S. HRG. 112–906

EFFECTIVE STRATEGIES FOR ACCELERATED LEARNING

HEARING

OF THE

COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS

UNITED STATES SENATE

ONE HUNDRED TWELFTH CONGRESS

SECOND SESSION

ON

EXAMINING EFFECTIVE STRATEGIES FOR ACCELERATED LEARNING

APRIL 18, 2012

Printed for the use of the Committee on Health, Education, Labor, and Pensions

Available via the World Wide Web: http://www.gpo.gov/fdsys/

U.S. GOVERNMENT PRINTING OFFICE
90–994 PDF WASHINGTON : 2014

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS

TOM HARKIN, Iowa, *Chairman*

BARBARA A. MIKULSKI, Maryland
JEFF BINGAMAN, New Mexico
PATTY MURRAY, Washington
BERNARD SANDERS (I), Vermont
ROBERT P. CASEY, JR., Pennsylvania
KAY R. HAGAN, North Carolina
JEFF MERKLEY, Oregon
AL FRANKEN, Minnesota
MICHAEL F. BENNET, Colorado
SHELDON WHITEHOUSE, Rhode Island
RICHARD BLUMENTHAL, Connecticut

MICHAEL B. ENZI, Wyoming
LAMAR ALEXANDER, Tennessee
RICHARD BURR, North Carolina
JOHNNY ISAKSON, Georgia
RAND PAUL, Kentucky
ORRIN G. HATCH, Utah
JOHN MCCAIN, Arizona
PAT ROBERTS, Kansas
LISA MURKOWSKI, Alaska
MARK KIRK, Illinois

DANIEL E. SMITH, *Staff Director*
PAMELA SMITH, *Deputy Staff Director*
FRANK MACCHIAROLA, *Republican Staff Director and Chief Counsel*

C O N T E N T S

STATEMENTS

WEDNESDAY, APRIL 18, 2012

EFFECTIVE STRATEGIES FOR ACCELERATED LEARNING

WEDNESDAY, APRIL 18, 2012

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

The committee met, pursuant to notice, at 10 a.m. in room SD–430, Dirksen Senate Office Building, Hon. Jeff Bingaman, presiding.

Present: Senators Bingaman, Franken, and Bennet.

OPENING STATEMENT OF SENATOR BINGAMAN

Senator BINGAMAN. Why don't we go ahead and get started. I do not know the other Senators who are going to get here this morning; I hope we get a few. But we noticed this at 10 o'clock, so why don't we go ahead.

This is a hearing of the Health, Education, Labor, and Pensions Committee, and it is focused on, "Effective Strategies for Accelerated Learning." This phrase "accelerated learning," has been used to refer to a variety of issues in education.

In the context of this hearing, we are referring to different approaches that allow students to access higher education coursework before they get to college. These approaches include exam-based approaches such as the Advanced Placement courses; dual credit or concurrent enrollment courses; Early College High Schools, what I have heard referred to as middle college high schools. There are some important differences across these approaches, and one of our purposes here is to try to understand those differences, and which of these approaches makes the most sense.

I think more than ever before, post-secondary education is required for young people who want to have the skills needed to compete for jobs in the 21st century workforce. Entry into America's middle class depends on a quality education that prepares students for college or a career. Unfortunately, post-secondary education is not the reality for many of our students. Nationwide, about 75 percent of students are estimated to graduate from high school. That number is even lower in my State of New Mexico, and in many States, it is particularly lower among certain minority populations.

At the next stage, about 30 percent of those who do complete high school do not enroll in college or any additional education. And finally, half of the students who begin to pursue a college education, dropout before they complete any additional certification or graduation. This means a sizable proportion of American students

do not proceed to college and many do not proceed to good paying jobs.

Accelerated learning approaches have become increasingly common in our high schools, particularly those for students in economically disadvantages areas to gain access to the rigors of higher education coursework. In New Mexico, the units required for students to graduate from high school now include completion either of an advanced placement course, or honors course, or a dual credit course offered in cooperation with an institution of higher education, or a distance learning course.

I think, clearly, we need to find ways in which the Federal Government can support student pathways and successful ways for students to access higher education, more rigorous coursework as early as they are able to do that. And that is the purpose of our hearing today, to see what is going on, and what it makes sense for the Federal Government to try to support.

Today, we have five expert witnesses to help us understand these issues. And we appreciate them taking time out of their busy schedules to be here. Let me just introduce the whole group, and then we will have everyone give their testimony, and tell us the main points we need to understand.

Mr. Tom Rudin is the senior vice president for Government Relations and Development with The College Board, and he will discuss the status of the Advanced Placement program, which has been created by The College Board.

Miss Carolyn Bacon Dickson is the executive director of the O'Donnell Foundation. She will tell us about the Texas AP Incentive program, which I have had the good opportunity to learn about in the past, but I am anxious to be updated on.

Mr. Peter Winograd is director of the University of New Mexico's Center for Policy Research and he is going to talk to us about New Mexico's statewide dual credit initiative.

Miss Marybeth Schubert is the executive director for the New Mexico Advanced Programs Initiative, and she is going to discuss the State's statewide education foundation's recent activities concerning accelerated learning.

Mr. Joel Vargas is vice president for Jobs for the Future, and he is going to talk to us about his organizations work on Early College High Schools, and any other issue he wants to address.

Why don't we start with you, Mr. Rudin. If you will give us 5 to 7 minutes of the main points you think we should understand. All of your testimony will be included in the record as if read. But Senator Franken and I, I am sure, will have some questions so we want to have time for those.

Go ahead, Mr. Rudin.

Mr. RUDIN. Thank you, Senator Bingaman. I appreciate the invitation to be here. And on behalf of all of us at The College Board, thank you for your longstanding support for Advanced Placement.

Senator BINGAMAN. Since we just have the two of us here, let me see if Senator Franken wanted to make any statement before we start with the witnesses.

STATEMENT OF SENATOR FRANKEN

Senator FRANKEN. Well, I had not planned any, but I just am very interested in this topic for a number of reasons.

I just was in Minnesota and went to the STEP school, which is in Anoka and Hennepin County where the students are getting college credits in high school.

I went to a college affordability roundtable at the University of Minnesota where we heard from about 10 students from different colleges in Minnesota, and every story was a little hair-raising in terms of how much these kids work, how much debt they are going to be left with at the end of their time, even though they work or even though sometimes they take a year off of school in order to make money.

Part of this, to me, there are a number of purposes of accelerated learning and part of the purpose is to perhaps lower the cost of college. The other is to increase the rigor of the education in high school, increase high school graduation rates, increase college attendance rates, and replace the need for remediation in college.

