

**ROUNDTABLE ON COMPETITIVENESS: BUILDING
AND FILLING THE PIPELINE**

HEARING
OF THE
**COMMITTEE ON HEALTH, EDUCATION,
LABOR, AND PENSIONS**
UNITED STATES SENATE
ONE HUNDRED NINTH CONGRESS
SECOND SESSION
ON
EXAMINING THE ROLE OF EDUCATION IN GLOBAL COMPETITIVENESS

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FEBRUARY 16, 2006
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ROUNDTABLE ON COMPETITIVENESS: BUILDING AND FILLING THE PIPELINE

THURSDAY, FEBRUARY 16, 2006

U.S. SENATE,
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,
Washington, DC.

The committee met, pursuant to notice, at 10:04 a.m., in Room SD-G50, Dirksen Senate Office Building, Hon. Michael B. Enzi [chairman of the committee] presiding.

Present: Senators Enzi, Alexander, and Ensign.

OPENING STATEMENT OF CHAIRMAN ENZI

The CHAIRMAN. Good morning. I am going to go ahead and start. We will have a little interruption around 10:30 for a vote. We will try and keep the roundtable going and gathering the information.

I want to thank Ranking Member Senator Kennedy for his participation and availability and allowing this kind of a new system of gathering information, which is a roundtable. Normally, we have hearings, and sometimes hearings become very divisive. They are designed that way. We are having a roundtable, which we think is designed to gather information. We don't think we are unique, but we are unusual in that we try and gather information before we do a bill.

[Laughter.]

So I would like to welcome you to today's roundtable, which is on competitiveness, which is building and filling the pipeline. We have already made some provisions for college, but we are very worried about birth through 12th grade. We have a Head Start bill that has already passed committee that will take care of some of the birth to kindergarten, but we are very concerned about the kindergarten through 12th grade. We are even concerned about the complacency among Americans, thinking that maybe we are okay in those areas. So we are very fortunate today to have this outstanding group of individuals to talk to us about high school as a critical piece of the competitiveness pipeline.

Last week, the HELP Committee kicked off its consideration of the competitiveness agenda with the Secretary of Education, Margaret Spellings, and she talked about the President's American Competitiveness Initiative and the critical role that education plays in addressing the challenges of a global economy. We all know that knowledge is the key to our ability to compete and lead. She emphasized the need to support creativity and entrepreneurial talent

while making high schools more rigorous. Teachers must be prepared to help students achieve.

She used the word “pocket protector skills” that will ensure that America’s students are the best in the world, that they speak the language of success and that, as an economy, we get more than a passing grade. As the Senator’s only accountant, I look forward to pocket protectors being cool— [laughter]—which my kids assure me they never were.

Throughout the discussion with Secretary Spellings, one theme consistently emerged, and that is unless more students complete high school on time, prepared for postsecondary education or the workforce, we won’t have enough people in the pipeline to take the challenging and rigorous coursework that will produce the mathematicians, the scientists, the engineers, the technicians, or the researchers that we need.

By 2010, two-thirds of the 7 million worker gap will be a skilled worker shortage. That is unacceptable. Without an educated workforce, we will certainly lose our preeminence in the world to developing nations that are quickly growing, educating their citizens, and innovating at a much faster rate than we are. A student who takes just one remedial reading course in college is eight times less likely to graduate than a student who is fully prepared for college. At a time when most jobs will require some postsecondary education, we have to focus on how to graduate more students on time with less need to repeat basic reading and math courses and a greater likelihood of success in college and the workplace.

To be competitive in a global economy, we must ensure coordination and accountability in our education and workforce programs across all the agencies, departments, and levels of government, and it goes across 207 programs and 13 different agencies. We must ensure that everyone has an opportunity to achieve academically and achieve the critical skills they need to succeed regardless of their background.

To stay in the competitiveness race and to win it, we must ensure that school is never out and learning is never over.

It is no secret that institutions of higher education and employers have expressed their dissatisfaction with the level of preparation of our high school graduates and their need for remediation in order to do college work or to participate in the workforce. Each year, taxpayers pay in excess of \$1 billion to provide remedial education to students at our public universities and community colleges. Businesses report spending even more to address the lack of literacy and basic skills of our entry-level workers.

Let me share a few facts that speak to the seriousness of the issue. American 15-year-olds rank 24th out of the 29 developed nations in mathematics, literacy, and problem solving on the most recent international assessment. Reading proficiency among 12th graders has declined to the point where just over one-third of them are even considered proficient readers. Nearly one-third of entering college freshmen need at least one remedial course. The United States has the highest college enrollment rates, but a college completion rate lower than most developed countries in the world.

And in this decade, 40 percent of job growth will be in jobs requiring postsecondary education, with those jobs requiring asso-

ciate degrees growing the fastest. Eighty percent of jobs require postsecondary education or the equivalent, yet only 52 percent of Americans over the age of 25 have achieved that level of education, which leads us to why we are here today.

We are here to listen and learn from the participants about what is working in our high schools, about how secondary and postsecondary partnerships can be strengthened, and about how our students can be better prepared for the challenges and opportunities they have beyond high school. By taking this opportunity to strengthen and focus our education and our training systems on ensuring the knowledge and skills that we as individuals and the Nation need, we are assuring that America's students will be the best in the world. They are. We want that to continue. We want them to speak the language of success, and we want our country to get more than a passing grade.

I want to thank all of you for being here today, your willingness to share your experiences and your insight. We have a rather limited forum. We want to get a lot of information. In fact, we want to get more information from you than you will be able to give during this forum, so I want to remind you that as people are making comments, feel free to make some notes and share those with us later, as well. We will keep the record open for 10 days for additional thoughts that you might have.

We want this to be the beginning of the stimulation of ideas, not the end of all. There may be some questions that come as a result. We have a number of staff people from people on the committee and they may have some questions that they would like to follow up on in regard to answers that you have given, and I would hope that you would participate that way, as well. That is the way that we can get the most out of the limited time that we have to be able to do these things.

We will have Senator Kennedy give a statement when he is here. We will interrupt the proceedings to do that.

I mentioned this is a roundtable format, so it allows a little more discussion than a typical Senate hearing. The purpose of the roundtable is to hear the variety of viewpoints on the roles of schools, institutions of higher education, businesses building the pipeline of educated and skilled workers.

Now, we have requested that participants not make any official oral opening statements. We will be happy to have the opening statements in written form to make a part of the record today and we will review all of those, but that saves a lot of time, and as you are commenting on these things, as concise as you can be on it will allow more viewpoints, as well.

If any of you would like to answer a question or comment on one made by your colleagues, if you would stand your name tag on its side, my staff will try and help keep track of the order in which those happen so that we can get to them in order. Again, we do request that you limit your statement or your responses and would hope that those would stay under 2 minutes.

I will begin with the introduction of witnesses. Again, I feel extremely fortunate that you have been willing to take the time out of your day and your careers to be able to do this. All of you are

experts in your respective areas. I will go through the participants in alphabetical order.

We have Erick Ajax, the Vice President of E.J. Ajax and Sons, Inc., of Minneapolis, Minnesota.

Bob Bailey, the National Science Foundation Grant Project Manager of Central Virginia Community College in Lynchburg, Virginia.

We have Wanda Brooks-Crocker, the NDE Certification Administrator for Framatome ANP, Inc., an AREVA and Siemens Company, of Lynchburg, Virginia.

We have Michael Bzdack, Ph.D., Director of Corporate Contributions of Johnson and Johnson, Inc., New Brunswick, New Jersey.

We have Sandy Day, the Magnet School Administrator of the Omaha Public Schools in Omaha, Nebraska.

We have Reygan Freeney, a doctoral candidate, University of Iowa, Iowa City, Iowa, a former Upward Bound math-science teacher.

Carrie Langston is very special to me. She is a Wyoming Writing Project teacher from Chugwater, Wyoming. How many here know where Chugwater, Wyoming is?

[Laughter.]

It is not our biggest city, but I would like to take a moment to do a special welcome to Ms. Langston. My daughter was the principal of Chugwater School, so I have heard a lot about the good work that is being done there and I welcome and thank you for being with us today.

We have Mr. Tom Layzell, also a Ph.D., President of the Council of Postsecondary Education from Frankfort, Kentucky.

Mary Morningstar, also a doctor, Associate Professor, University of Kansas, Department of Special Education in Lawrence, Kansas.

We have Mel Riddile, a doctor, Principal of the J.E.B. Stuart High School in Fairfax County Public Schools from Falls Church, Virginia.

Eric Schwarz, the President and CEO of Citizen Schools in Boston, Massachusetts.

We have Jim Shelton, the Executive Director of the Education Division of the Bill and Melinda Gates Foundation in Washington, DC.

We have Edna Varner, the former Principal of Hamilton County Schools in Chattanooga, Tennessee.

And we have Robin Willner, the Vice President of IBM Global Community Initiatives in Armonk, New York. IBM has Transition to Teaching initiatives in North Carolina and New York.

We are pleased at the start of the roundtable to also have Senator Ensign and Senator Alexander. Do either of you want to make a quick comment?

Senator ENSIGN. I am pleased to be here.

The CHAIRMAN. Likewise.

[Laughter.]

As I mentioned in my opening remarks, we will be following up on the role of education in global economy. We provided two questions for you to consider that will help us frame today's conversation, and today we want to focus specifically on high school and what needs to be done to increase high school graduation, pre-

paredness for postsecondary education, and to decrease the need for remediation.

The first question that we asked was, what are some of the strategies that have been proven effective at helping all students complete high school with the knowledge and skills needed to pursue postsecondary education and enter the 21st century workforce? With all of this talent here—Dr. Riddile.

STATEMENT OF MEL RIDDILE, PH.D., PRINCIPAL, J.E.B. STUART HIGH SCHOOL, FAIRFAX COUNTY PUBLIC SCHOOLS, FALLS CHURCH, VA

Mr. RIDDILE. I am a high school principal and I am not shy.

[Laughter.]

In terms of competitiveness on an international level, I could say that our school, despite having 70 percent of our students speak English as a second language, high levels of poverty, mobility, and all the risk factors, including gang activity in our area, our students consistently out-perform students on international tests as measured by the International Baccalaureate Program. Our students exceed 80 percent pass rates, and the international average is about 70 percent and those students go to selective schools, private schools around the country—I mean, around the world.

We do that in a simple way. We said to the President when he visited and delivered his high school reform speech at our school last year, we spell hope “R-E-A-D.” The great equalizer, and I think the key to raise achievement levels of our students is to emphasize literacy K through 12. It is not just a high school issue, it is an issue for all students in all grades.

Literacy actually helps students perform consistently higher on standardized tests and gives them the ability to do just about anything in our school. If you look at students who aren’t performing, they consistently have low reading levels. If we want to continue to perpetuate a servant class in our society, all we have to do is continue to do what we have been doing, and that is stop teaching reading at the 3rd grade and that will ensure that we have students falling through the cracks or falling off the bus or whatever way you want to describe it.

So I would say that if you look at our ELL students, our special education students, our emphasize on literacy enables them to perform and consistently out-perform other students on State and national tests.

The CHAIRMAN. Ms. Willner.

STATEMENT OF ROBIN WILLNER, VICE PRESIDENT, IBM GLOBAL COMMUNITY INITIATIVES, ARMONK, NY

Ms. WILLNER. Good morning. First of all, thank you for having us here. This, I know, is going to be an exciting conversation.

Clearly, reading is important, but as you mentioned before, math and science, engineering, the stem careers are critical for preparing an innovation society. I know that everyone here in the Senate and in Congress has been hearing from business. IBM was privileged to bring the National Innovation Initiative forward last year and you have been hearing about our concerns.

At IBM, we wanted to also be part of the solution and we started Transition to Teaching, which you mentioned earlier. We are investing in IBM-ers to encourage them to consider second careers as teachers. We will only have great high schools when we have great teachers, and that takes investment, that takes preparation.

At IBM, we have thousands of people who have those pocket protector skills. We want to make sure that they also take all the skills they learned in coaching and leading teams and being adventurers, learn how to be great teachers and go into our schools. So we are providing financial incentives, \$15,000 per participant to cover their tuition, their related costs, and also to give them a stipend. We want IBM-ers to take up to 4 months of a leave of absence and really go into schools, spend time teaching, so that when they are ready to become a full-time teacher and be the only adult in that room responsible, they are going to be prepared, they are going to be terrific, they are going to know their math and science, and they are going to know how to teach.

