to create rigorous courses that meet the needs of the nation, where “rigor” is supported by meaningful evidence. We need to work both harder and smarter. According to the authors of *A Stagnant*

Nation, a publication of Strong American Schools, “Two out of every five high school seniors lack math skills commonly taught in 7th and 8th grade necessary to learn trades that do not require a college degree.”¹² Data like this underscore the fact that we have plenty of work to do.

Conclusion

With modest changes – setting a single standard for academic rigor and relevance, benchmarked to the best-performing countries worldwide, supporting it with appropriate teacher preparation and professional development, and an appropriate curriculum and meaningful assessment – we can dramatically improve educational attainment for all of our students. We have been, collectively, impervious to even these few changes: witness the nation’s lack of response to *A Nation At Risk*. Indeed, many of the post-*Nation at Risk* adjustments we’ve made responded to the call for increased rigor with its opposite: “dumbed down” courses, four-day school weeks, reduced seat time, remedial courses, and too many curricular options.

The changes we need to make are modest, but we need to focus on the right ones. We need changes that will drive rigor and provide opportunity to all of our students. And we do need all our students to perform well if we are to compete with the fastest-advancing nations.

The unintended consequence of our lack of response to *A Nation at Risk* is that today we are a nation perilously close to losing our position as an educational and economic leader in the world. Rigor, relevance, and competencies have to be the way of the future. It is hard to change direction, and yet if we don’t, we will betray our children by failing to give them the education they need to successfully participate in the world they will inherit.

Summary of Plenary Speaker Comments

Plenary speakers provided summit participants with a range of perspectives on academic rigor and relevance. Their comments are summarized here.

The 4 Myths: David Longanecker

SSI’s purpose is to encourage high school students to take a rigorous course of study in high school: it’s essential for their success in college and work. As WICHE President David Longanecker pointed out in his welcoming address, what makes SSI unique is a joint focus on the message of academic rigor and the medium used to convey it: the business community.

Businesspeople bring a keen awareness about the critical nature of academic rigor and relevance in education: whether they work for small firms or multinationals, they can see how a rigorous education pays off, for individual employees and for society as a whole, in terms of productivity, competitiveness, and the bottom line. Despite this, many people remain unaware of the value of a rigorous education – or worse, believe there’s no value to it. There are “four myths” that our culture is currently laboring under.

Myth 1: It’s not courses that matter, it’s learning. Actually, while learning is indeed what matters, courses matter, too. The dilemma is that students don’t and can’t learn what they haven’t been exposed to. Cliff Adelman’s work in the “The Toolbox Revisited” showed there was a strong positive correlation between taking upper-level math courses and going to college.¹³ ACT’s “Ready for College and Ready for Work: Same or Different” demonstrated that the rigorous courses required for college success are the same courses required for workplace success.¹⁴ Essentially, students need the same skills today to make a living wage or to go to college – and

a rigorous curriculum in high school gives them those skills.

Myth 2: Not everyone needs a rigorous high school curriculum. It's true that today only about 40 percent of manufacturing jobs require a postsecondary degree or certificate. But evidence from ACT suggests that many of the other 60 percent require the same high-level skills you'd develop if you had some postsecondary education – or if you'd taken rigorous courses in high school. What's more, the State Higher Education Executive Officers (SHEEO) reports that 90 percent of the fastest-growing jobs in the new economy will require a postsecondary degree.¹⁵

This myth simply rings false for our nation. Today, data from the Organisation for Economic Co-operation and Development (OECD) show that the United States' ranking has fallen from 1st to 10th in the share of its young adults with a college degree.¹⁶ The U.S. has been stable over the last four decades in the share of its young population with a college degree – but other countries have been rapidly increasing their shares. And several of these countries – including South Korea and Ireland – have been very intentional in their efforts from a policy perspective. Meanwhile, the United States' lack of intention has resulted in the need to graduate 20 million more college students by 2025 just to keep pace with other countries. To catch up with the best-performing countries, the U.S. will have to dramatically increase its high school graduation and college-going rates.¹⁷