These are all good things, and I want to hear a little bit about what we can do in the Federal Government to encourage this, and also how scalable all of this is to schools that do not have this.

So that is it. It was not a prepared opening statement. It is probably, as the person writing the transcript, could tell. Could you? Yes, I got a thumbs-up there for the record.

Senator BINGAMAN. Well, we appreciate that description of your interest and appreciate you being here.

Mr. Rudin, I'm sorry for getting you started and then interrupting, but go right ahead, please.

STATEMENT OF THOMAS W. RUDIN, SENIOR VICE PRESIDENT, THE COLLEGE BOARD, WASHINGTON, DC

Mr. RUDIN. No, thank you very much, Mr. Chairman and Senator Franken.

Mr. Chairman, we owe such a debt of gratitude to you for your support of AP over the years, and this body's strong support for access to Advanced Placement courses and exams for low-income students. So thank you for that. We truly appreciate it.

We are happy to have this opportunity to talk about the Advanced Placement program that The College Board operates. AP is a set of 34 college-level courses offered in high school that are among the most influential general education programs in the country, and that represent the highest standards in American education.

Next month, more than 2.1 million students will take more than 3.6 million AP exams in schools across the country and in 30 countries. And then a month later, 11,000 high school teachers and college faculty will come together to read and score those exams.

I want to start by saying we are all advocates for and fans of K–12 higher education collaboration, and everyone on this committee and in this room is a supporter of higher, more rigorous standards. The AP program embodies both of those. College and high school faculty come together to create the AP courses, write the AP

exams, and score those exams. It is the true partnership between K–12 and higher education reflected in AP.

In terms of the rigor of these standards and assessments in AP, The College Board has been very actively involved in helping write the Common Core State Standards, and you are all familiar with that. But in many ways, this Nation has a set of common standards that are reflected in AP and the high rigor of those programs. We are happy to contribute that to the work of the Common Core conversation.

Let me use my time to highlight quickly five benefits of AP or five characteristics of AP.

First, AP supports college and career readiness. These courses provide strong preparation for college in the content area, in skills development, and in the problem solving and critical thinking skills students need to be successful in college or work, whether you are going into engineering, medicine, becoming a nurse, or a computer scientist. These courses prepare you for success in college and work.

Second, AP advances the equity agenda of this Nation. We know, for example, through the research we have done that college completion rates are 26 percent higher for low-income students who have taken at least one AP course and succeeded in it than their matched peers. By that, I mean low-income students with the same SAT scores, same GPA, the one variable being taking and succeeding in at least one AP course, college completion rates are more than a quarter higher for low-income kids. And we see similar percentages for underrepresented minority students as well.

Third, Senator Franken, AP does reduce college costs. If you can use AP to get out of a semester's worth of college work, you can save your parents—and I have a daughter who is a senior in high school, so I am very in-tune with this notion—you can save parents $5, $10, $20,000 worth of tuition by securing college credit while in high school. So that is an important part of this committee's work, I know, and I think AP can be part of the solution.

Fourth, AP drives school-wide reform. In other words, students who take AP and students who are not taking AP in the school still benefit from this program. Why? Because we have 140,000 AP teachers across the country and most of them take some kind of training program, often on a college or university campus. They will go back to their school and teach one or two AP courses, and three or four regular courses, so all their students benefit from the rigorous AP training.

And finally, this committee has been deeply concerned with STEM education. Even Senator Bingaman, when you all did the work on "Rising Above the Gathering Storm," you focused on the value of more rigorous coursework in science, and mathematics, and technology.

We know, we have seen all the data about how we rank 21st, 23d, 25th in the world in calculus and physics on these international exams. But on the most recent TIMSS study, students in the United States who scored a 3 or better, that is a successful score on an AP exam, in calculus and physics are first in the world—first in the world—in their performance on these exams. So

we can do better than we have been, and one path to that success is through the Advanced Placement program.

I will conclude by simply thanking this committee for the support that the Federal Government has provided for the past 13 years for low-income students to take the AP exam. The exams are subsidized, in part, for low-income kids by the Federal support. The College Board also subsidizes those exams so that students pay nothing or, at most, $5 for an AP exam that can then yield them tens of thousands of dollars worth of college credit.

Thank you, and I will be happy to respond to questions when the opportunity arises.

[The prepared statement of Mr. Rudin follows:]

PREPARED STATEMENT OF THOMAS W. RUDIN

SUMMARY

One of the Nation's most ambitious and effective accelerated learning programs is the Advanced Placement (AP) program. As a set of 34 college-level courses taught in high school, AP has become the most influential general education program in the country and it represents the highest standard of academic excellence in our Nation's schools. Next month, more than 2.1 million students will take 3.6 million AP exams in the United States and across the globe; a month later, more than 11,000 high school teachers and college faculty will convene for 1-week sessions at four locations to read and score these exams.

The principles and values of the AP program can be stated quite simply:

• *AP supports college- and career-readiness.* AP represents a commitment to high standards, rigorous curricula, quality assessments and enriched academic experiences for students, teachers and schools.

• *AP can advance equity.* Every student should have access to AP courses and should be given the support he or she needs to succeed in these challenging courses. AP is a powerful tool to close the gap in high school graduation and college-going rates.

• *AP can drive school-wide academic reform.* Schools that use AP as an anchor for setting high standards and raising expectations for all students experience significant returns not just in terms of AP participation but in terms of increasing the overall quality and intensity of their academic programs.

AP is recognized as a powerful tool for increasing academic rigor, improving teacher quality, and creating a culture of excellence in high schools. Where AP programs flourish, schools and districts use AP to support increased academic rigor and college-going aspirations.

The Federal AP Test Fee and Incentive Program plays a key role in expanding AP access and success for low-income students. When the program began in 1999, a total of 82,000 AP exams were taken by low-income students. Today that number exceeds 530,000.

However, more needs to be done to increase access for underserved minority and low-income students who are ready to succeed at AP. An analysis found that 74 percent of American Indian/Alaska Native students, 80 percent of black/African-American students, and 70 percent of Hispanic/Latino students did not take the recommended AP subject for which they demonstrated strong potential, thereby forgoing the chance to take a rigorous course and the opportunity to save thousands of dollars in college credits.

AP has tremendous potential to drive reform in a powerful way in all of our Nation's schools. AP is not for the elite, it is for the prepared. Support for expanded AP and pre-AP teacher professional development will prepare many more students for the opportunity to succeed in college and work.