So we just launched this initiative and we are very excited about the opportunity to be working all over the country. We actually are focusing on New York and North Carolina, where we have a large number of folks, but we do have applicants from Tennessee. We do have applicants from Texas, Minnesota, Vermont, you know, IBM is everywhere in this country and we have folks who would love to become teachers everywhere in this country.

The CHAIRMAN. Thank you.

Ms. Varner.

**STATEMENT OF EDNA VARNER, FORMER PRINCIPAL,
HAMILTON COUNTY SCHOOLS, CHATTANOOGA, TN**

Ms. VARNER. When I was introduced, I was introduced as the former high school principal, and that is true, but I do want you to know I am not out to pasture.

[Laughter.]

Currently, I am working with principals. I am an advisor to the Hamilton County School District and Public Education Foundation, and I also work as a Leadership Associate with the National Literacy Initiative.

We also want high expectations for students, but in our district, what we found is that while we all really believe in high expectations for students, we had different definitions of "high" for different students. We actually had different ceilings for different students and we were working hard to help them reach those different high expectations.

One of the most important things we have done, and it has been difficult, is that we decided 2 years ago to have a single diploma and a single set of graduation requirements. If you look at the Web site, it will say a single path, but it is not a single path at all. It is really many paths to a single diploma, and what that diploma offers is not just postsecondary education, but that diploma is designed to make sure students are eligible for all of the opportunities available to them, and for some of them, that is going on to a 4-year college. For some, it is going on to a 2-year college. For some, it is going on to the workforce and continuing to learn. For

some, it is going to the military. But the goal is to have them graduate eligible for every opportunity possible.

Now, that is a tall order for a district, and the work we have been doing since our board passed that, and like I said, that was difficult because our students have struggled even with the different ceilings and the greatest fear was that our struggling students will struggle even more if we raise the bar. Well, that is not what is happening. What is happening is what many of us have always believed, and that is that struggling students want rigor, too, but they need to know the skills that will help them to be successful even when the curriculum is more rigorous.

So what we have been about the business of doing is working through four goals. One of those is personalization, and we started this with a grant from the Carnegie Foundation to redesign our high schools. One of them is personalization, and it is not just becoming buddies with students. There is a reason for getting to know students, and it is getting to know what students need in order to succeed with a rigorous curriculum.

Then the other goal is flexibility, and that is trying to make sure our schools fit the needs of students instead of trying to make students fit the needs of schools.

The other is rigorous curriculum and understanding what rigor really means, and what rigor means when you want to graduate all students eligible for all of the opportunities available to them.

And then the other is professional learning, because it requires a different kind of teacher, a different kind of principal, and a different kind of school district to graduate students who are eligible for all of the opportunities available to them.

The CHAIRMAN. Thank you.

Mr. Ajax.

STATEMENT OF ERICK AJAX, VICE PRESIDENT OF E.J. AJAX AND SONS, INC., MINNEAPOLIS, MN

Mr. AJAX. Thank you, Senator Enzi. I am pleased to be here this morning. I am a manufacturer. I hire the people that come out of our educational institutions, and I have to say that our world in manufacturing is simply getting rocked with intense global competition and India and China, Internet auctions on an ongoing basis, a low-cost race to the bottom. But I am happy to say that we are winning.

It is something that our employees—we have added 25 percent growth to our employees in the last year. We have been able to put down the best month in the 60-year history of our company. For the last 15 years, we have invested 5 percent of our total payroll in professional development and education of each and every one of our employees. We continually have to reinvent ourselves as our competition changes. And we really believe that it is a lifelong cycle of learning and continual improvement.

We really think Minnesota has a unique program where the private sector started a \$1.5 billion endowment fund and a foundation to fund early childhood development to help subsidize our Head Start program. We have 20,000 low-income students, or not students, but children that simply only about 10,000 are those are

funded by the Head Start program. This endowment, when we have it fully funded, will have 100 percent participation.

We believe in involvement with the business community and our colleges. We have had some phenomenal partnerships that we have been able to develop with the Minnesota Department of Labor and Industry and have very solid success, and again, providing that ongoing training for not only incumbent employees, but also entry-level. In the past 6 months, we have worked with a program through the Center for Workforce Success in the National Association of Manufacturers and several foundations where we have actually graduated 60 low-income, at-risk individuals through a training program at a local technical college, and more than 40 of those have found work and are on career ladders in our industry. So it truly is a team effort.

One last thing I would like to mention, we have had a lot of success with experimental learning, with a Junior Achievement program. We have a Battlebots program where we built, the manufacturing sector has built a competition dome for robots that students build. We have had a lot of success with EarthWorks, a science program, a hands-on program. the Junior Achievement exchange city has been very, very successful for us, as well. So we have some good things going on in education and industry in cooperation in the State of Minnesota. Thank you.

The CHAIRMAN. Thank you.

Dr. Bzdack.

STATEMENT OF MICHAEL BZDACK, Ph.D., DIRECTOR, CORPORATE CONTRIBUTIONS, JOHNSON AND JOHNSON, INC., NEW BRUNSWICK, NJ

Mr. BZDACK. Echoing what Mr. Ajax just said, the hands-on experience, we have found in our programs is very valuable. But before I talk about that, I wanted to just mention that there is an incredible amount of evidence already out there in programs that work, and many of us are out looking to create new programs when there are measured programs that have already proven success. So I think I am going to stress that over and over, that there are some great models out there already and they just need to be scaled up.

From our experience, we have found that the magic ingredients to these community partnerships that increase student achievement are the participation of higher education, the participation of the businesses in the community, and the employee engagement. I mean, that seems like a simple formula, but it boils down to children exposed to the real world and real people and those people that do those jobs. This again sounds simple, but if it is done over time and a minimum of a 3-year period, we found that we have evidence that we can improve student achievement and college readiness for these students.

We often say when we begin a program in a community that college is like going to the moon and the workplace is like going to Mars, so our whole goal is to break down those barriers and demystify both experiences. Thank you.

The CHAIRMAN. Thank you.

Ms. Day.

**STATEMENT OF SANDRA DAY, MAGNET SCHOOL
ADMINISTRATOR, OMAHA PUBLIC SCHOOLS, NE**

Ms. DAY. Thank you. I wanted to start my comments just by clarifying a little bit about what magnet schools are so we are all on the same page. Magnet schools are public schools of choice that offer a really innovative array of curriculum offerings that are not offered at the neighborhood school so that parents will opt, choose to send their child to a different neighborhood. This becomes a very important and effective integrative tool for the Omaha Public Schools.

We have learned that not only does a curriculum have to look different, it has to be delivered in a different way, and that is one of the things that the Omaha Public Schools for 25 years now, working with the Council of Great City Schools and Magnet Schools of America, have developed some really terrific strategies, and one of them is and has been echoed here already and that is engagement of the learner, be that child engaged at pre-K or all the way through 12th grade. It is engagement of the learner.

How do you know what they are interested in? Well, we have developed something that we call the Approaches to Learning Survey. In the fall of every year in grades 2 through 12, which are magnet grades, we deliver this survey to students and it asks them to self-assess, do I learn best with hands-on experiences? Do I learn best from auditory learning? Do I learn best from reading?

And so from that information—it is literally just a survey—the teachers are able to come together in a team teaching situation. We do a lot of looping, and I am not going to take the time to define those, they are in the record that I have submitted for today, and some of the teaming at the various grade levels from kindergarten all the way through 9th grade and 10th grade, the teachers sit down at a common time plan and they look at which students are interested in hands-on issues that relate to science.

And so as a teaching staff, you tailor the lesson to the students' learning style. You wouldn't see in a magnet school, and I do want to stress that these are strategic plans at magnet schools. They are not at all 80 of the Omaha Public Schools, only the 15 that are magnet schools. The key is to know the learner, find out what their interests are, tailor the lessons to them, and you will have an engaged student.

I would like to also say that one of the things that is unique about magnet curriculum is it has something that—we built in something that we call extra value standards, and those are additional sets of standards that lay on top of the regular State standards. They are typically community involvement-based, and I want to give you an example of that. We have instituted in one of our high schools, Omaha North High School, that is a math, science, and engineering magnet school, a program called Project Lead the Way. It is a pre-engineering program. I see lots of heads shaking around the table. The key to this particular program is taking an in existence math and science curriculum, math and technology, and lay over the top of it a very engaging, hands-on, stimulating, very rigorous pre-engineering program.

There are students in North High School that I am talking about in grades 9 through 12 who have—this particular program has spe-

cifically changed the diversity of who comes out the other side of this particular pipeline. It is no longer typically your extremely bright white male students. The statistics on this particular course draw is amazing. We have got approximately 30 percent women involved in this and 30 percent minority students involved in this program.

And the piece that is the capstone piece, which is the community involvement piece, the students design or redesign a particular issue in the community that is a problem. For example, one of our nonmagnet students, or nonmagnet schools, Boyd Elementary—actually, where my own children went to school—had a very, very unsafe off-loading and parking area in the front of their building. The students in the engineering design and development course went to the school several times and worked with the community engineers that are part of the advisory committee, worked with people at the university, worked with architects out in public business to design a safe off-loading area for these students.

That was about 2 years ago. The PTA in that building is working very hard to get the funds together. They are working with city planning to actually implement that project, and that is an example of what an extra value standard project might look like. Typically, these projects are a year or so in the making at that level. But the key, we feel, truly is engagement of the student at every level.

The CHAIRMAN. Thank you.
Ms. Langston.

**STATEMENT OF CARRIE LANGSTON, TEACHER, WYOMING
WRITING PROJECT, CHUGWATER, WY**

Ms. LANGSTON. Keeping my comments to 2 minutes should be really easy because that is the attention span of most of my classes—[laughter]—so I will try not to talk too fast, but I feel so passionately about what I want to share today. I am grateful and excited to hear that IBM and business communities are becoming involved in the education process and bringing in teachers. I am excited to hear that someone still thinks we need to teach them to read, even past the 3rd grade. We have principals here who are dedicated to making this system work better.

Perhaps the most meaningful thing I have heard so far is that there are models that do work, that we have some research, we have something to show you that will say, this will help engage kids. This will help kids work and learn and stay involved in the process.

I have been very fortunate to be involved with the National Writing Project and the Wyoming Writing Project for nearly 20 years now, more actively in the last 3 to 4 years, and I have found by taking this situation where we take kids where they are, find what their interests are as the magnet schools are talking about, tailor that situation to reading and writing and addressing literacy so they can make the connections between their math classroom and reading their math textbook and applying, using higher-level thinking skills to work across the curriculum. We are finding that we are having real success.

I could tell you about a lot of students. I could tell you about a lot of facts. But the bottom line is that we have got to find a way, and I would suggest that this model whereby we give students an opportunity to explore their thoughts and generate ideas, write them down, share them with colleagues in a situation much like this, do some revision, do some writing until they have something that is excellent and publish that just even for the classroom is where the students are learning to make the connections and the meaningful connections between their writing, their reading, their math, their science, their social studies, their special education.

Some of my best writing and best products are coming from special education, and it takes a commitment from the teacher and well-trained teachers, but we have to provide the kids something that is theirs, something that is truly, truly meaningful to them. I am finding that through the model of the Writing Project, through teaching other teachers how to use this in the classroom, through networking with our universities and our business community, that we are finding a way to get these students who seem to not care, some of the parents who seem to not value education, truly engaged, and I am happy to be able to share that with you today.

PREPARED STATEMENT OF CARRIE LANGSTON

I am honored to participate in the roundtable discussion of the U.S. Senate Committee on Health, Education, Labor, and Pensions entitled "Competitiveness: Building and Filling the Pipeline." The issues we are addressing today in the context of our Nation are the same issues I address nearly every day in my classroom.

If our goal is to find strategies to motivate, engage, and enable our young people to reach their full potential, and to raise the academic bar while recognizing individual gifts and talents, I am delighted to share what I have learned in a variety of settings working with diverse ages and ability levels.