Myth 3: Not everyone can achieve at high levels. And the corollary to this is: pushing everyone to do so will crush some students' self-confidence. It's simply not true – most students think they are college material: 80 percent believe they are going on to college, as do 70 percent of their parents. However, many students simply don't know what it takes to get into and graduate from college. And after they graduate,

many say that if they'd known they needed a more rigorous curriculum, they would have taken it.¹⁸

Myth 4: Students won't take rigorous courses. Take physics, for instance. The line of argument says that if physics were offered, no one would take it – and if they did, they'd fail. But SSI data demonstrate that most students do come up to expectations.¹⁹ When SSI students were encouraged to take physics in Connecticut, Oklahoma, and Virginia, more students took the course.

One of the reasons many of us still hold to these myths is that in the U.S. we still don't know enough about what courses our students are taking and what they're learning: school databases were constructed to answer administrative questions, not geared toward informing educational practice. But what we do know is that if students are told that a rigorous course of study is important to their future, many will rise to the challenge. Given the chance, most students will rise to expectations and the demands of a rigorous curriculum. And academic rigor and relevance are necessary for student success in college and work, as well as for the nation's global success. As evidence continues to emerge about the United States' slipping educational attainment, why would we support a curriculum built on anything less?

Risk & Investment: Charles Kolb

"50 Years After A Nation at Risk" – the title of the talk given by Kolb, president of the Committee for Economic Development (CED) – took the groundbreaking report of the National Commission on Excellence in Education, released in 1983, as its starting point. A Nation at Risk's bottom line was that American schools were failing our students – and that they and our country would fall behind because of it, unless specific changes were made. Kolb looked back over the last 25 years of economic

and educational change – and also cast his imagination forward another 25 years.

Two years after the publication of *A Nation at Risk*, Education Secretary William Bennett began presenting his annual “wall chart,” showing student performance data from all 50 states. It was the first time state-by-state comparisons of student performance had ever been reported, and it helped push forward the accountability movement. In 1989 a national education summit – convened by the first President Bush in Charlottesville, VA – laid down six national education goals:

1. All children will start school ready to learn.
2. The high school graduation rate will increase to at least 90 percent.
3. All students will become competent in challenging subject matter.
4. Teachers will have the knowledge and skills that they need.
5. U.S. students will be first in the world in mathematics and science achievement.
6. Every adult American will be literate.²⁰

There was considerable national debate about these goals because every interest group wanted input – and in fact the goals were later expanded to include foreign language and arts (safety and parental involvement were also added as goals by Congress). The National Education Goals Panel (NEGP) was formed to track progress toward these goals.²¹

The six goals laid down after the 1989 Charlottesville summit were supposed to have been attained by the year 2000, but they weren’t. In fact, we didn’t reach even one of those goals. Why not? If we had reached the first goal – the goal that all children would arrive at school ready to learn (which is not just an education goal but also relates to health, nutrition, and proper immunization) – we would be doing better on virtually all the rest. What is it about our society

that permitted us to miss achieving those goals? It is important to understand this as we develop an education plan for the next 25 years.

The reason we missed the goals the first time around has to do with the concept of investment. Education is the most important national investment of time, money, and persistence – or it should be. That’s why the business community

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is vital to the future success of education. The business community can help school districts drive change faster because it understands the need for a quick response to a changing environment. It also understands that our success in education will affect our business success.

Education is an investment in young people, in human capital, and in the country’s future. If we were to talk about education in those terms every day, eventually the number of allies for education would grow.

And our investment in education needs to start early. One of the things educators can do is to look at the front end of the process, spending more resources and time in pre-K education. Early education enables students to be ready to learn – it enables rigor down the line.