INTRODUCTION

One of the Nation's most ambitious and effective accelerated learning programs is the Advanced Placement (AP) program. As a set of 34 college-level courses taught in high school, AP has become the most influential general education program in the country and it represents the highest standard of academic excellence in our Nation's schools. The AP program is a collaborative effort between motivated students,

dedicated teachers, expert college professors and committed high schools, colleges and universities. Ninety percent of the colleges and universities in the United States, as well as colleges and universities in 30 other countries, have an AP policy granting incoming students credit, placement or both on the basis of their AP exam grades. Many of these institutions grant up to a full year of college credit (sophomore standing) to students who earn a sufficient number of qualifying AP grades. Since its inception in 1955, the AP program has allowed millions of students to take college-level courses and exams and to earn college credit or placement while still in high school. Next month, more than 2.1 million students will take 3.6 million AP exams in the United States and across the globe; a month later, more than 11,000 high school teachers and college faculty will convene for 1-week sessions at four locations to read and score these exams.

THE AP PROGRAM

The principles and values of the AP program can be stated quite simply:

• *AP supports college- and career-readiness.* AP represents a commitment to high standards, rigorous curricula, quality assessments and enriched academic experiences for students, teachers and schools. AP courses provide strong preparation for the challenges of college and career, including not only rigorous content but also the discipline and critical thinking skills necessary to keep up with a demanding assignment, project and assessment load.

• *AP can advance equity.* Every student should have access to AP courses and should be given the support he or she needs to succeed in these challenging courses. AP may be one of the most important tools available to educators to close the gap in graduation and college-going rates. Research indicates that a high percentage of minority students who have demonstrated strong potential for AP courses, are not taking these courses. Therefore, educators should be redoubling their efforts to make AP participation the norm rather than the exception in our Nation's high schools.

• *AP can drive school-wide academic reform.* Schools that use AP as an anchor for setting high standards and raising expectations for all students experience significant returns not just in terms of AP participation but in terms of increasing the overall quality and intensity of their academic programs.

Across the Nation, every State and most school districts are exploring ways to raise standards and ensure that all students take challenging courses in science and mathematics that prepare them for success in college and career. AP is recognized as a powerful tool for increasing academic rigor, improving teacher quality, and creating a culture of excellence in high schools. Where AP programs flourish, schools and districts use AP to support a cohesive school culture that promotes both rigor and college-going aspirations. Students who take AP courses assume the intellectual responsibility of thinking for themselves, and they learn how to engage the world critically and analytically. AP students learn to construct solid arguments, test theories and explore many sides of an issue—the kind of thinking that solves tough problems both inside and outside the classroom, in college and beyond. AP coordinators, counselors, principals and district officials support AP teachers by providing professional development opportunities and other crucial resources. They offer a broad range of AP courses and exams so that motivated students can develop their passions and talents—whether they're interested in art, history, languages, literature, math, engineering or science.

Superintendents and principals recognize the value of AP to leverage opportunity and achievement for all students. One principal from Lincolnshire, IL, cited the role of AP as a driver for improving all students' readiness for college and work:

> AP is helping more of our students develop the skills and confidence they need to succeed. Most of our graduates who have participated in the program report being exceptionally well prepared for the challenges of college. Feedback like this reinforces our commitment to expanding college-level opportunities for all of our students.[1]

THE AP TEST FEE AND INCENTIVE PROGRAM

The Federal AP Test Fee and Incentive Program plays a key role in expanding AP access and success for low-income students. Since the program's inception in 1999, more than 175 grants to States and districts have resulted in programs that have touched the lives of students throughout the Nation and promoted a college-

[1] Dan Galloway, Principal, Adlai E. Stevenson High School, Lincolnshire, IL, as cited in the *2001 AP Yearbook*, College Board.

going culture, encouraging more of our Nation's students to set high goals for themselves. When the program began, a total of 82,000 AP exams were taken by low-income students. Today that number exceeds 530,000.

While the fiscal year 2012 appropriations for the program was $27 million, a reduction from last year's appropriation of $43 million, the Department of Education last week announced it would provide additional funding so that the entire cost of AP exams for low-income students would be covered with Federal funds. This commitment by Congress and the Department of Education to fund these exams comes at a critical time and will ensure that students can benefit from taking the AP exam and gaining college credits for successful scores.

Continued support for AP is important to students, parents, schools and districts—and to the Federal Government—for a number of reasons:

• First, the most important predictor of college success for a student is not his or her high school GPA, his or her SAT score, or his or her extracurricular activities. Rather, it is the quality and rigor of his or her high school courses. Research shows that students who take more rigorous courses, such as algebra II, trigonometry and AP calculus, are the most likely to enroll in and *complete* college. Additionally, AP is a powerful predictor of college success. By providing students with the opportunity to enroll in challenging courses during high school, it is more likely that these students will have the confidence and motivation to set and achieve high standards for themselves and will be encouraged to enroll and succeed in college.

• Second, students who take AP can earn college credit, which can save parents money spent on tuition and fees. Students who take a semester's worth of AP and earn college credit on the exams can save $5,000–$10,000 or more in tuition and fees in the State's public colleges and universities, and much more at private institutions. By enrolling in AP classes during high school, students are able to academically prepare themselves for college, and take advantage of financial savings for their future.

• Third, schools, districts and even State departments of education value the impact of AP. Students who complete AP courses are not only prepared for the rigors of college, they are extremely well-prepared for the assessments required by ESEA. The rigorous work required in AP helps students master subject matter and prepares them for any type of assessment challenge they might face, including State accountability tests and college entrance exams.

The impact of the Federal AP Test Fee and Incentive Program on the lives of low-income students is significant. At a recent AP briefing on Capitol Hill, a Baltimore teacher whose district received an AP Incentive Grant in 2008 and who teaches at a school where 99 percent of the students are African-American said the AP class changed the trajectory of his students' lives:

> On the first day of school last year, I posted a sign on my door that read: "Welcome to AP Literature. This class will change your life." I realized by the end of the year, though, that I'd been presumptuous to assume my class could change their lives, only my students themselves can do that. What the class did was provide the space, the stimuli, the support, the opportunity for students to believe in themselves, to accelerate their skills, to strive alongside like-minded peers, to be challenged by learning at the highest levels.[2]

The following chart illustrates the impact of AP on college-going and completion rates for low-income and minority students.