The National Writing Project as an Effective Strategy to Benefit Teachers and Students

I first became involved with our local site of the National Writing Project 20 years ago. Participating in the Wyoming Writing Project summer institute was a life-changing experience for me. I learned that my students would achieve more if they had the opportunity to use a process that includes generating ideas, sharing them with others, revising, proofreading, and finally, when the writing is of excellent quality, publishing. I learned to emphasize the content of the writing and the clear presentation of that content. I learned that academic success depends on learning to write well, and also on learning to use writing as a tool for problem solving and for understanding complex information in other subject areas.

I was able to apply the substance of the institute in my classroom. I found without exception that with the processes of writing I could reach students of all skill levels, challenge them to become personally responsible for their own learning, teach them to strive for excellence, and provide them the opportunity and tools to be successful.

The National Writing Project also provides me with a key tool: a network of teachers across the country with whom I can collaborate on a variety of projects. I am proud to be one of the 100,000 teachers a year who are "in the trenches," working daily to bring not only literacy, but the application of higher-level thinking skills to students and to my colleagues who teach social studies, math, science, business, foreign language, and special education.

In fact, the skill of writing is as critical to a scientist, a mathematician, or an engineer as it is to an English teacher. Improving writing in all disciplines contributes to solving the pipeline problem, ensuring that more high school graduates will have the motivation and skills to succeed in the STEM fields. For this reason, the writing project workshops we conduct are for all teachers.

Making a Difference Student by Student

Working in partnership with their universities, writing project teacher-leaders are tackling the demands of the 21st century in their local areas. I could share with

you hundreds of stories about students I have worked with in rural schools in Wyoming, young people at a residential treatment center for troubled youth, and even adults who are seeking to finish their high school studies. But perhaps the story of Kelly represents all of them in some way. Kelly was expelled from the largest high school in our district because of his drug use, defiance, and assorted personal issues. Sporting a number of tattoos and piercings, he enrolled at Chugwater High School where I teach English. Through the process of writing, sharing with classmates, revising, and finally producing publishable pieces, Kelly found that he could make his life “make sense.” He told me that he was able to connect the dots between school and his “real life” and to make connections between various classes. He also found a way to connect with the best parts of himself, because writing helps us to recognize and develop our own voice, our own humanity. Kelly will be graduating in May with a 3.4 GPA and plans to continue his education at a community college.

Equipping students with ways to invest in their own learning, motivating them to continue education after high school, and helping them choose a path to excellence is a daunting task. Learning to write has provided that path for my students. The writing project has given me the knowledge and confidence to teach writing effectively and the professional standing to help other teachers do the same.

The CHAIRMAN. Thank you very much.
Mr. Schwarz.

**STATEMENT OF ERIC SCHWARZ, PRESIDENT AND CEO,
CITIZEN SCHOOLS, BOSTON, MA**

Mr. SCHWARZ. Thank you for the opportunity to share with you. I am Eric Schwarz. I lead Citizen Schools, which is a network of after-school programs operating with middle school kids and kids bridging into high school in Massachusetts, California, Texas, New Jersey, and as of next year, North Carolina.

I think you well framed the challenge of the high high school dropout rate as well as the challenge of too many young people not having the 21st century skills they need in the workforce and for college even if they finish high school. I think the two solutions I would like to propose are, one, more time, and two, more people engaged in young people’s lives during the critical middle school and sort of early high school years.

We do that at Citizen Schools through an apprentice model in the after-school hours where we recruit volunteers who are lawyers, business people, architects, chefs, and challenge them to spend one afternoon a week with a team of kids making amazing things, and the kids get a chance to work with engineers from IBM, architects from the finest firms in the country, Web designers to build useful products for their school and for their community. It is a mentorship program, but mentorship with a purpose and a chance for kids to build high-level skills and get a taste of the joys of work and get a taste of the relevance of the things that they are learning in school, as well.

I think it is important to add time to do this, because the school day is already so squeezed. What we are seeing in schools around the country where we partner is the schools are forced more and more to focus on the basics and focus on basic math and basic reading, and the extracurriculars and more hands-on learning activities that many kids need to thrive and others have mentioned are being squeezed out of the school day.

After school provides a great opportunity to build those skills and build 21st century skills. Our model allows them to do it both through apprenticeships as well as through academic coaching and leadership development led by a young staff of educators.

And then our real focus on how do you get kids when they are still in middle school dreaming about college and thinking about college and bringing them—we bring our youth leaders to 10 college campuses in that year and use that as a window into the high school choice.

And the last thing I would emphasize is the importance of high school choice in building an educated consumer who is an 8th grader who realizes the implications of the track they get on in high school, the courses they take, and the choices they make, and getting those young people when they are 12 or 13 and haven't yet mentally dropped out to realize the path to high school, to college, and to the workforce is critical.

We have done a major evaluation—we are in the middle of it—led by folks in Washington, Policy Studies Associates. So far, what it is showing is really encouraging, that kids in Citizen Schools as against a comparison group are out-performing their peers on six out of seven academic indicators back in middle school. They are getting by more than a two-to-one margin into college-track high schools as against a comparison group. Even though they are in more rigorous high schools, they are outperforming their peers significantly in math and English in their freshman year and they are getting to 10th grade on time, which is the best early indicator of high school completion on time at much higher rates.

So I think more focus on time and getting extra people, citizen teachers, we call them, into education.

Senator ENSIGN. [Presiding]. Good.

Mr. Bailey.

STATEMENT OF BOB BAILEY, NATIONAL SCIENCE FOUNDATION, GRANT PROJECT MANAGER, CENTRAL VIRGINIA COMMUNITY COLLEGE, LYNCHBURG, VA

Mr. BAILEY. Thank you. We are all very, very fond of the pipeline metaphor, so I am going to play with that a little bit with my comments. If you have a pipeline and you are losing—if you have a leak or if you are losing pressure behind it, the first place you go look are at the transition points because that is typically where it happens. Even more so, if you build a pipeline and leave a six-foot gap, or a six-inch gap, between the transition points, the only thing that gets through is the material moving very fast and the rest of it falls on the floor, and that is what happens in the education system.

The transition points are critical from grade to grade, from elementary school to middle school, middle school to high school, high school to college. Each transition can be more intimidating to the student and more likely to make them say, that is it.

And so one of the things that we have been involved with, I have seen other organizations involved with, is incorporating activities from the next level into the previous level so that students get a flavor of it. They find out that they can do the work, they are more likely to move on.

The same transition exists from the education to the workplace. It seems intimidating and overwhelming, don't think you can take it. If you can integrate work-based learning activities, internships,

youth apprenticeships into the educational pipeline, that transition to the workplace becomes a lot easier.

Senator ENSIGN. Very good.

Ms. Freeney.

**STATEMENT OF REYGAN FREENEY, A DOCTORAL CANDIDATE,
UNIVERSITY OF IOWA, IOWA CITY, IA**

Ms. FREENEY. Good morning. I am glad to be here. I come today wearing many hats. I want to talk about being one of the students who was a participant in one of these pipeline programs. Coming from the environment that I came from—I am from Iowa. I grew up in a small town in Iowa, poor area, poor schools, and I was able to participate in a program that provided me with the necessary tools to be able to make that transition, to first of all graduate from high school, then make that transition easily into college and to succeed in college, not walk through, but excel because of a lot of the tools that I learned because of my experience through the Upward Bound programs.

Coming from the 8th grade and a single-parent home where my mom worked menial jobs just to try to make things, you know, try to make things happen for her kids, she had no idea about college. She wanted me to go and I wanted to go, but she had no idea what was entailed in that process. And being a participant of a program that worked with students who were very similar to me, you know, and sitting in class, a lot of times you don't know the circumstances of a student. And we talk about engaging these students, but a lot of times, students are worried about their day-to-day needs.

And so this program gave me an opportunity to get away from my day-to-day needs and to see other students much like myself who had interests like I did and want to achieve and succeed. And so this program gave me tools on the things that I needed. It gave me an opportunity to see other college students, students who came from similar situations like myself, and it gave me an opportunity to mentor these students and also an opportunity to meet college professors. It lowered the barrier for me to know what it will take to be a college student, and college was not just for students unlike myself.

And so I made that bridge. I crossed that bridge and I saw the valuable impact on mentoring, relationships, and seeing that a scientist is just not an old guy with white hair with a lab coat.

[Laughter.]

It also gave me the opportunity to see that it is not a dark or cloudy field, but there are areas, a variety of areas that are real world applicable. And so being able to see and gain a research experience through the Women in Science and Engineering program and the Upward Bound program, it gave me a lot of tools that I needed in order to succeed. And so I saw the value in how the program impacted my life because not only did it give me a way out, it gave me a way in. It gave me a way in to influence other students.

And so I saw the value of the program, and so after I obtained my master's degree in chemistry, a little poor girl from Waterloo, Iowa, I decided to go and work for the program. And so I have worked for a few years and I, too, had a chance to change the lives

of students and to open the door for students who were—some of our students were great students and some of our students were mediocre students. I had a student in my program who, if you talked to her, she is very intelligent, but when it came down to taking exams, she didn't do so well. We had her tested and we found out that she had dyslexia. This girl will be graduating in a year in nursing.

So we have the tools. We have programs that currently exist that can help students, and this is not just one success story. I am not just one success story. There are many stories like mine.

And I want to say also, and I will be brief, but understanding the role that it is a pipeline. I think it is very important to have the colleges and universities involved with the high school and also having business professionals, I mean, businesses engaged in colleges and universities. If you want to change our workforce and make sure that we have the opportunity to fill in these gaps that we see, I think it is necessary to look at some of the tools that we currently have in place and go from there.

And I do have information that I will submit for the record, so thank you.

The CHAIRMAN. Thank you.

Dr. Layzell.

STATEMENT OF TOM LAYZELL, PH.D., PRESIDENT, COUNCIL OF POSTSECONDARY EDUCATION, FRANKFORT, KY

Mr. LAYZELL. Thank you. I agree with everything that has been said. I just want to add maybe a couple of different perspectives from the postsecondary education standpoint.

I think we have done our students a disservice in this country in the past several years by ignoring the fact that the world has moved to a place where, I don't care what you want to do, as has already been said, you are going to go to work, you are going to go in the military, you are going to go to postsecondary, you need that rigorous curriculum in high school and even grades below that.

So we are very supportive of this movement toward a single rigorous curriculum. I think, as has been said, the students will live up to the expectations we have of them.

A couple other things I think are important for all of us is to remember something that was said over 30 years ago by a man named Bud Hutchinson, that this really is all one system that we are talking about here. We happen to come into it at different points along the way, but we have got to make that a reality, that colleges and universities and the K-12 system understand that we are all linked together. We cannot build a strong postsecondary system on the back of a weak K-12 system. They cannot succeed if we have a weak postsecondary system. We have to have a lot more interchange, interaction, inter-relationship, collaboration between the two systems.

A couple other things that I think are important. We have mentioned teachers and teacher preparation in passing. That is a huge challenge for all of us, to make sure that those of us in postsecondary education are preparing the teachers to teach in today's classrooms and there is some evidence that we are not.

Educational leadership programs are crucial. You cannot have a strong school without strong principals or strong superintendents. Again, that largely falls in our bailiwick in postsecondary education, to make sure that our educational leadership programs are, in fact, attuned to the realities of today.

We have got to have better induction programs for young teachers. We lose too many young teachers in the first 2 or 3 years of their teaching experience, and I am a father of one of those young teachers that left the profession very quickly because I think we didn't do the kind of training, the induction that was necessary for her and for many others like her.

I had the opportunity to attend the National Governors Association summit on the high school about a year ago now. There were kind of two general themes that came out of that conference that were troubling. These came from Governors, for the most part. They either said their citizens in their State were complacent about the quality of their educational system, or, on the other side, they were cynical that anything could be done, and those are—the convergence of those two themes is pretty ominous for all of us, I think.

And I think there are too many people yet today, certainly we have encountered this in Kentucky in my short period of time there, that do not understand some of the statistics that you cited, Mr. Chairman, at the beginning about the need for how many jobs in today's economy need postsecondary education, the importance of training for the workforce essentially the same way that you train for postsecondary education. We have got to get that message out.

As has already been said, there is a number of programs, initiatives, studies that have been done that I think show us a way to go and we just need to pay some attention to the evidence in front of our faces. Thank you.