In the next 25 years, we’ll see increasing interconnectedness, more global competition, and a speedier rate of change. We cannot approach education reform, rigor, and relevance at the same blasé pace that we’ve had for the

last 25 years: we'll lose our competitive edge. Time is no longer our friend: we have to make long-term investments in education *now*, not five years from now. And we need to encourage young people to make an investment in their own education: an investment of time, because there's no quick fix when it comes to learning calculus or Mandarin – or anything. We need to help young people understand why rigor is important – it's an investment in their future.

**Saturday Morning Physics:
Leon Lederman**

Troy Justesen, assistant secretary of the Office of Vocational and Adult Education at the U.S. Department of Education, introduced Nobel Prize-winning physicist Leon Lederman. One of the reasons the U.S. has such a high number of Nobel laureates is that it promotes educational opportunity for all. This is also SSI's mandate: to encourage all young people to focus on a strong academic core and to think about a host of opportunities they might not otherwise have considered. Lederman, the first in his family to go to college, is an excellent example of how educational opportunity can vastly broaden opportunities in life.

The teaching of physics to high schoolers is of critical importance – especially today, in an era when all of us must understand the science behind everything from global warming to nuclear power, if we're to make intelligent and informed decisions and change our own behavior accordingly. Unfortunately, too often, the way we teach science is ineffective, and our curriculum is outdated. These two problems make "rigor" a difficult proposition.

In the 1980s I organized a program called Saturday Morning Physics with some colleagues at the Fermilab in Illinois. Each Saturday, high school students took physics from Fermilab physicists, and we discovered that the science

those students were getting in school was far from adequate. Saturday Morning Physics was the seed that eventually grew into the Illinois Math and Science Academy, which provides a challenging science curriculum for academically talented students.

Providing opportunities for *all* students to really do science is critical – and teachers are the key. A rigorous scientific curriculum requires that teachers communicate with each other and have plenty of planning time: as much as 20 percent of a teacher's time should be devoted to planning, professional development, and collegial interaction – all of which are crucial if our country wants a strong education system. Teachers should also have time to work with scientists, as well as cognitive psychologists and others, to help them understand how to teach science at a level that's both rigorous and understandable to the general population.

In addition to excellent teaching, a well-designed curriculum is a necessary element of a rigorous education. Today, we live in the 21st century – with a 19th century curriculum. Curriculum reform is essential. Our students are coming of age in a world of rapid change. That's why it's important to teach scientific *process* – how science works – not just content. We need to help students learn how to respond to questions like, "Does science ever go wrong? When it does, how do we fix it?" Students need to learn that there's a process by which science advances. In addition, teaching science courses in the correct order – starting with physics in 9th grade – is important if students are to gain an understanding of scientific process. (And yes, 9th graders do have "enough math" to do conceptual physics, which is taught with very little algebra.)

For rigor to become a reality for all students, we must acknowledge the big changes taking place in our student body. The variety of students in

our schools (and the languages they speak) is enormous – as is the range of their success in science classes. If we don't do something about improving the education of poor and minority kids, we're going to be in deep trouble in the coming years. For that reason, and for many others, it's important that we develop a national strategy for education. Not just develop it – we need to implement it. Far too often, the right solution is proposed – but never put into practice.

Smart & Smarter: A Rigor & Relevance Panel

The panel discussion "Multiple Pathways to Rigor and Relevance" was moderated by Lorena Riffo Jenson, chairwoman of the Utah Hispanic Chamber of Commerce and owner-president of DPR Communications in Salt Lake City. Panelists included Belle Wheelan, president of the Commission on Colleges of the Southern Association of Colleges and Schools; Mark Milliron, CEO of Catalyze Learning International; and Phyllis Hudecki, executive director of the Oklahoma Business and Education Coalition. Riffo Jenson asked the panelists to give their views on why rigor and relevance are important; on what is working in their communities; and on what messages resonate with parents and students. Below are some of the highlights from each participant's perspective.