Five-Year College Graduation Rate Differences Between Matched AP and Non-AP Students

Student group	Passed AP exam	Took, did not pass AP exam	Took AP course, no AP exam
African-American	28 percent higher	22 percent higher	16 higher
Hispanic	28 percent higher	12 percent higher	10 percent higher
Low-Income	26 percent higher	17 percent higher	12 percent higher

Control variables in the model include the student's 8th grade mathematics test score and economically disadvantages (free and reduced price lunch) status and the average test scores and percent economically disadvantaged students in the student's school. College graduation probabilities were calculated at the average of each variable for the student group in question, e.g., African-American students.

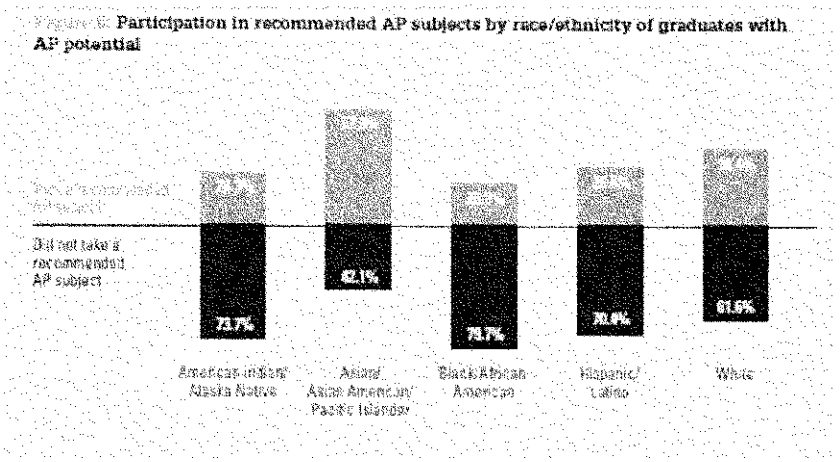
FULFILLING POTENTIAL

And yet, access to AP courses is not at the level it should be. Underserved minority and low-income students remain underrepresented in AP classrooms, and the

[2] Sean Martin, AP Literature Teacher, Friendship Academy for Science and Technology, Baltimore, MD at the AP Report to the Nation Briefing held on February 6, 2012.

Nation continues to face challenges in transforming the educational experiences of underserved students in this country. Schools that serve significant populations of minority and low-income students need support, including more professional development opportunities for teachers, and a focus on differentiated instruction and access to rigorous coursework for students. Simply expanding access to AP is not enough to promote equity; schools must expand access within a framework that supports teachers to help these students succeed.

While many schools and districts have worked to increase access to AP, hundreds of thousands of prepared students are either left out of an AP subject for which they have potential or attend a school that does not offer the subject. An analysis of nearly 771,000 graduates whose performance on the PSAT/NMSQT demonstrated that they had a strong likelihood of success in an AP course and on the AP exam found that nearly 478,000 (62 percent) did not take a recommended AP subject. Underserved minorities appear to be disproportionately impacted (see following chart): 74 percent of American Indian/Alaska Native students, 80 percent of black/African-American students, and 70 percent of Hispanic/Latino students did not take the recommended AP subject, thereby forgoing the chance to take a rigorous course and the opportunity to save thousands of dollars in college credits.



ONLINE LEARNING

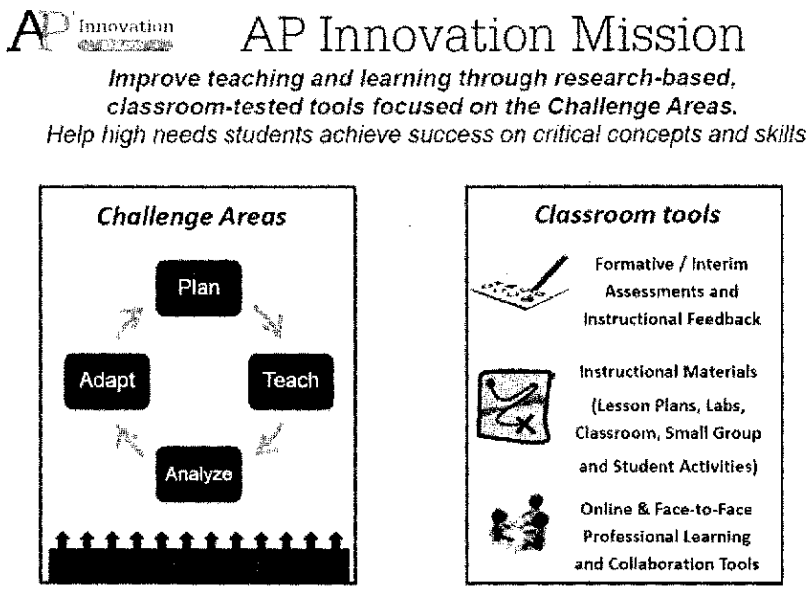
To increase access to AP courses, many States and schools are offering online opportunities to students. Online AP course development is primarily being driven by publicly funded virtual State schools providing classes free of charge to local high schools. While virtual State schools, such as New Mexico's IDEAL–NM, show the highest AP growth rates, exam volumes are low compared to traditional course instruction method (less than 1 percent of overall AP exam volume).

In 2011, a total of 18,369 AP exams were administered for courses taken through more than 300 online providers. Of the students who took these exams, 32 percent attended high schools in rural areas. A recent analysis of AP online programs found that online courses as a share of the total AP exam volume is nearly four times as high in rural regions as in urban schools. Urban schools with large enrollment volumes report offering online courses as a way to address scheduling conflicts and extend course offering, whereas rural schools report a lack of resources to offer traditional AP courses. The AP courses with the highest number of online participants are Psychology, U.S. History and English Language & Composition and the States with the highest share of AP online provider students and exams are Florida, Virginia and North Carolina.

In addition to online AP courses offered by independent organizations, a new college board online program is being developed and piloted to improve student outcomes and teacher quality in AP classrooms nationwide. This integrated system of online assessments, instruction and professional development will empower teachers to implement innovative, research-based instructional practices that help students of diverse backgrounds succeed in rigorous coursework. Teachers will have access to formative and interim assessments to tailor classroom instruction to unique stu-

dent populations and diagnose each student's level of understanding at key progression points.

The program identifies specific challenge areas in AP courses and "unpacks" critical concepts and skills with the most common student misunderstandings flagged. Lesson plans, case studies, interactive resources, formative strategies and more help teachers and students monitor learning to close these gaps. The pilot system currently has six challenge areas, 20 interim assessments, 100 instructional and professional learning resources, and a collaboration space for new and experienced AP teachers. The virtual Professional Learning Community will allow AP teachers to share new instructional materials, best practices and receive lesson plans and instructional resources for the specific courses they teach.