The CHAIRMAN. [Presiding]. Thank you. I want to thank my colleagues. They have to run and vote. That is what I just got back from doing. Both of them have some outstanding bills that deal with competitiveness and getting us from here to there, so would you like to say anything before you leave to vote?

Senator ENSIGN. Yes, I appreciate it, Mr. Chairman, simply because I have to preside in the chair from 11:00 to 12:00, so I won't be able to continue to participate. I appreciate you holding this hearing and just wanted to raise one point. I think all of us recognize the need for more of our kids to be motivated to learn math and science. I was over with Margaret Spellings this morning having a little coffee with her and we discussed how we identified the problems our kids had with reading, why our kids weren't learning to read, and the debates surrounding whole language and phonics. We recognized the problem and we did good studies to fix it.

But we don't have studies to tell us why our kids aren't learning math and sciences. You know, there are some theories out there, but the problem hasn't been totally dissected. Are students just not motivated like they used to be motivated? Is it teaching techniques? Is it parents that aren't helping motivate our kids or are not putting enough importance on learning math and science? Is it teacher competence? Is it a combination of things?

The bottom line is we have to find the things that seem to be working, and find what was causing the problem in the first place. As it was mentioned, we have to spend more time teaching core subjects. It could be that one of the reasons we have to spend more time teaching core subjects to students is because teachers maybe aren't teaching the way that we used to teach. We used to learn math and science in the same amount of time and still have time for P.E. and still have time for other important subjects. We have to ask ourselves some fundamental questions to effectively solve this problem.

So the direction you are taking this committee is exactly right, holding these types of roundtables, and I appreciate your leadership on this and thank you to everyone participating.

The CHAIRMAN. Thank you. What a flood of ideas we have already had, and I appreciate it.

Dr. Morningstar.

STATEMENT OF MARY MORNINGSTAR, PH.D., ASSOCIATE PROFESSOR, UNIVERSITY OF KANSAS, DEPARTMENT OF SPECIAL EDUCATION, LAWRENCE, KS

Ms. MORNINGSTAR. First, I want to just thank you for including me in this discussion. I was thrilled that the focus on students with disabilities at the secondary level was included. I want to start—so I want to acknowledge the inclusion to participate.

I want to start just by giving you a few statistics, briefly. I think the most recent report out of the National Council on Educational Statistics is that 64 percent of high school students attend some form of a postsecondary setting. Their expectation is a lot higher. I think it is around 82 percent of students expect to attend college.

For students with disabilities, the most recent research coming out of the second wave of a national longitudinal study, a 10-year study on high school outcomes for students with disabilities is that 32 percent of students identified with a disability go on to a postsecondary setting, not quite at the same rate. Now, interestingly, it is double what it was 10 years ago, and so the question you have to ask is what has changed?

Certainly, some might think, well, kids with disabilities can't go on to college, but clearly, the research is showing that that is not the case. What has changed is that there are high expectations that students with disabilities participate in rigorous coursework with the accommodations that they need and the instructional techniques that meet their learning differences.

I was very pleased to hear Ms. Varner talk about the ceilings, the differentiated ceilings, and I bet one of the lowest ones at one time was for students who were in the resource room classrooms. If we all have the same expectations for those students, we know they can be successful.

I think, Ms. Day, you talked a lot about multiple approaches to learning, your survey on how kids learn best. In our field, we call that adaptive pedagogy, that we have teachers who have expertise in individualized learning, and one of the most recent sort of research-based practices that have come out of the field of disability is universal design for learning. I think many of you may be familiar with a concept of the universal design. The curb cuts in front

of the Senate are a good example. They were designed for access for disability, but they are available to all of us. And universal design for learning at its core essentially says we have multiple ways to represent the text or the content, the knowledge base, multiple means of expressing it, and multiple means of engagement. So a lot of you have talked about that level of engagement.

What I still hear, and my focus within higher student learning is around teacher preparation, well, we are preparing teachers using similar concepts. We are calling them different things. And what we haven't done successfully, particularly at the secondary level, is work together. So we still have separate educational systems that need to start merging so we have better partnerships with the general educators who have innovative practices and they are using our practices.

One other practice that I will mention, and I think I will save the issue of wearing two hats, both disability as well as teacher preparation, I will save my teacher prep for the second question about what we need to do next, but one of the probably biggest successes that we have seen within the field of disability in the last years is assistive technology. It is interesting, it hasn't come up yet in discussion around science and math because it comes out of the computer industry. So assistive technology primarily has been designed for students with disabilities.

I had a conversation with Ms. Willner right before where she was talking about what IBM has done in terms of making Web sites accessible using a variety of computer software and computer hardware available for people who are visually impaired. So they can't read the screen. They can hear it instead. The computer reads the screen for them.

Well, I immediately started talking with her about the advantages of that for a variety of individuals, not just people who are blind, so kids with learning disabilities, when they have access to that technology, they, too, read better. Their reading scores, the research on the reading programs that use universal design and assistive technology have shown large increases in reading skills for all kids, not just students with disabilities, but any low reader can show improvement with the assistive technology that is designed.

The other thing that I just might mention in the discussion—well, actually, I will touch on what you have talked about in terms of your mentoring program with Upward Bound. Again, what we are seeing within the field of disability, that where we have mentoring programs, National Science Foundation funds regional centers called Access for STEM, so it is to provide additional support, probably very similar to Upward Bound and the TRIO programs, additional support, college fairs, ongoing support from high school through college specifically designed for students with disabilities so that we are promoting their involvement in the STEM career paths.

Again, from my perspective, I think we should be jointly proceeding so that we are not doing our thing over here while IBM is doing their thing over here, but we need to start building those bridges and collaborating between the knowledge base that we all can bring to the table. Thank you.

The CHAIRMAN. Mr. Shelton.

STATEMENT OF JIM SHELTON, EXECUTIVE DIRECTOR, EDUCATION DIVISION, BILL AND MELINDA GATES FOUNDATION, WASHINGTON, DC

Mr. SHELTON. Good morning, Mr. Chairman. I agree with so much of what has been said today that I just want to offer a few framing comments.

The first is that I think it is important for us to keep in mind that when we talk about the competitiveness of our country, we actually have two goals at the high school level we have to achieve. One is the obvious one of actually getting more kids college ready so they can enter the workforce, the knowledge economy as we normally describe it. But I would submit that increasing our graduation rates nationally and reducing our drop-out rates is also a very important part of our ability as a country and, therefore, our competitiveness. I think it is very important for us to make sure that when you use definitions of what works, that we are very focused on recognizing that those two goals need to be tied together and that there is an inherent tension.

The second thing is that, as you have heard, there are many, many very important parts to strategies for making school successful and for making systems of school successful at graduating their students college ready, and the one thing I want to point out is that it is not either/or. It is and/both.

The places where I see success in my work with the Gates Foundation are the places that keep in mind that it is about expectations, that it is about preparation, that it is about awareness and information, that it is about understandings for students of affordability, because if they don't know that they can afford to go, then why bother? And networks and support and how they get the time and resources they need to be successful with these new demands that we are placing on them.

One of the things that we have to keep in mind is, in fact, we are actually trying to do what is unprecedented. The idea that the systems and resources that we used before, something is now different about the students because they are not being successful, is actually not so accurate. What is accurate is that we are trying to get many more students than have ever had access to the kinds of curriculum, to the kinds of opportunities that we need them to have access to, that we need new strategies, that we need much more holistic environments that are going to address the needs of all the students.

So I am going to come back to something that Ms. Varner said, because she laid out four goals and I have tended to find them all the same in all the schools that I see that are really successful. Common, high expectations identified in the standards with accountability for that performance specifically, actually especially in reading, writing, and mathematics. The others are very important, we need those problem solving skills in all of the areas, but the accountability for performance regardless of what pathway the student goes through in reading, writing, and math is very important.

The second thing is the creation of school environments, whatever they look like—I am used to very structured school environments with traditional academic tracks. Since doing this work, I have found schools that are highly rigorous that have no classes.

They do all of their work through projects in school and life internships out in the field.

They have great relationships with their students. All great schools know how to create great relationships between the adults and the students in the building, the students with each other in the building, and most importantly, actually, the adults in the building so they can work together to problem solve around the needs of the students.

And then finally, the relevance, so kids know why this matters. As all the teachers in the room and all the principals in the room know, the worst thing you want to hear when you walk into a classroom is, what am I ever going to use this for? We have to make those connections for students so that they understand how what they are learning in the classrooms is going to be connected to the real world, and then the best cases we can show them how that is going to happen.

The challenges of integrating these things, making them all happen at one time with the systems and capacity and the policy challenges that we have today is a complicated set of solutions. So it is going to take time and it is going to take joint effort, and so I am really happy to hear Dr. Morningstar's commentary about us working together. There is lots of individual effort going on. We need to figure out how to pull it together in a cohesive period of change. Thank you.

The CHAIRMAN. Thank you. And for our last speaker on question number one, Ms. Brooks-Crocker.

STATEMENT OF WANDA BROOKS-CROCKER, NDE CERTIFICATION ADMINISTRATOR, FRAMATOME ANP, INC., AN AREVA AND SIEMENS COMPANY, LYNCHBURG, VA

Ms. BROOKS-CROCKER. First of all, thank you for having us here today. I work in a very specialized field. It is nondestructive testing. I don't know how many of you may have heard something about nondestructive testing in your life, but I know when I got into it, I came into it completely by accident. I worked for a company called Babcock and Wilcox and a group moved into the building that did this type of testing, and guess what, it is the thing that keeps our infrastructures safe. It is transportation, railroads, airplanes, nuclear power plants, and that is the field that I work in, is nuclear power.

Since this is such a specialized field, it is not talked about a lot in the curriculums that exist right now. There have been a few initiatives locally. The company that I work for, AREVA, Framatome ANP, has put into place some summer academies where middle school students come in and they get some exposure to nuclear power and nondestructive testing, robotics, and then at the internship level, we have some students that come in, high school-age, and they work about 6 weeks with us. The summer academy is a week-long thing. Recently, the local community college, since we are a big employer in that area, they contacted us about putting in a program. We have a work-study program that is now about 3 years in existence and been very successful.

We are faced with other challenges in our industry, of course, because the workload tends to happen in very concise periods of time

in the spring and fall, so that leaves some other challenges probably for another type of discussion.

And most recently, the local high school, after the community college had this work-study program, the local high school came to us and said, can you do something for us, so they are now starting their second year of nondestructive testing. We have realized through this evolution that at the high school level, they need more than just high school graduation to go into this type of a work environment, so the local community college and the high school are working very closely together to develop a high school introductory level to four different areas in nuclear technologies, and then from there they can decide which one they want to focus on and go to the local community college and get further education.

So it is definitely an area, I have heard many of you talk about the business and business leaders and educators need to work together. The educators need to know what the needs of the world are, you know, what do our students need to learn, especially in these specialized areas?

So I thank you for holding this roundtable discussion today and look forward to more things happening here, so thank you.

The CHAIRMAN. Thank you. I am going to move on to the second question. I will have everybody put their name tags down. I apologize for you not having a chance to respond again, and some of you were fairly early in the discussion, so there are other things brought up that you need to respond to and I hope that you will jot those down and share them with us in writing, because some of the best ideas are actually the ones that come after somebody else said something, and we need those.

That question was kind of on strategies we can use, and I am always impressed with the volume of information that we get from these, the ideas that just ripple through there. And, of course, one of the reasons is because we invite outstanding people to these roundtables to provide that information.

The second question deals with partnerships, and what I noticed was that it is pretty hard to separate strategies from partnerships.

[Laughter.]

And I am sure that will be the case on the second question, as well, but I think it is working well. We want to talk now about strong partnerships among high schools, postsecondary institutions, businesses, and government which are essential to making the high school experience beneficial for all students. Any information you have on the respective roles of each partner and what can be done to start these partnerships and then to facilitate communication and coordination so that the partnerships work out, any experiences you have had with that that you think might have some universal application.

Part of what we have found is that there are a lot of great ideas around this country, but most of the people don't know about them and it is pretty hard to implement them if you don't know about them. So part of our role is to help communicate those, and again, you are invited here because we knew that you had real information on this sort of thing.