Phyllis Hudecki: Teachers step up. Most teachers would say their lesson plans are rigorous and relevant – but that's not always the case. Too often, educators know how to make things relevant – but have less understanding of rigor. And students have too much choice: our high schools have become like shopping malls. We often lose track of the fact that what's important about high school isn't what students do to graduate. Rather, it's what students do to prepare for the rest of their lives after they leave high school.

The Oklahoma Business and Education Coalition worked to get the State Scholars Initiative into as many schools as possible, but there was resistance: concern, for example, that students could not do algebra I, much less algebra II and geometry. However, the superintendents from the state's two largest school districts were the first ones to step up and say that the students *can* do this and it's an economic and moral imperative to implement the initiative.

The Scholars message isn't just about taking rigorous courses – it's about learning. It's not about GPA as much as it is about the level of difficulty students are exposed to and the competencies they develop as a result. Students need to be provided with a rigorous course of study in high school so they are prepared for college, work, and life. It's important not to let kids opt out of rigor.

Mark Milliron: Technology can help. We need to challenge ourselves on how we bring rigor and relevance to students. Do we do it digitally, with new technologies and new ways of teaching? Some progressive educators are asking how we can get smarter about using technology – how can we think about the infrastructure in new ways to engage a new generation of learners? We need to leverage powerful resources – from blended learning and online learning to the virtual high school movement. Social networking, game-based technologies like Wii and massive multiplayer online games will also be useful: our challenge will be figuring out how to engage students with these different types of tools. Researchers like Chris Dede of Harvard and the people behind the Serious Games Initiative are at the forefront of this work, looking closely at how we can use virtual environments and gaming to enhance learning.

We need to help students learn with technology – but we also need to help them get beyond technology to develop critical thinking skills. In

addition, students need to learn to be creative, because we are educating them for careers that don't exist right now. We want to teach them how to learn. Rigor and relevance are about getting the students to a point of being courageous learners who can do something with what they learn and serve their communities as leaders. Rigor and relevance are about helping a new generation of learners become entrepreneurial with their own lives.

We need to be especially concerned about first-generation college students. Thirty years ago the U.S. had education and economic models that were intertwined: we only needed some people to go to college to make the economic model work. Now the economic model requires that most people have some kind of postsecondary certificate or degree. This model will result in a massive influx of first-generation students. We need to use what we have learned working with these students over the last generation and a half to successfully move more of them into higher education.

We're starting to move in that direction. The National Assessment of Educational Progress's 12th grade exam is moving from a test of accomplishment (what did you learn) to a test of preparation (are you ready for higher education). The Lumina Foundation's Know How to Go Campaign talks about a four-step process: find somebody who wants you to go to college; find the right college/school for you; take rigorous courses, get ready; and put your hands on some cash. First-generation students need a big assist, especially with that last step: most have no idea how they'll finance higher education.

Belle Wheelan: Consider the student. There are many components to the K-12 discussion, and rigor and relevance are two of them. But we also need to think about our students. You can have the most rigorous and relevant curriculum in the universe, and the students will

not perform if they don't have somebody helping them. Teachers have many challenges because the student population coming into K-12 today includes ethnic minorities as the majority of students. And there are some factors that come with this that directly impact rigor and relevance. Minority students come to school with a smaller vocabulary, as measured by different tests. They don't have the same kinds of support systems at home.

That means the role of business is not just to provide money for the billboards, scoreboards, and other equipment schools need but to send their employees into the schools to provide the tools and support that students don't have – to be math buddies or lunch buddies or help them do their homework. When they do that, it makes a difference: students' test scores and attendance in class rise because the kids look forward to people from the business community coming to their schools.

Another thing we need: Better coordination between K-12 and college. We have K-12 systems that are developing criteria that will take students to *this* performance level – but when those students get to college, there's an expectation that they'll be ready for *that* performance level. Higher education is not telling K-12 what students need to be successful in college. The rigor in a K-12 classroom should be developed in collaboration with higher education. The point here is not whether students go to college or not. Instead, what is essential is that they be prepared *as if* they were going because they need those skills to be successful in the workforce.