EXAMPLES OF SUCCESSFUL AP EXPANSION EFFORTS

In an effort to break down barriers to AP, schools throughout the country have developed creative programs to encourage underserved students to enroll in AP courses and help them succeed. Below are examples of these initiatives.

When teachers at San Pasqual High School in Escondido, CA realized that AP students did not reflect the school's diversity, they came together to recruit a broader population in the program. They knew that students taking an AP class for the first time would need to improve essential skills to succeed so they created a boot camp that focused on developing five key skills: teamwork; communication; organization; reading and problem solving (T–CORPS). Before starting their AP course, students create platoons and compete in skills events to practice each of the T–CORPS skills through experiential learning activities. As a result of the boot camp, underserved AP students at San Pasqual High School have increased their 3-plus scores on AP exams from 42 percent in 2007 to 68 percent in 2010.

Teachers at Franklin High School in Portland, OR fought to keep their school open when budget cuts threatened closure. They worked to increase rigor and created the Advanced Scholar Program. Students in the program commit to taking at least four AP classes, or three AP classes and one dual-credit class, during their 4 years at Franklin. Each student receives a mentor, usually an AP teacher, with whom the student must meet with twice a month. The Advanced Scholars also meet monthly as a group, where they discuss personal organization, the college application process, scholarship essays and personal essays for college. From 2007 to 2010, Franklin High School's low-income AP students grew from 20 percent to 37 percent of its total AP population.

Underserved students at Pflugerville High School in Texas were not choosing AP courses and teachers wanted to understand why. A focus group of these students revealed that they often did not see teens or teachers like themselves in AP and they hadn't always received the necessary encouragement. Thus began the Ambassadors for AP program, where students help recruit their peers to participate in AP by speaking at parent information nights and performing skits about the benefits of AP to demystify the program for students and parents. Since the program began in 2006, the increase in 3-plus scores by underserved AP students at the school has increased from 20 percent to 28 percent in 2009.

CONCLUSION

AP has tremendous potential to drive reform in all of our Nation's schools. AP is not for the elite, it is for the prepared. Support for expanded AP and pre-AP teacher professional development will prepare many more students for the opportunity to succeed in college and work. Activities that support student preparation for AP starting even at the middle school level will also have significant payoff. No single program can have as significant and sustained impact on accelerating student learning, and preparing more students for college and career success, than advanced placement.

Efforts at the school and State level have been strongly supported by the Federal Government's significant investment in expanding AP opportunities for low-income students. As a result, the growth in participation among these students has been remarkable and helps to prepare them for success in college while making college more affordable. The AP program is proven to work, and produces achievement gains like few other programs for students who need help the most. We believe it is critical for the Federal Government to continue to support AP and the students who benefit from the program.

Senator BINGAMAN. Thank you very much.

Miss Dickson, go right ahead.

STATEMENT OF CAROLYN BACON DICKSON, EXECUTIVE DIRECTOR, O'DONNELL FOUNDATION, THE TEXAS AP INCENTIVE PROGRAM, DALLAS, TX

Ms. DICKSON. Thank you, Senator. In Texas, we call you our AP hero. And Senator Franken, thank you for the wonderful goals that you have for our students.

I am going to talk about how we do prepare more students to graduate from high school, go to college, and earn that degree. Right now, job creation is our national economic imperative, but for that to happen fast and successfully, our other national imperative must be to upgrade and strengthen our U.S. teacher corps.

We all remember our favorite teacher or teachers; it may have been one or two who really got us to focus and helped us through our education. The problem today is that we have 55 million students in K through 12 public education and not nearly enough of those students are going to have the opportunity to have a really good teacher that can turn them from being an average student to a good student, and maybe even a remarkable student.

What this country needs, I think, is a systematic way to implement teacher training and improve the quality of our teacher corps. And certainly The College Board's excellent teacher training program has shown how well that can succeed, and it is a very good systematic way to implement teacher training.

Sixteen years ago, when the O'Donnell Foundation in Dallas wanted to have more math, science, and English teachers, we took The College Board's program, because we knew that was successful, and to that we added financial incentives for teachers and students. Those incentives are paid by the private sector and they are

based entirely on academic achievement. You have to pass an AP exam before any incentive kicks in.

Basically, the incentives are extra pay for extra work. AP teachers work hard and they work their students really hard. In Texas, you may know that our Friday night football games are the big deal. Well, we have AP teachers that require their AP students to go to a prep session on Friday night before they are allowed to go to those football games. So for kids in Texas, that is a pretty serious ask, but it works.

Tom has, I think, covered very well the benefits of a student who can pass an AP course, go to college, and succeed. In Dallas—which was really our pilot school, which has a very high minority population, it is over 90 percent—after a few years, we noticed that the African-American and Hispanic students in the Dallas district were achieving, were passing scores at a rate three times their counterpart in the United States. We realized we had to start much earlier because most students cannot get to the 11th or 12th grade and be expected to pass an AP exam.

So we started a second program called "Laying the Foundation," where we train teachers beginning in Grade 6 to work with those pre-AP students and get them prepared to take AP when they get to the 11th and 12th grades.

To fast forward, after those two programs, I will fast forward to the congressional action in passing the America COMPETES Act which has great incentives to take programs, proven programs to scale it nationally. At that point, the O'Donnell Foundation established the National Math Science Initiative, which is to scale up successful AP, pre-AP programs, and we added one new program called UTeach. UTeach is to—in many American universities now, they recruit the math and science majors to also get a teaching certificate and teach in middle and high schools.

The National Math Science has become a full-service teacher training program and the good thing about it is that they are not only training the classroom teachers, but they are training the next generation of math, science, and English teachers to keep supplying, resupplying the good teachers in those schools.

Teachers are the real change for education, I think, in this country. They get the rigorous curricula implemented, they make students successful well beyond high school, and this lets us know we can have excellence in public education. I think we are on the verge of changing it. I think we need to support our teachers, so they will inspire students, and we can get America back on the right track.

Thank you very much.

[The prepared statement of Ms. Dickson follows:]

PREPARED STATEMENT OF CAROLYN BACON DICKSON

SUMMARY

There is tremendous leverage for our country when any student completes high school, enters college and earns a degree. To accomplish this requires re-focusing our public education enterprise to give all students the opportunity to have superior teachers in an environment of high expectations and with adequate resources for quality instruction.

The key to improving education is strengthening the teacher corps. When we improve the teacher corps, we will improve student performance, greatly reduce dropout rates from high school, improve college graduation rates and close the perform-

ance gap. Content knowledge is critical. In addition, today's classroom teachers urgently need training in the skills required to teach discovery-based learning.