We will begin the discussion on the second question. Before you put up your name tags—[laughter]—I want to remind you about

the 2 minutes. I did notice that as the further we went into it, the longer the 2 minutes got—[laughter]—because there were so many more things to react on. But what this is is kind of a contest on ideas rather than an explanation of the ideas, because we will be getting back to you to get more of the detail on the ideas. So if you can kind of hold it to 2 minutes, I would appreciate it. Dr. Layzell.

Mr. LAYZELL. Thank you, Mr. Chairman. I would like to just briefly outline the approach that has been taken in Kentucky, because I think it does have applicability for other States.

The policy challenge, as you and others have noted, is how do you attack these problems in a way that is not dependent upon the individual personalities of a particular school district or a particular university? Is there a way you can do this, and I think there is.

In its reform legislation, which is now 8-plus years old in Kentucky, they turned the usual approach on its head and they said, look, we want to focus on the needs of Kentucky, not on the needs of the educational providers. We want the educational providers to help us meet those needs. And they created a concept called the Public Agenda. Later, they added adult education to postsecondary education's portfolio and instructed us in statute that we were responsible to work with the K-12 schools because of a recognition of things that already have been said here about the importance of the two systems to each other.

From that overall policy framework, we created a State-level P-16 council, which involves K-12, higher education, business, labor, adult education, all the partners that you would want involved in a collaborative discussion of how do you attack the educational problems that are facing you, and in our face, it was very low levels of educational attainment in Kentucky. We have since created local P-16 councils throughout the State. There are about 21 of them now.

I think this structure, which provides the opportunity for conversations among the various actors involved and has led to some really innovative approaches in a number of areas is a structure that could well be emulated around the country. There is nothing unique about it and it is not unique to Kentucky. They just happened to do it first. I would certainly think—I would certainly commend this to other people's attention because it is a way to force the various parties to deal collectively with these problems. Thank you very much.

The CHAIRMAN. Thank you.

Ms. Varner.

Ms. VARNER. Oh, I was second. I won!

[Laughter.]

The CHAIRMAN. Good work.

Ms. VARNER. Thank you. I want to talk a little about the partnerships that have really made a difference in Chattanooga. When I talked about the high ceiling and the single diploma, that actually came out of collaboration with our business partners who were saying what we should have already known, and I guess we knew, that it is not just the students who are graduating and going to college that need high-level thinking skills. The students that are

going straight to the workforce. So while, as I said, that would have been a difficult feat, we had the business community with us.

For our students who go to college, we had what is happening, I am sure, around the country, they will get to college and then they drop out the first year. They are either in remedial courses or, as you said, never get through and they just don't make it. We have sat down with our local universities and looked at the students who are succeeding and trying to look back to see, what is their history? What happened that may have contributed to their success and then what is not happening?

In our district now, all seniors, regardless of how clever they are in getting all of their course requirements in, they have to take math because we were really struggling there. And so during your senior year, because what we learned is that kids who take a year off from math don't do as well when they get to college, so you are taking math in your senior year and folks understand that.

In both our magnets and our academies, we have really strong partnerships with our magnet schools. We have, for example, the museum magnet, and you were talking about some of the things that kids have to give up when they are struggling with their poor subjects. What we have found is providing that context for kids to do what adults do, and that is pursue their passions and interest.

So one of our magnet schools, for example, is the museum magnet. Kids have the same high requirements. They have to pass the same end-of-course tests. They have the same set of standards. But they learn through that context. Our academies, the curriculum is developed in collaboration with our business partners.

One of our schools has a medical academy. The CEO said, I am no dummy. I am investing my time, my financial resources because we need doctors and nurses in Chattanooga. And so the curriculum is being developed jointly.

Our construction academy at one of our schools, East Ridge High School, is one of the most successful, and kids who are taken in the construction academy are outscoring their peers in traditional math on traditional tests. But it is providing that context and it is because we are developing, not just doing the business day and the business people in the schools for a day, but developing strong relationships with them, with our Chamber of Commerce, with local attractions, with communication, and that is one of the things that is really making the difference.

That is what is allowing us, I think, those contacts and those partnerships, to have a single diploma and have our graduations go up, our graduation rate go up, our dropout rate go down.

The CHAIRMAN. Thank you.

Mr. Ajax.

Mr. AJAX. Thank you. I would like to share a similar successful partnership that we have been able to develop in Minneapolis, and that is we, 17 years ago realized that 70 percent of the students coming out of high school were not obtaining a high school degree, and we also know that in the manufacturing sector, that for every college degree and every engineer, we need between seven and ten technicians, and these are high-skill, high-wage, high-demand occupations. These are men and women that can be tool and die makers and electricians and earning between \$40,000 and \$70,000 a year.

So we have worked with several of the Minneapolis public schools, the at-risk schools in particular, and over the last 17 years, we have put 800 students through a mentoring program and an internship program and one-on-one attention, and we work with the students and their parents and explain that you can have a free ride. Your entire education is paid for. You will have a 2-year technical degree. You will have the opportunity to go on to a 4-year degree if you choose. All of your education is paid for. You will enter a 4-year apprenticeship training program with 8,000 hours of on-the-job training, 144 hours worth of additional professional development every year after that, and you will graduate from your apprenticeship program while you are being paid and you will be making between \$40,000 and \$60,000 a year without any student debt or any student loans.

I am happy to say that of the 800 students through the YCAP program, more than 92 percent of these at-risk youth have graduated from high school. Most of them did go on to postsecondary education. Some of them went on to a 4-year degree. But what I would like to recognize is we need to think about and focus on the 70 percent of the students that will not have a 4-year degree, and there is almost a social prejudice that exists with educators and students and parents, where we look down our nose at someone that does not have a 4-year degree. My son has to have a 4-year degree, absolutely. There is no other choice.

Well, we think there are some other choices and we need to work harder as business and industry and promote some of the opportunities that are available other than a 4-year degree. Thank you.

The CHAIRMAN. Thank you.

Dr. Morningstar.

Ms. MORNINGSTAR. Thank you. There are several things I could talk about. I think what I will focus my 2 minutes on this time is the role that I see within higher education and teacher training, and I know that teacher education and schools of education don't always get the best rap and I think that some of that is because there may not be a good understanding of what we are doing and how we are changing our practices in training teachers.

I know now I have an advantage because I am faculty in the number one department of special education among public universities in the country, so we take very seriously our role in teacher education for special educators, and we take very seriously the importance of the current legislation around high-quality teachers.

What we are starting to see is that, well, number one, we understand that schools are different and we have our students out in those schools on a regular basis, so it is not like we are not aware of the current context within which high schools operate, and in fact, my program at the secondary special education and the transition to adulthood, which is my area of expertise in training teachers, they learn about secondary school context first and then the role of specialized instruction, their role within that as a special education teacher with some individualized, specialized skills.

And what we are seeing from current legislation, I think is a good thing. It is hard for us, you know, the shift from the way we used to teach, pull-out model, resource room teachers teaching science and math for a variety of kids, that model has got to end

and we are helping those teachers move into a push-in model of services, where they are co-teaching in science classes and the kids with disabilities are in those science classes.

My perspective is for students who do need specialized attention and perhaps not within a regular science class, science teachers still need to be providing that instruction with the support of the intensive work that special educators can do in those alternative settings. I would hold to the focus that we feel very strongly about our role in preparing the best teachers for tomorrow, getting that word out.

The CHAIRMAN. Thank you.

Ms. Freeney.

Ms. FREENEY. I will be brief. I will keep it under 2 minutes. And what I do need to say is that I think it is very necessary to offer supplemental programs. I don't think we are—it is not an isolated case. It is not just high school, it is not just college, and it is not just the business community. I think it is necessary to provide supplemental programs both for teachers and for students. I think allowing teachers to work jointly with colleges and universities and also industry provides them an opportunity to obtain additional training and receive materials and also provide some—for them to obtain some additional instructional support in which they can transfer into their classroom.

I also believe that it is necessary for the students to have access to this opportunity which allows the students to receive, one, a real-world experience, hands-on training, and also to see that the loop between what they are learning inside the classroom has application outside of the doors. And I think that there are several programs in place that will provide a great role model for this, and I just really want to stress the point that we are not in this alone. And so an interdisciplinary approach to both student learning and teacher learning and teaching will provide assistance.

The CHAIRMAN. Thank you. Mr. Schwarz.

Mr. SCHWARZ. Thank you. I am seeing some wonderful themes emerging around high expectations, the importance of transitions, customized learning in school and out of school, the importance of mentors.

I wanted to mention three additional partners that aren't explicitly mentioned in the lists you went through but I think are maybe implicit, but call them out. One is parents, and we are thinking through how community groups can engage parents very powerfully as a full partner in their kids' learning. We think it is critical, and we think that after-school programs, citizen schools and others have the unique opportunity to play a bridging role, connecting to the school teachers during the day and the parents in the later afternoon and evening and bringing them together.

I was in Redwood City, California, last week and heard from a single parent of three middle school girls in our program and she talked about the transition and just what it meant like to be a parent and to have the support of an after-school program that was reinforcing things and values that she believed in during the school day and how it had kind of lifted a weight off of her shoulders. And then she contrasted when she was a kid and had been to a fire station and briefly wanted to become a firefighter, was told, you can't

do that, you are a girl, contrasted that with the positive reinforcement that her three girls were getting in our program.

Second is kids. I don't think we are going to get out of the gap that we have and the challenges we have if we don't challenge kids to be really producers and take responsibility for their own education. The apprenticeship model, at its best, really challenges young people to produce for their community. So rather than just being a passive recipient of education, they are out there producing, and we have young people working with Fidelity Financial Advisors, as one example, coaching their older brothers and sisters on college access and college savings and learning how to share those skills in a way that really brings meaning and brings useful information to their broader community.

Third, I think, is philanthropy. I think there is a big role that private philanthropy can play as a partner with K–12 education and with government in scaling what works. I flew down this morning from a conference in upstate New York with a number of philanthropists and social entrepreneurs, and many people in that community are very interested in partnering in new ways with government to take stuff that is proven to work and bring it to new communities and additional children. Thank you.

The CHAIRMAN. Thank you.

Ms. Willner.

Ms. WILLNER. Thank you. I am going to quickly touch on two things that were said earlier to underscore them and then talk a little bit specifically about partnerships.

First of all, thanks to Jim Shelton for mentioning that we don't want to go back to some supposed golden age. We all had a great time in school when we were young, but it wasn't the golden age. Those schools were good for the time. They achieved the goals that were set before them. They will not meet the needs we have today. We have much higher expectations.

Just the breadth of human learning and understanding is so much larger than it was before, our expectations for students, and as well as the fact that, as Jim mentioned, we now expect every student to get through high school. It is not okay to skip high school. It is not okay to drop out. As was said earlier, it is not even okay anymore not to go to postsecondary school. We need schools for tomorrow that will train our children to live in the innovation economy.

If we only focus on—the second issue I want to raise, and it was my colleague from J&J mentioned this, the need for hands-on skills, the need for problem-based kinds of activities in the schools, very, very important. Rote learning is not enough. We will, if we just focus again on the pocket cover skills and we teach all of our children to use slide rules, they are not going to innovate for the future. They are going to get left behind. We need them to focus on problems, and it is a two-fer.

Problem-based learning is a great thing because it is a great bargain. It is a two-fer. It engages children in real-life problems and experiences that are relevant to their lives, that excite them, and it teaches them the skills that they will need in the workplace to work collaboratively, to address problems, to uncover patterns, and

to communicate those solutions to others. So we need problem-based skills.

I want to talk a little bit about partnership, and I don't think I have time for my top 10 list of things that partners should try to do, but I will give you my top four or five. No. 1—maybe number one, two, and three, actually—is listen. If you want to have a good partnership, everybody has to listen. Everybody is shaking their heads. That is a good sign. We have to listen to each other. We have to really agree not to just be in the same room, not to have side-by-side players. We have seen the little children that really don't listen and engage with each other.

The second very important piece of advice I would give to partners is have some humility. As folks from the private sector, we can't walk into schools and say we are more efficient. We are the private sector, we know how to make this happen. Frankly, my colleagues from the school side, you can't just tell us, we are the education professionals. Just give us the money. Let us all have some humility and work together.