When it comes to incentives, we need to understand that this generation of students wants to make money. We need to help them understand that if they want to make money, these are the things they need to do. And we need to tell them early: we wait too late to start

to motivate children. We have to start showing students the relevance of education when they first walk in the door. And we need to find ways to keep them engaged throughout their academic career. If you wait until high school, it's too late.

Best-case scenarios. Lorena Rizzo Jenson asked the panel members to share some success stories with the audience. Here are four.

- ◆ The Commission on Colleges of the Southern Association of Colleges and Schools' project in Virginia gets businesses to adopt a school and gives employees time off from work to volunteer. One company cleaned up their adopted school: carted away trash, did an environmental scan, gave a flower bulb to every child and helped them plant it on the campus – in the spring, 500 bulbs bloomed. The employees followed up by explaining the science of planting, why the bulbs were going to grow and how the different colors of the flowers evolved, based on Mendel's genetic theory.
- ◆ Another Virginia business purchased a book for every child at their adopted school. They gave the books to the teachers to give to the students as rewards, rather than pizza parties or trips to a local restaurant.
- ◆ In El Paso the Mission Early College High School connects students with the local community college and the University of Texas at El Paso – which have provided a particular assist to students interested in STEM (science, technology, engineering, and math) fields and career and technical education. Students said traditional high schools had been a “social nightmare” for them and being in the early college high school allowed them to focus on learning.
- ◆ Sinclair College in Dayton, OH, works with local public schools to target high school dropouts, especially 15- to 18-year-old

boys, pulling them into both trade and GED (General Education Development) programs. One of their first programs was in the construction trades. The college foundation bought five dilapidated houses, worked with students in the construction trade program, renovated the houses, sold them for a profit, and took the money and put it into a scholarship fund to help those students to continue with their education.

Improving Our Skill Set: Roy Romer

Roy Romer, former governor of Colorado and Los Angeles superintendent of schools from 2001 to 2006, is chairman of the Strong American Schools organization. Through the ED in '08 initiative, his goal is to convince political candidates that education should be a centerpiece of their campaign. Romer is an advocate for ambitious standards and literacy in math; was active in the development of the American Goals Project in the early 1990s; and was one of the first people to talk about standards and the need for an assessment of all students in elementary and secondary education. He gave the summit's capstone speech.

It seems we're asleep as a nation. We don't understand what's happening to us. If we had an Education Olympics for 15-year-olds today, we'd come in 25th in math, based upon the OECD's 2006 PISA (Programme for International Student Assessment) tests.²² We'd be 21st in science.²³ The nations at the top would include Finland, South Korea, Singapore, Poland, Canada... and the list goes on. Today, we're falling behind. Although the U.S. has not lost ground in the past 30 years, it hasn't gained any. We've been stagnant – while the rest of the world has made dramatic gains.

In this presidential election, the top issues are national security, economic health, global warming, and healthcare. But it's not possible to move forward on any of these issues unless

we also move to increase the knowledge and skills of this nation. In the last few years, India and China have had their GNPs increase by some 10 percent, while the U.S. has seen a 1.5 to 2 percent increase. Unless we act, there's going to be a radical shift among the world's economic powers. The newly elected president in the U.S. will have the challenge of determining how we respond to this. What kind of leadership will work with 50 states and 15,000 school districts in a country where we don't federalize education? How do we shift the nation's attention and priorities? That's the challenge.

Can we really expect all children to take tough subjects and to learn? The answer is yes. It works in other countries. Singapore has rigorous standards and curriculum and excellent teaching – and every child is expected to learn. Singapore is successful because the country is concerned about developing the human capital necessary to support the economy and democracy. Ireland, Finland, Poland, and South Korea provide other examples of what can be done to improve education.