Bill Gates, in a statement to the *New York Times* earlier this year said, "Developing a systematic way to help teachers get better is the most powerful idea in education today." The National Math and Science Initiative (NMSI) is a public-private partnership that has developed a systematic way to ensure a perpetual supply of outstanding teachers, especially in the STEM disciplines.

NMSI supports training programs for classroom teachers in grades 6–12. Its programs are based on the high standards of the College Board's Advanced Placement program to which financial incentives based on academic performance have been added. NMSI also is educating the next generation of math and science classroom teachers through its UTeach program being replicated in 29 universities in 14 States.

The data show that NMSI has the potential to improve academic performance for all types of students in grades 6–12. Its programs can be implemented in rural schools large urban districts or entire States with equal success. Public-private partnerships can champion the work of NMSI with confidence that their investment will pay huge dividends for our students and our country.

Mr. Chairman and members of the committee, thank you for this opportunity to participate in the panel discussion on Effective Strategies for Accelerated Learning. I have been asked to describe the work of the Texas AP Initiative and the work of the National Math and Science Initiative.

In doing so, I will emphasize three strategies that we find are fundamental to expanding effective accelerated learning programs in our schools:

- The strategic importance of outstanding teachers.
- The success of public-private partnerships to scale up proven programs.
- The tremendous leverage for our economy when any student completes high school enters college and earns a degree.

The Texas AP Incentive Program began 16 years ago. The superintendent of the Dallas Independent School District asked the O'Donnell Foundation to help address a serious problem: too few of its high school graduates were academically prepared to enter college and earn a degree.

Research convinced us that the best predictor of college success is the rigor of courses a student takes in high school. A challenging high school curriculum frequently can overcome the deficits of family background or income.

In response to the Superintendent's request, we set a goal to strengthen math, science and English, and we chose the College Board's Advanced Placement (AP) program. AP classes are college-level courses taught in high school by high school teachers. It was an ideal implementation vehicle because:

1. AP is built on high standards, national exams and measurable results.
2. The College Board provides teacher training jointly delivered by university faculty and master AP teachers.
3. Students who pass AP exams receive college credit at most U.S. colleges and universities. This gives them a head-start as freshmen and generally reduces the cost of tuition.
4. AP classes already existed in many high schools, but were not always being used to full advantage.

The national AP exam is an academic coin that cannot be devalued. This is important for any State and especially Texas with a high minority population (14 percent African-American and 48 percent Hispanic) and many rural school districts (39 percent of Texas' 1,235 districts enroll less than 500 students). Colleges know that an Hispanic student in rural south Texas who passes an AP exam is just as academically prepared for college as the Boston Latin School student who passes the same AP exam.

We added three elements to the AP program:

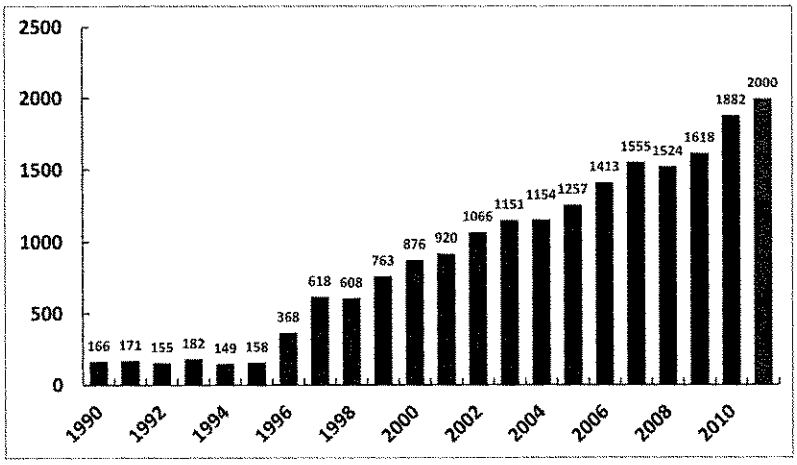
1. *Three years of College Board training required for AP teachers*.
2. *Lead Teachers* to provide the academic leadership in their schools and district. They teach at least one AP course; they mentor and support new AP and pre-AP teachers.
3. *Financial incentives for teachers and students based on academic achievement*. Incentives are paid by private donors and are key to the success of the program. They work because they are based on an objective measurement of performance. Incentives are extra pay for extra work. They accelerate the growth of AP, and help keep good teachers in the classroom longer.

The AP incentive program is voluntary for schools, teachers and students and is open to all.

The Dallas Independent School District (DISD) is the second largest district in Texas. Over 90 percent of its 154,000 students are minority students and many students are from low-income families. Yet, Dallas students have achieved a remarkable record in AP.

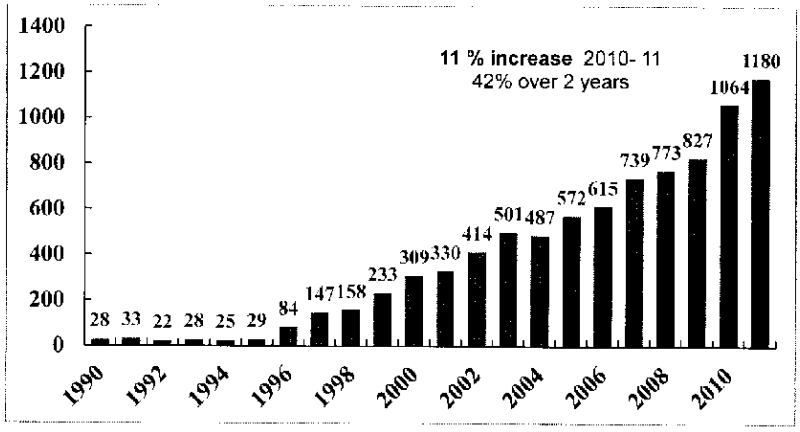
Before the AP incentive program began in 1996, DISD students passed 158 AP exams in math, science and English. Today that number is 2,000 and growing.