Third, we need to get rid of jargon. You all know what I mean. There is a certain language that is used in the education spheres and the private sector certainly has it, as well. I have worked on both sides of the aisle and everybody is great at creating new jargon. There is even a little jargon on Capitol Hill sometimes, so you know what I mean.

[Laughter.]

And finally, innovation. We come together to find new ways to do things. Let us not just try to find ways to do more of the same. Let us not do the same thing faster, more often. You know what, if it doesn't work and we do it faster and more often, we will just fail sooner. So let us try to work together to innovate.

And the last thing I want to mention just in terms of ventures, and we can provide you with some more of the partnerships that we have, but I am thrilled to hear about the citizen skills. IBM has about 8,000 folks who are online mentors. I actually live in New York and I mentor a young 4th grader in Las Vegas, and last year, I mentored a student in North Carolina.

And also, we have beginning on Sunday, for those of you who may not know, it is National Engineers Week, so last year, just from IBM, we worked directly over the course of National Engineers Week with 200,000 high school and middle school students, and we are just one company out of the dozens and dozens that participate in National Engineers Week. We are all geared up for this coming week. We are going to have activities in virtually every city in America at our plant site. We have to make that the start of partnerships that go forward, not just 1 day, but it is a great example of something we can build on.

The CHAIRMAN. Thank you.

Dr. Riddle.

Mr. RIDDLE. Thank you. In your opening statement, you made a profound statement, that is, schools are always open, learning never stops. And underlying that is the idea that, given time, all students can learn. Now, in the old school, we said all students can learn, but today we understand that we want all students to en-

counter complex subject matter. They may take more time to do that.

I am constantly battling elitists who contend that if students take one more day to learn a subject, somehow, they are a failure. If we continue to hold time as a constant, we are going to continue to have what we had in the past. That is the bell curve of performance, and the bell curve in the knowledge age is not acceptable to anyone.

So recognizing that some students may take more time and that time now is a variable and not a constant brings up my point of our most important partnerships. Now, our school has partnerships with 4-year colleges, community colleges, Rotary Clubs, service organizations, businesses, and we have had award-winning partnerships. But our most important partnership is with our own feeder schools, middle and elementary schools, that ensure that the time students spend in school, during that time, no student falls behind and that there is a safety net for all students.

So instead of focusing outside, the solution is really inside, and the answer has always been right in front of us. If we really believe that given time, all students can learn, and we develop a continuum of professionals who continually provide services that every student needs. Now, we may need to compress more learning time for some students, after-school programs, summer programs. Our school, for example, we get a creative calendar, college-like calendar. We are able to get 5½ years of schooling in 4 calendar years for some students. All students don't need more time. But unless we look at time now as a variable, we will continue to get what we have gotten.

The CHAIRMAN. Thank you.

Ms. Day.

Ms. DAY. Thank you. This definitely, and Sandy Day excluded on this one, but this definitely just falls—the whole morning falls under the category of, wow, great minds think alike, because it is interesting listening to Dr. Morningstar's adaptive pedagogy as our approaches to learning and Mr. Bailey's pipeline is our pathway, and getting back to magnet schools, magnet schools are aligned in those transitional pathways and that is exactly what you are also talking about, looking inside what we are doing to see how we can adjust, refine, and fine-tune what it is that we are pushing through our pathway.

I want to tell you that one of the things that is critical to pathway organization, so, for example, if I am talking about one of our schools that has the theme of economics, we have an elementary magnet school called Conestoga. Students receive the economic extra value curriculum in grades 2 through 6. Then they move on to R.M. Magnet [ph.] and receive extra value curriculum in economics there, and then on to high school and then on to the community.

And what we do with that, of course, is we pull those teachers together over the summer so the teachers get year-round school, not the students in Omaha Magnet Schools, because they have to take a look at what they are delivering. And if we are not sending to the middle school students who truly understand what is ex-

pected, let us say, out of that economics curriculum, then we are failing them and we are building it into our system.

So I just want you to know that magnet schools have it easy when it comes to building these advisory boards that assist them with transitions through because they have a theme, but actually, any school could develop a theme. It really is incumbent upon the principal to come up with, let us say, a vision quest and determine what this regular neighborhood elementary is finding important in terms of how to encompass the life-long learning that are trying to envelop for their students, have professional development through the summer and make sure that part of that professional development involves partnering with the universities.

Omaha is lucky enough to have Metro Community College as well as the University of Nebraska at Omaha, and Dr. Layzell talked a lot about our chancellor, who is—that is where that K through 16 component came from. One of our magnet themes in one of our schools is a university partnership. We have planned a pathway that is K through 16.

And one set theme is developing partnerships with whatever higher level of institutional learning you have in your community. That is when you start building the business partnerships, and I agree 100 percent with what Ms. Willner is saying about the top five or six and she has got ten. One thing I would add that is working very well in our construction academy is invest those advisory board members. Make them be invested, and one of the best ways is to make sure they put up an internship, paid or unpaid, between the junior or senior year to really get those kids out into, and what I am particularly thinking of is our construction academy, and I am so glad that you mentioned it, Ms. Varner.

She is our model in Omaha Public Schools. We developed a construction academy that takes up the junior level and there is regular junior English class, math class, a technology class, and a construction laboratory, and the way they are able to make those achievement gains. We have students with 11 percent achievement gains from last year to this year in mathematics and the way they are doing it is through learning algebra. It goes right back to what is relevant to them. They are not just learning an algebraic equation, they are actually having to figure out the size of the drywall that is supposed to go on the wall that they are building in their construction class.

That is what keeps them engaged. That is what keeps them attuned to their learning, and then if you promise them that paid or—in our case, paid, thank goodness, thank you very much Peter Hewitt Construction—paid internship over the summer between the junior and senior year, they actually put some of those skills to work.

I echo exactly Mr. Schwarz. You need to have parents, teachers, students involved in that advisory board, because if we are not listening to what they have to say, then, again, we are doing them a disservice. But I will tell you what, great minds do think alike. It is amazing to listen to what is happening across the country and seeing that Omaha, Nebraska, is not far behind.

[Laughter.]

The CHAIRMAN. Thank you.

Mr. Shelton.

Mr. SHELTON. Thank you. Four specific kinds of partnership really quickly. Partnerships around alignment, so universities working with the local school system to make sure that they actually align the exit standards from high school to the entrance standards for college. In particular, some places have actually gone so far as to make available the placement exams for especially the English language, arts, and mathematics in the high schools so the kids can put together individualized plans for how they are going to make sure they are ready by the time they graduate if they were not already.

The same thing, actually, on the industry side, so industry partners working with the school systems to make sure that the career and technology programs that they offer actually lead to an industry certification, tying it to things like internships and apprenticeship programs so those very specific things that we actually make sure that we are connecting kids to pathways that are going to be meaningful for them when they graduate.

Third is actually partnerships around data, and there are a bunch of different kinds that matter. One is actually making sure that the data allows for information sharing about students from school to school and from school system to school system in close proximity, so that when a kid makes a transition from elementary into middle school or changes middle schools in the middle of the year or changes high schools in the middle of the year, the information about what they have accomplished and what they need makes it to them almost immediately.

Just as importantly, though, information sharing between agencies, so when a kid comes back from the criminal justice system, what happens in terms of their records as they come back into the school system and how do we know that that kid needs services? When a student is in the foster care system, how do we make sure that the school system is aware of the challenges that students faces and that the services we are providing for those students in those different agencies actually meet up to actually serve the students well. I can't tell you how many different places I go where four different agencies are touching the student and a family and none of them know.

The last thing I will talk about is a very special kind of partnership called an early college high school. It is a partnership, a very specific partnership between a high school and a college where, in fact, you blend the institutions, the objective being that you are actually going to graduate kids from school with about 60 credit hours or an associate's degree. And this is not an elitist program, this is a program that takes kids who oftentimes are not thinking that they are college bound and making college accessible to them in two ways.

One is, as soon as they are ready, it introduces them to college-level work and lets them know that they can actually do that. The second thing is if you actually accumulate enough credit hours, it reduces the cost of college, and so therefore you are making college accessible both in terms of the expectations, but also addressing the affordability issues. I am done.

The CHAIRMAN. Thank you. I have got to say, on almost all of these, I have got a lot of questions I would like to ask to follow up to get more information, but there is not a lot of time at this particular time, but we will get that other information.

Ms. Langston.

Ms. LANGSTON. I would like to address specifically two kinds of partnership, one related to, when you said there are a lot of great ideas out there, but it is kind of hard to get on board when we don't know what they are. So I think in the educational community, we really need to address a lot of communication and partnership within that institution, so within school districts, within States, and now at the national level, to find ways to partner one with the other, and this has got to cross curriculum lines.

It is not math or science or English or reading. It is we need to read and write so we can go on and explore math and science. You need to read so you can get the input of the information, and you need to write well so that you can express yourself and take that on out to the business community. And so insofar as partnering, we need to do that on a professional level, one with each other.

And then the second thing is that we really truly need to partner with our parents, and there are a variety of ways to do that, especially in Wyoming because there are great distances and very small communities and not a lot of population. It is easy to feel isolated, and a lot of our parents feel very, very isolated.

Once again, one way that I have been able to address that issue through the Writing Project is to invite parents in to participate in writing journals back and forth with their kids so they can see what their kids are doing, back and forth among parents in the community, and with the students and the teachers, just to set up a dialogue. No one has to be right or wrong, it is just a sharing of information. And as we develop that trust, then there is a way to proceed with that to develop true partnership.

If I have 15 seconds left, we don't have a lot of opportunity to partner with business since we have one convenience store and one rest stop. However—

[Laughter.]

The CHAIRMAN. Don't forget your brother, though.

[Laughter.]

Ms. LANGSTON. Oh, that is right. Truly, that is in a trailer, I want you to know.

[Laughter.]

I am glad to know IBM in New York will partner with a student in Wyoming, where business people across the Nation and the technology now to make that a reality for these people. So I am just very, very encouraged and very grateful to have been able to have heard what you have had to share. Thank you so much.

The CHAIRMAN. Thank you.

Mr. Bailey.

Mr. BAILEY. I will be very brief. Productive partnerships occur first and foremost when the partners sit down and agree upon—explicitly agree upon a common set of outcomes. Quite often, that doesn't happen. When it doesn't happen, the best case scenario is you get lucky. The worst case scenario is you waste a lot of time

and a lot of money and you end up with a lot of very frustrated people.

So if you are talking about entering partnerships, I would have to say you have to be encouraged to listen, but beyond listening, actually discuss, come to an agreement on a common set of dialogue, not dictate your outcomes on the other parties. Thank you.

The CHAIRMAN. Thank you.

Dr. Bzdack.

Mr. BZDACK. Yes. Picking up where my colleague Robin Willner left off, there are five attributes of partnerships, but first of all, as a company, as a corporation, as a small business, as a large business, you have two choices and they are parallel. You can do your own initiative or you can join a coalition, and I think that there are a lot of strong models for stakeholders. It is business coalitions that work, and we have stolen many ideas from North Carolina, Texas, and Kentucky.

So those need to be looked at closely, and the five attributes of the successful partnerships is that they have the power to convene all stakeholders; they listen; they act as true collaborators; they put their own agendas aside; they focus on evidence, as I said earlier. And the other power, the hidden power that we have as corporations is that we can leverage the power of our own employees, and that is at the very top level and at the very bottom level. And who are our employees? They are parents, they are school board members, they are voters, they are taxpayers, and many of our employees serve on the boards of colleges and universities and non-profits in our communities, so there is tremendous power.

And my final comment is that there is incredible potential among the corporations in this country to collaborate in the communities where they have a presence. We have talked about it, but we haven't done it.

The CHAIRMAN. Thank you. And again, we conclude with Ms. Brooks-Crocker.

Ms. BROOKS-CROCKER. Yes. The best for last, right?

[Laughter.]

Again, my comments are coming from a specialized background and that sort of thing. One of the questions is what are the roles of the partners, and as the business partner, I would like to say these things, I think, are important. Visibility, of utmost importance. We have noticed a big difference when we send people out to that school to actually work with the kids on learning this non-destructive testing. It is a very hands-on thing. They tend to like it quite a bit in the high school and community college levels. And what Ms. Willner said about being engaged, I mean, you have to be engaged with those students.