Rigor also works here. In Los Angeles a commitment to one rigorous standard and a correspondingly rigorous curriculum, along with an investment in better teacher training and diagnostic testing (using test results to increase learning, as well as help manage the system), led to dramatic improvements in performance. Los Angeles students' average performance was behind that of students statewide. One of the reasons was demographic: 81 percent of Los Angeles students receive federal meal assistance, compared to 54 percent for the state; and about 50 percent were English language learners, compared to 31 percent for the state. In addition the district was 150,000 seats short. But it committed itself to a demanding program that helped all children learn at a high level. And while the district continued to deal with real problems – dropouts, discipline issues, bureaucracy,

union relations, inadequate infrastructure, and politics – it also made big strides in educating its children. Over a six-year period, Los Angeles raised its average academic performance index in elementary schools score by 208 points, compared to California's 136 points, bringing it up to 150 percent of the state rate.²⁴

Nationally, we need to develop a more uniform and rigorous understanding of what our educational standards and curriculum should be. Under No Child Left Behind, each of the 50 states sets its own criteria. There has to be a better way. Most of the countries of the world with which the U.S. competes have national standards or a national curriculum. The U.S. doesn't have that tradition, but we need to attend to it. We need to compare ourselves to the best-performing nations – our scores in 8th grade math, for instance, against theirs – and extrapolate the economic consequences.

We also need a new kind of partnership between the federal government and the states. The next president might be well-advised to hold his own education summit: bring the 50 governors and state school officials together to work to determine "how good is good enough" to compete with the rest of the world. One way to determine that would be to have a core group of states develop a set of agreed-upon standards, benchmarked to the top 10 best-performing nations in the world. In return the president and the federal government would commit to helping states reach those standards. It would be a new paradigm, where the states and the federal government collaborate to improve rigor and relevance. To achieve it, beyond new policy, we'll need great teachers. And we'll need an authentic testing process to evaluate our progress toward these goals.

We have to find a way to get this nation to wake up to the importance of education. A good education helps a person understand what is

true, what is beautiful, and what is just. We need to figure out how to communicate this message, to help shape the national political will so that we can change our culture. We need to make it of value to provide *all* our children with a strong education.

State Scholars Initiative: Background

On October 1, 2005, the U.S. Department of Education designated WICHE as the program administrator for the State Scholars Initiative (SSI). WICHE supports 19 state-level business-education partnerships in their implementation of the State Scholars Initiative model. The initiative is funded under the Carl D. Perkins Vocational and Technical Education Act of 1998. WICHE will continue to serve as national program administrator through March 2009.

The State Scholars Initiative seeks to achieve two straightforward objectives. First, it engages business organizations and leaders to promote the importance of a rigorous course of study in high school. Second, it seeks to encourage middle and high school students to take a more rigorous course of study to prepare them better for college or the world of work. Patterned after the National Commission on Excellence in Education recommendations, SSI requires that students take: four years of English; three years of math (algebra I, geometry, algebra II); three years of basic lab science (biology, chemistry, physics); 3.5 years of social studies (chosen from U.S. and world history, geography, economics, and government); and two years of the same language other than English.

The states that are receiving federal funds and operating SSI projects, or that have completed their SSI projects and remain in the SSI network, are: Arizona, Arkansas, Connecticut, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Hampshire, Oklahoma, South Dakota, Tennessee, Utah, Virginia, West Virginia, and Wyoming. WICHE

is responsible for providing technical assistance, monitoring, oversight, and cost reimbursement to the SSI projects in these states. Five additional states were previously funded, and they created and completed SSI projects: Nebraska, New Jersey, New Mexico, Rhode Island, and Washington.

Also available from WICHE is “Education Beyond the Rhetoric: Making ‘Rigor’ Something Real,” written by Terese Rainwater, program director for the State Scholars Initiative; Dolores Mize, WICHE vice president for public policy and research; and Nancy Smith Brooks, program officer for the State Scholars Initiative at the U.S. Department of Education’s Office of Vocational and Adult Education. This publication served as the foundation for substantive discussions at the summit.

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