AP Passing Scores in Dallas ISD - Math, Science, and English



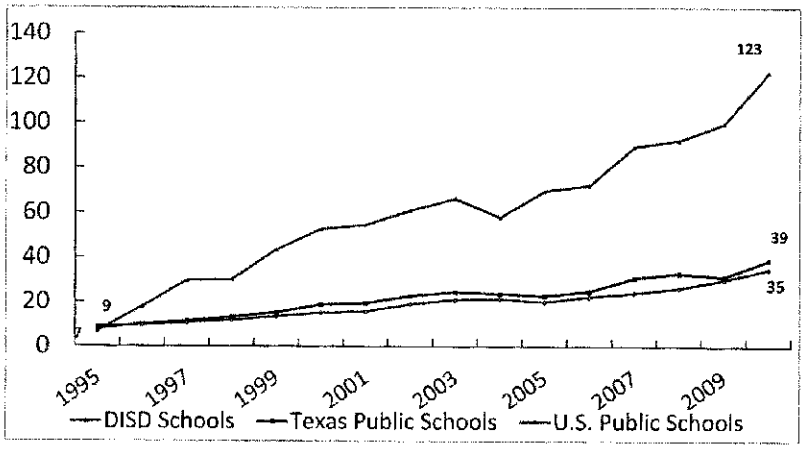
Minority students' success was even more dramatic: from 29 passing scores before the program began, to 1,180 of the passing scores last year.

AP Passing Scores in Dallas ISD Math, Science, and English
for African American and Hispanic Students



To compare one school to another or to a State or to the United States, results can be measured per 1,000 junior and senior students. Today the African-American and Hispanic students in Dallas outperform their counterparts in U.S. public schools by more than 3 times.

AP Passing Scores per 1000 Juniors and Seniors in Math, Science, English for African American and Hispanic Students



When DISD's research department evaluated the success of minority students in the AP incentive program, it concluded that:

Student performance is a function of opportunity, not ethnicity. It is the opportunity to have superior teachers in an environment of high expectations with resources for quality instruction.

The DISD results were impressive in demonstrating the number of students that outstanding teachers can identify and inspire.

As other donors stepped up to fund the program in their local schools, the O'Donnell Foundation created a non-profit organization, Advanced Placement Strategies (APS), and hired outstanding AP teachers to implement the program statewide.

The next step was to build on the success of AP by training pre-AP teachers in grades 6–10 in a program called "Laying the Foundation (LTF)." LTF provides the curriculum, benchmarks and training that teachers need to begin preparing students in the 6th grade to master AP courses in grades 6–12. It provides an enormous boost for all students by giving them an early start on a demanding curriculum, putting a focus on the important goals of graduating both from high school and from college, and motivating them to succeed. The pre-AP experience prepares students for success in high school, just as AP prepares students for success in college.

Taken together, these programs strengthen the teacher corps in math, science and English in grades 6–12. Teachers are prepared to teach a more rigorous curriculum. The training improves their ability to teach students cognitive skills so they become analytical thinkers and problem solvers. AP and pre-AP teachers teach AP and pre-AP classes about half the time. The other half, they teach regular classes. Principals say one of the greatest benefits of the incentive program is that well-trained AP and pre-AP teachers raise the academic level of the entire high school.

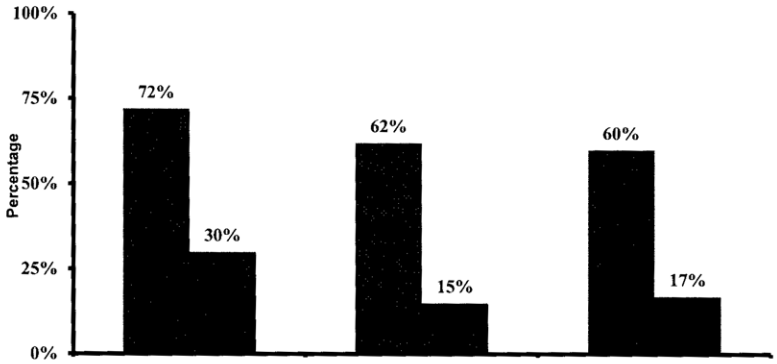
Very importantly, AP teachers give their students the opportunity to be successful well beyond high school. Passing an AP exam gives students confidence to attend college. Data shows that AP students are more likely to complete their freshman year which is a major predictor of earning a college degree.

That degree will change their lives.

The big payoff for successful AP students is the high rate of graduation from college.

The 6-year graduation rate in Texas public colleges and universities for AP Anglo students is 72 percent, compared to 30 percent for those who did not pass an AP exam. AP Hispanic students' 6-year graduation rate is 62 percent compared to 15 percent for those who did not pass an AP exam. And 60 percent of African-American students graduate in 6 years, while only 17 percent of those who did not pass an AP exam graduate in 6 years.

SIX-YEAR GRADUATION RATE* Students who passed an AP exam compared to those who did not take an AP exam at Texas Public Colleges or Universities



* % receiving B.A. degree within 6 years of high school graduation based on

■ Passed an AP Exam ■ Did not Take an AP Exam

The high rate at which AP students earn college degrees is important to our country's future. A college degree means success, however measured. The national unemployment rate in March 2012 for those with a college degree was 4.2 percent—giving college graduates a 95.8 percent chance of having a job. National unemployment rate was 7.5 percent for those with some college experience but no bachelor degree; for those with no education beyond high school the March unemployment rate was 8.0 percent.

According to a National Bureau of Economic Research paper, the earnings increases associated with Hispanic and African-American students in an Advanced Placement Incentive program "are large enough to reduce the black-white earnings gap by one-third and to eliminate the Hispanic-white earnings gap entirely."[1] What begins in a 6th grade pre-AP classroom has the potential to change lives and ultimately move families out of poverty so they can look forward to a better future.

APS scaled up quickly in Texas, while maintaining quality. The Texas Legislature bought into the program by enacting the statewide Advanced Placement Incentive Program to fund AP and pre-AP teacher training, pay $30 of the cost of AP exams for students and provide various campus incentives. Soon a bipartisan effort in the U.S. Congress, led by Senator Bingaman, authorized the Federal Advanced Placement Program. Our experience is that these Federal and State funds have been used wisely to produce the desired results.

The really big step for the Advanced Placement Strategies and Laying the Foundation organizations was inspired 7 years ago by two members of the HELP Committee, Senators Bingaman and Alexander, when they asked the National Academy of Sciences to do two things: (1) determine 10 actions in priority order to ensure that the United States prospers in the global economy and (2) develop the concrete steps necessary to implement each action. The National Academy report, *Rising above the Gathering Storm*, listed K–12 science and mathematics education as the Nation's top challenge.

This led to the congressional response, America COMPETES Act, to raise academic achievement by increasing (1) the number of teachers serving high-need schools who are qualified to teach Advanced Placement or International Baccalaureate courses in mathematics, science and critical foreign languages; (2) increasing the enrollment in these and pre-AP and pre-International Baccalaureate courses; and (3) supporting statewide efforts to increase the availability of these teachers and courses.