The next thing is assisting with curriculum development. Since it is a specialized area, it is essential to making the program concrete.

And also, teacher education. One thing that we have talked about for this year is having some workshops in the summer where all the teachers, not just those teaching nondestructive testing, but all the teachers can learn something about it and incorporate it into their classes—little small bits and pieces, but that way, it will trickle down to the younger grades and that sort of thing.

And last, actually assisting with instruction. A lot of our workforce is 40 to 65 years old, 38 to 65, something like that, so we are all kind of looking at retirement in the not too distant future and I think that is an excellent resource for assisting with the actual teaching of nondestructive testing in particular, because it is one of those areas that it is easier to teach if you have actually been there and done that.

So I would just like to offer that those things, I think, are important for the business partner. Thank you.

The CHAIRMAN. Thank you. I want to thank all of you for participating. I am hoping that your help will not end at this moment but will continue on through some additional comments that you may have had based on what others may have said, or ideas that you may have gotten, or ideas that you already had that you didn't get a chance to share.

I like having a roundtable as opposed to a hearing. Many of you may not have been at a hearing. Hearing is an oxymoron.

[Laughter.]

We invite in and it is kind of a Republicans versus Democrats atmosphere where each of us get to invite some witnesses and then the part that we hear is the part that we like from the witnesses that we invited. We spend our time, instead of listening, trying to come up with questions that we can either ask the others to embarrass them or ours to continue to emphasize our point.

The participation is about the same, but with this kind of a format, we get a lot of ideas. What I was writing down were—sometimes it wasn't what you said, it was an idea that I got because of what you said. A lot of times, it was some phrasing that you used, which I will use in the future. The Senate rule is the first two times, we have to attribute it.

[Laughter.]

Often not observed.

[Laughter.]

You have just been a font of information. I go back to Wyoming most weekends and drive around the State and do kind of one-on-one polls on how we are doing out here. I have got to say, though, that even in my travels back there, a lot of what I get to hear is what doesn't work, and so I appreciate these roundtables where we get to hear what does work. That is really what we want to duplicate. But a lot of times, we already know what doesn't work and a lot of times it is through a lot of repetition. Sometimes, that is what it takes for us, too.

But this has just been extremely helpful and we will keep the record open longer, both so that you can contribute and so that staff members here that have questions they want to have followed up on, and so that my questions can be followed up on, as well.

So I really appreciate the participation. I think the last time that we had a real surge in education in the country was when Sputnik was launched, which will be 50 years ago next year. The engineers and scientists and innovators that came out of that, we have been living on for a long time. Now, we have got to make sure that the surge keeps going for our country to have the kind of competitiveness that we have grown used to and so that the next generation

of kids can have the same benefits as the previous generations of kids.

I really appreciate all that you are doing to make that happen. Thank you for being here today.

That concludes the roundtable.
[Additional material follows.]

ADDITIONAL MATERIAL

PREPARED STATEMENT OF SENATOR KENNEDY

I commend Chairman Enzi for convening today's roundtable on education reform in our middle and high schools, and I thank each of the participants for joining us.

As a White Paper commissioned by the 2005 National Education Summit on High Schools stated, "High schools are now the front line in America's battle to remain competitive on the increasingly competitive economic stage." Our concern is obvious.

Education is the key to the Nation's competitive strength in the coming decades, and the key is rusty. We're falling behind other countries. Our schools are still competitive internationally through 4th grade, but by the end of elementary school, we're losing out. Of 100 students in 9th grade, only 68 will graduate from high school in 4 years, and only 40 of them will enroll in college, and only 18 will graduate from college in 6 years. Germany, France and Japan do far better, and our college graduation rates would be even less competitive if we compared the rates for 8th grade students.

Fortunately, strategies are available to reverse these downward trends and enable American students to excel academically again. We can encourage States to align high school courses with college expectations, and give students the support they need to succeed in their coursework. Doing so will also reduce the \$2 billion a year we spend on remedial education.

We can upgrade standards and revitalize curriculums so that students can take more rigorous courses and learn the skills they need to do well in them. We can improve the training of teachers who teach those courses. We can advise students earlier about the classes they select, so that they understand the role of the courses they take or don't take on their future opportunities. We can offer more help earlier to students who struggle with reading and math, and other academic courses.

Seasoned school principals and teachers know that it takes a strategy of prevention—not just intervention—to reduce the high dropout rate. We in Congress can learn from them as well.

Sixty-five percent of today's jobs require some postsecondary education and all estimates show that figure will continue to rise. Entry level jobs increasingly require skills in literacy, communication, and technology. Employers expect employees—even recent high school graduates—to analyze information and solve problems in the workplace. At a minimum, we should require every high school program to teach these skills to acceptable standards.

We've sent each of you several questions to consider for today's discussion. We're especially interested in learning more about the strategies that have built the pockets of excellence that exist in middle schools and high schools today. We'd like your thoughts on how to apply proven practices more widely, so that States and local school districts can improve the participation of all students in effective academic and technical coursework.

We look forward to your ideas in these areas, and we thank you for joining us this morning.

KENTUCKY COUNCIL ON POSTSECONDARY EDUCATION,
FRANKFORT, KENTUCKY 40601,
March 2, 2006.

Ms. LISA SCHUNK,
Einstein Fellow,
Committee on Health, Education, Labor, and Pensions,
U.S. Senate,
Washington, D.C. 20510.

DEAR MS. SCHUNK: Thank you for the opportunity to participate in the February 16 roundtable discussion on "Competitiveness: Building and Filling the Pipeline." Our reform agenda in Kentucky highlights that very issue. I am submitting my remarks and some additional materials, as requested, into the record.

Kentucky's education reform is built on a comprehensive legislative foundation that drives funding and strategic initiatives. In 1990, Kentucky was among the first States to embark on groundbreaking standards-based reform in K-12 education. In 1997, the Kentucky General Assembly passed the *Kentucky Postsecondary Education Improvement Act*. This legislation called for improving the standard of living and quality of life of all Kentuckians by creating an adequately funded, seamless system of education so that Kentuckians would meet or exceed the national average in educational attainment by 2020. In 2000, additional legislation set the stage for restructuring adult education and channeling it into the postsecondary system. Kentucky was unique in the Nation in creating a structure that focused adult education on attracting undereducated adults back into the education system to prepare and enroll them in college. Kentucky's P-16 pipeline strategically includes both traditional P-12 and nontraditional adult students. Most recently, the *Kentucky Innovation Act* of 2000 formalized in legislation the role of postsecondary education in expanding the capacity for knowledge-driven research and development in Kentucky to attract businesses, create jobs, and prepare a skilled workforce for a globally competitive, 21st century economy.

From this policy framework, which continues to drive funding and strategic initiatives, the Council on Postsecondary Education (Kentucky's postsecondary education coordinating board) has developed, in forums and meetings with constituencies across the Commonwealth, a "Public Agenda for Higher Education" that includes an accountability system organized around five questions. These five questions focus postsecondary education on outcomes ("key indicators") that will produce better lives for Kentuckians and address the goals for postsecondary reform <http://cpe.ky.gov/planning/strategic/default.htm>.

- Are more Kentuckians ready for postsecondary education?
- Is Kentucky postsecondary education affordable for its citizens?
- Do more Kentuckians have certificates and degrees?
- Are college graduates prepared for life and work in Kentucky?
- Are Kentucky's people, communities, and economy benefiting?

The first of the five questions is of particular interest for this roundtable discussion. Kentucky's postsecondary institutions are held accountable for their role in ensuring the preparation of traditional and adult students for college. Although it has taken time, the public agenda has shifted the conversation in Kentucky beyond the "blame game," where each level of education blames its failures on the inadequacies of the preceding level (e.g., employers blame colleges, which blame high schools, which blame middle schools, which blame elementary schools, which blame families). Through a variety of strategies over nearly a decade, Kentucky's education leaders are coming to understand that no part of the system can truly succeed if another fails.

Kentucky's P-16 agenda to build our educational pipeline has encompassed several initiatives.

- A State P-16 Council was established in 1999 as a voluntary collaboration between the P-12 Kentucky Board of Education and the Kentucky Council on Postsecondary Education. Today, the P-16 Council includes representatives from all education sectors, the State's financial aid agency, government, and the private sector. The P-16 Council has focused on alignment of standards and assessment across the system, teacher quality, and strategies that support the transition of traditional and adult students upward through the system. Twenty-one local P-16 councils have been created throughout the State under the guidance of the State council to provide grassroots support for the P-16 agenda.

- In 2000, the State launched "Go Higher Kentucky," a highly successful college access marketing campaign, to address cultural barriers to educational advancement and to convince all Kentuckians that postsecondary education should be in their fu-

ture. The campaign has received national and regional recognition for its quality and success. Kentucky is now working with the Southern Regional Education Board and the Southern Governor's Association to assist States throughout the south in developing similar campaigns. It also has worked with other States across the Nation. The campaign produced record numbers of new adult learners pursuing the GED and college and contributed to record college enrollments in Kentucky during this period. A Go Higher Kentucky Web portal is in place to provide what students need to plan for, prepare for, and pay for college.

- In 2000, Kentucky successfully applied for a Federal GEAR UP grant that provided \$21 million in Federal and matching State funds to work with low-income middle/high school students and their parents and teachers to motivate, prepare, and successfully enroll them in college. In 2005, Kentucky secured a second GEAR UP grant—more than doubling the resources available for this program. P–12, postsecondary, agency, and private sector groups have partnered through GEAR UP to address P–16 challenges for low-income students. To date, the program has produced academic achievement gains in our poorest schools that exceed State averages, provided scholarship guarantees to students who meet program requirements, and increased the number of low-income students and their parents preparing for college attendance.

- Kentucky's focus on alignment led to its selection as one of the initial five pilot States participating in the "American Diploma Project." Sponsored by Achieve, The Education Trust, and other national groups, the first ADP pilot produced a clear set of standards defining what every high school and adult student should know in math and English to succeed in college or the skilled workplace. Based on that work, Kentucky secured agreement from all of its public postsecondary institutions on a common set of standards and a common assessment for guaranteed placement into credit-bearing mathematics and English courses across the community college and university system. Kentucky's Statewide Public Postsecondary Placement Policy clearly defines what "college readiness" in these core subject areas entails, and we are communicating this across the system (see Statewide Public Postsecondary Placement Policy brochure). Kentucky currently spends more than \$24 million per year addressing the needs of underprepared college students. Working with our middle and high school and adult learning center partners to implement these standards should reduce these costs and increase student success.

- For the last 6 years Kentucky has assembled teams of key faculty and staff from across university programs (e.g., education and arts and sciences colleges) to develop and implement plans to increase the quality of teacher preparation and professional development programs. The Council on Postsecondary Education is currently working with the State teacher standards board, the legislature, and the Office of the Governor to implement a redesign of these programs for teachers and school leaders following best practices identified by the SREB and other national reports. Through the work of the State's certification board, the P–12 system, and postsecondary education, Kentucky's teacher quality has improved as indicated by numerous national assessments and recognitions. Much more needs to be done, however—and it will be—to address teacher shortages and assess the effectiveness of teacher preparation and professional development programs in producing student achievement gains tied to college and workplace readiness.

- The Kentucky Community and Technical College System, created in the postsecondary reform legislation, plays a central role in implementing the P–16 agenda. As a primary postsecondary access point for many students, the KCTCS has invested funds in high school partnerships to provide early assessment of students' college readiness and created successful early and middle college models to ease the transition from high school to college. It has been the primary provider of dual enrollment opportunities for high school students. Statewide, the number of high school students dually enrolled in college courses has grown from 9,321 in 2001–02 to 18,291 in 2004–05.

Several recent developments hold great promise to accelerate the success of P–16 work in Kentucky and address current challenges.

- In 2005, the Business Forum, made up of important private sector leaders, many of whom spearheaded the 1990 Kentucky Education Reform Act, issued a comprehensive report identifying and supporting a range of initiatives in education, particularly focusing on strengthening P–16 connections and programs. The support of the business community will be important in sustaining the political will to advance P–16 initiatives.

- In early 2006, the Kentucky Board of Education, following the recommendation of the State P–16 Council, voted to implement a single rigorous curriculum for all students, raising the State's high school graduation requirements and eliminating

the “general track” diploma. Assessment standards also are being revised, in response to the American Diploma Project recommendations for English and mathematics, to prepare all high school graduates for college and skilled employment. The assessment system also will provide, for the first time, student-unit-level data that will better track individual student achievement across the system. Kentucky Adult Education is revising its curriculum to align with ADP benchmarks and Kentucky’s Statewide Public Postsecondary Placement Policy.

- The State acquired a new Federal GEAR UP grant that will allow it to double its capacity to implement successful programs for low-income students developed in its first grant. Also, funding is being put in place for the next phase of the “Go Higher Kentucky” college access campaign to reach Kentuckians who still do not have college on their radar screen or who believe college is beyond their reach.

- A recent study of postsecondary affordability has produced funding and proposals for new scholarship programs that address the needs of students for whom affordability was identified as a barrier.

- Finally, in late 2005, for the first time, Kentucky’s key education agencies, under the leadership of the Education Cabinet, submitted a joint budget request to integrate data and virtual learning programs. The request was submitted by the Governor for approval by the legislature. If funded, this program will allow systematic assessment of student success across the P–16 system, identification of the factors that predict success at every level, and coherent implementation of effective virtual learning programs by all agencies. We anticipate this joint proposal will be the first of many. It demonstrates the commitment of Kentucky’s education system to the logic of an integrative, systemic P–16 approach to education issues.

Again, I thank you for the opportunity to share some of Kentucky’s initiatives with the Senate committee and your other guests.

Sincerely,

THOMAS D. LAYZELL,
President.

KENTUCKY P-16 COLLABORATION: A REVIEW AFTER SIX YEARS

1. Teacher Preparation and Professional Development—From Early Childcare Through Grade 12

• Annual Teacher Quality Summits

The Council on Postsecondary Education and the Council of Chief Academic Officers sponsored five statewide summits (two at Eastern Kentucky University, two at Centre College, and one at Western Kentucky University) convening the chief academic officers and the deans and faculty of arts and sciences and education from Kentucky's public and independent institutions to develop statewide and institutional plans for improving teacher education. The Kentucky Department of Education and the Education Professional Standards Board have been active participants in these annual summits.

• 2+2 Teacher Education Agreements

The Kentucky Community and Technical College System, all of Kentucky's public postsecondary institutions, and several independent institutions developed a statewide agreement identifying at least 60 hours of transferable credit from the KCTCS applied associate degree program toward teacher preparation baccalaureate programs. The 2+2 program is designed to increase teacher recruitment, expand access to teacher preparation opportunities statewide, promote college-level options in high school, maximize credit transfer between two- and four-year institutions, and raise the number and level of preparation of classroom assistants. The 2+2 Steering Committee is addressing a similar statewide agreement for early childcare and education providers.

• KyEducators.org

The EPSB contracted with the Kentucky Virtual University to create a portal that provides over 100 courses targeted to the needs of Kentucky's pre-service and in-service teachers, interns, aids, and principals. Since this portal connects the information systems of the KDE and the KYVU, professional

development credits immediately apply to certification files.

• State Action for Educational Leadership Project

Kentucky was one of 15 states awarded a Wallace Reader's Digest grant to create a coordinated program for educational leadership. In Phase I of the project, the KDE established 10 demonstration sites in local school districts across the state to develop the instructional leadership potential of principals. Kentucky received continuation funding from the Wallace Foundation through a partnership of the KDE, the CPE, and the EPSB to develop and strengthen educational leadership programs. Phase II is organized around three breakthrough ideas:

- *Aspiring to Retiring.* In 2005-06, work will focus on university redesign, leader assessment, and induction support for principals. A work team comprising representatives from 11 university leadership preparation programs identified these priorities in 2004-05, agreeing that having common core initiatives will lead to quality improvement and help create conditions for sustainable change.

- *Distributed Leadership.* To make sustainable changes in school culture, six districts from the original 10 were selected to focus on the common elements of their programs and to determine essential factors affecting the impact of teacher leadership on student learning.

- *Kentucky Policy Forum.* Kentucky established an unprecedented model for influencing change by creating the Kentucky Policy Forum, which convened in February 2005. The policy forum influenced removing statutory language that prohibited reinstating a statewide principal induction program. In the upcoming year, the forum will focus on leadership in low-performing schools.

• Title II Teacher Quality Enhancement Grant

In 2003, the EPSB began funding, through a partnership with the Association of Independent Kentucky Colleges and

Universities, annual curriculum review and revision projects at most of Kentucky's public, and many of its independent, colleges and universities. Education and arts and sciences faculty analyze K-12 pre-service courses and programs to ensure alignment with the Core Content for Assessment, the Program of Studies, and specialized association standards. Most of the alignment analyses and revisions are complete and, in 2005-06 several institutions will begin postsecondary and K-12 collaboration to improve area high school coursework, using teacher work samples and feedback from recent high school graduates.

2. Alignment of P-12 and Postsecondary Curriculum and Competency Standards Between High School and College

• Implementation of Recommendations of Literacy and Mathematics Alignment Teams

The P-16 Council endorsed recommendations made in March 2001 by statewide teams of P-12 teachers and postsecondary faculty, with input from employers, labor leaders, and parents, to reduce the need for postsecondary remediation. The recommendations were approved by the CPE and accepted by the KBE and the EPSB.

□ White Paper on a Single, Rigorous Curriculum for All High School Students

The staffs of the P-16 Council partner agencies developed, at the request of the commissioner, a white paper outlining the policy issues involved in adopting a single, rigorous default high school curriculum that would prepare all students for postsecondary education and the skilled workplace. The P-16 Council endorsed the white paper's recommendation of such a curriculum at its March 2001 meeting, and the CPE approved it in May 2001.

• American Diploma Project

Kentucky was one of five states selected to pilot the ADP, a national effort to make the high school diploma and secondary assessments more meaningful for college admissions, college placement, and the

skilled workplace. In February 2004, the ADP released benchmarks of college- and workplace-readiness in mathematics and English, with work-place tasks and postsecondary assignments illustrating these benchmarks.

□ Statewide Placement Policy

In November 2004, the CPE approved a statewide public postsecondary placement policy based on these nationally researched standards of college readiness. Kentucky Adult Education is revising the state's adult education curriculum accordingly to prepare adult learners for postsecondary education and skilled employment. Local councils are using the ADP benchmarks to focus alignment discussions among high school teachers and college faculty, and the Northern Kentucky Council of Partners is convening high school English and mathematics teachers and postsecondary faculty to develop instructional materials to help teachers meet postsecondary and workplace expectations as well as state accountability standards.

• Kentucky Early Mathematics Testing Program

The KEMTP, administered by Northern Kentucky University with online capacity through the University of Kentucky, provides diagnostic assessments to students in grades 10 and 11 on their likely readiness for college-level mathematics. In 2004-05, 8,344 students from 66 high schools in 37 counties participated. Program directors are working with statewide programs such as GEAR UP Kentucky to expand its use in low-income schools. The program is nationally recognized and other states are using its test structure, content, and online features as models.

• Kentucky State Scholars Initiative

The Kentucky State Scholars Initiative is based on a model used in 14 other states and on research correlating coursework with success after high school. Managed by the Partnership for Kentucky Schools, the initiative helps middle and high school students chart a course of study that will help

them succeed in college and the skilled workplace. Business and community leaders, who are likely future employers of State Scholars, bring this message directly into the schools.

- **Distance Learning**

The Kentucky Virtual High School offers students greater access to challenging courses in shortage areas and in all areas of the pre-college curriculum (for example, world languages, higher mathematics, rigorous electives, capstone career and technical courses) and Advanced Placement. The KVHS also provides developmentally appropriate academic enrichment services to students needing additional or alternative instruction with special focus on middle-to-high school transition. The KVHS received two planning grants to begin an online international studies magnet program, with phase one including the development of a course in Mandarin Chinese. The KVHS partners with the KYVU and the Kentucky Virtual Library to provide high-quality online learning to students in Title I Improvement Schools through the No Child Left Behind Supplemental Services program.

- **Dual Enrollment Study**

The CPE is conducting a study of high school-college dual enrollment patterns as a basis for developing a consistent, statewide dual enrollment policy and funding model. The study documents the number and type of college courses taken by high school students and the effect that college course-taking while in high school has on subsequent postsecondary enrollment and success. The number of high school students dually enrolled in postsecondary coursework has increased dramatically for three years, from 3,693 in fall 2000, to 6,321 in 2001, to 11,244 in 2002, and to 14,396 in 2003, dipping slightly to 14,352 in 2004.

- **The Bridge Partnerships**

The KCTCS and the KDE are assembling school district and community college teams to provide college credit courses and diagnostic opportunities as early as grade 10. The project is designed to enhance the high

school learning experience and increase the number of students, especially minorities, enrolling and succeeding in college. All 16 KCTCS colleges have developed a Bridge Partnership with one or more local high schools. Most have incorporated the college calibrated ACT EPAS diagnostic assessments for middle and high school students into their plans, and one college has included WorkKeys testing.

3. Increasing College-going Rate and Success of Kentucky's Students

- **Implementation of Statewide GEAR UP Grant**

GEAR UP Kentucky (Gaining Early Awareness and Readiness for Undergraduate Programs) is a \$20 million federal initiative to encourage students as early as middle school to stay in school, study hard, and take a pre-college curriculum. GEAR UP schools provide academic enrichment, mentoring, counseling, scholarships, and other activities that improve performance and promote college going. The GEAR UP Kentucky infrastructure comprises 29 postsecondary institutions and 50 middle and high schools statewide. In 2004-05, GEAR UP served 18,000 students in grades 7-11. The first grant concludes in fall 2005. Kentucky has been awarded a second six-year GEAR UP grant.

- **Public Communication Campaign**

The CPE conducted a public communication campaign from 2000-04 to provide Kentuckians with practical information about education and training opportunities and to motivate individuals to pursue secondary and postsecondary credentials. The \$5 million effort supported statewide broadcast and print media as well as grassroots efforts to increase enrollment in adult and postsecondary education. The Southern Regional Education Board asked Kentucky to help lead a regional initiative to stimulate similar college promotion campaigns. In 2004, the CPE began a partnership with the Louisville *Courier-Journal* to promote college going, GEAR UP Kentucky, and the Go Higher Web portal.

- **Go Higher Web Portal**
KHEAA oversees the Go Higher Web portal, launched in June 2004. The Web portal is a comprehensive Web site that helps Kentuckians plan, apply for, and finance college. The site provides information, resources, and interactive tools to guide traditional and non-traditional students through the college planning process. Users can log on to www.gohigherkv.org to complete career assessments, take virtual campus tours, submit financial aid forms, and apply for undergraduate admission.
 - **HQ (Highly Qualified) Calculator** allows teachers and administrators to determine who meets NCLB's Highly Qualified Teacher definitions.
 - **Education Trust Data Project**
In 2003-04, Kentucky joined five other states selected and funded to participate in the Education Trust K-16 Data Flow Project. The staffs from the CPE, the KDE, the EPSB, Morehead State University, and the school districts of Elliott, Morgan, and Pike counties contributed and analyzed data linking information on high school course-taking patterns, postsecondary performance, and the effectiveness of teacher preparation programs.
- 4. Improved Data Systems**
- **EPSB Data Improvement**
The EPSB has incorporated educator data from the KDE and the Office of Technology to develop an array of Web-based applications to improve educator quality. Among them are:
 - LEAD (Local Educator Assignment Data) helps schools ensure that educators are teaching in their areas of certification.
 - KECI (Kentucky Educator Certification Inquiry) allows anyone with Web access to check the credentials of any teacher or administrator.
 - IMS (Intern Management System) enables schools to record electronically new teacher progress through KTIP (Kentucky Teacher Internship Program).
- 5. Local P-16 Councils**
- Kentucky now has 17 local or regional P-16 councils linking all levels of education with workforce and economic development needs. Kentucky's success in creating this statewide infrastructure of local councils, comprising representatives from education, business, and labor, and other civic leadership, has been nationally recognized. The Local/Regional P-16 Council Network meets quarterly, prior to state P-16 Council meetings, and is represented on the state Council. The CPE continues to provide seed funding and new project support.

[Whereupon, at 11:50 a.m., the committee was adjourned.]