Using the implementation plan that has success in Texas, The National Math and Science Initiative (NMSI) was founded in 2008. NMSI's mission is to ensure our

[1] NBER Working Paper No. 17859, "Do College-Prep Programs Improve Long-Term Outcomes," issued in February 2012.

country has the next generation of mathematicians, scientists, engineers and innovators needed to produce a workforce capable of successfully competing in the fiercely competitive 21st century global economy.

Led by a strong national board, and with major funding from national corporations and foundations, NMSI began the work of taking to national scale certain recommendations of the America COMPETES Act. In addition to the capacity of APS and Laying the Foundation to train large numbers of classroom teachers, another program, UTeach is training the next generation of math and science teachers in a different way. It recruits college freshman with an interest and aptitude in math or science and encourages them to become middle and/or high school teachers. They graduate in 4 years with a B.S. in math or science and a teaching certificate. They know their content and are trained in the best pedagogy.

UTeach results are significant. Approximately 90 percent of UTeach graduates go directly into teaching. Eighty-two percent of the UTeach graduates are still teaching after 5 years as opposed to 65 percent nationally. UTeach is now experiencing a big growth in student participation across the country with more than 5,500 college students enrolled.

Three years after its founding, NMSI is proving programs to strengthen the teacher corps in math, science and English can be faithfully replicated nationally and achieve the same or better results.

- Twenty-nine universities in 14 States are implementing or preparing to implement the UTeach program.
- Six States have successfully replicated the AP and pre-AP programs; two more States will begin the program this year with funds from an i3 grant.[2] From 2008 to 2011, participating schools in the six States averaged an increase of 124 percent in passing scores on AP math, science and English exams—five and a half times the national average. Gains for African-American and Hispanic students increased 216 percent. Passing scores for female students increased 144 percent to help reduce the gender gap in critical STEM fields.

NMSI's newest initiative is to provide AP and pre-AP classes to students from military families. Almost 2 million young people have a parent serving in the U.S. military and more than 220,000 have someone who has been deployed overseas. The separation, concerns about safety and frequent transfers can be particularly difficult for children of military families. Because AP courses are pegged to a national standard, they provide continuity for students whenever their families are transferred.

NSMI has implemented the program in 28 high schools serving military students, with commitments to raise the number to 37 schools next year to serve a total of 20 military installations in 15 States.[3]

NMSI's strong partners in this mission include agencies of the Department of Defense, national corporations and foundations, together with wonderful support from the White House's Joining Forces initiative. First Lady Michelle Obama summed up the importance of the program:

> "High schools with high numbers of military students are adding more Advanced Placement courses so these kids has the opportunity they deserve to attend college."

Of all the values we have in this country, education is one of the most fundamental. It helps set our Nation's standard of living. For individuals, educational opportunities are the fastest way to succeed. Yet our country is not reaching all the students who can do well.

The real change agents for education are outstanding teachers. They are a powerful force to get rigorous curricula implemented. They prove we can have excellence in public education. This gives assurance about our future.

We are on the verge of changing education for the better. We can pick up the pace. We can invest more in our teachers to inspire our students and get Americans back on track.

Thank you for this opportunity to testify before the HELP Committee. I would be pleased to answer your questions.

Senator BINGAMAN. Thank you, very much.

Mr. Winograd, go right ahead. Tell us what is happening in New Mexico.

---

[2] The six States are Alabama, Arkansas, Connecticut, Kentucky, Massachusetts, and Virginia. Colorado and Indiana will implement the program this fall.

[3] Alabama, Arkansas, California, Colorado, Georgia, Hawaii, Illinois, Kentucky, Maryland, North Carolina, New Mexico, Ohio, Oklahoma, Texas, and Virginia.

STATEMENT OF PETER WINOGRAD, DIRECTOR, UNIVERSITY OF NEW MEXICO CENTER FOR POLICY RESEARCH, ALBUQUERQUE, NM

Mr. WINOGRAD. I will do that, and I bring you greetings from New Mexico, Senator and Senator.

My colleagues and I have been doing a year's worth of research on dual credit in New Mexico, and I want to recognize Kevin Stevenson, and Angelo Gonzales, and Adai Tefera for all of their good work.

I want to make a couple of points. Senator, you talked about looking at the different approaches to accelerated learning. I think they are complementary. Advanced Placement is outstanding, International Baccalaureate, we are going to talk about dual credit, but middle high school, middle college high schools. The important thing is these different approaches give States a variety of options, and we want to think about that.

The other key point I want to make is I think there are lessons to be learned from AP and dual credit, middle college high schools that are important for the entire education system of the United States, and I hope to talk to you a little bit about that.

We are going to focus on New Mexico's experience, but I need to say New Mexico is important for the country. New Mexico looks now like what the country is going to look like in the future. We are a minority-majority State. We are rural and urban. We have communities of wealth and poverty. We have an international border. We have very serious educational challenges. So our feeling is, to quote Frank Sinatra, "if dual credit can make it in New Mexico, it can make it anywhere." We think our lessons are larger than just New Mexico.

Senator Bingaman, you talked about New Mexico's education reform. Part of that was requiring that all students in high school take a dual credit course, or an AP course, or a distance course. The first class that will do that is the class that will graduate here next year, but we have enough data from 20,000 high school seniors and 12,000 university students, college and university students, to be able to draw some lessons. So I want to talk about those lessons.

First, dual credit programs are an effective way of scaling up. We have had over 12,000 New Mexico students participate. As the education reforms rollout, we expect to see more of that.

The second lesson is really important. Dual credit students, in fact, graduate from high school quicker, more of them graduate, more of them go to college, they need less remediation. There are higher rates of graduation. And then this last one is really important to Senator Franken's point, there are faster times to completion and so, some of the data we have showed that students in a community college get a certificate 47 percent quicker. It is 2 years rather than 3.8 years. At the baccalaureate degree, it is about 10 to 12 percent quicker; that means less student debt which is just crucial. It also means that students get out and are part of the workforce, and you get to see returns in terms of salaries, and taxes, and so forth.

It is very clear that with dual credit, we need to pay attention to how we make sure there is rigor in a large scale program. There

is some concern that dual credit courses taught at the high school are not as rigorous as those taught on a college campus, but it is important to remember for rural students, we have high schools all across New Mexico; we do not have college campuses all across New Mexico, so we need to think about that.

Lesson No. 4 is, in fact, colleges and high schools can partner. That is no small feat. We have pockets where they are doing that. We have some great partnerships in the Albuquerque area between the University of New Mexico, Central New Mexico Community College, and the Albuquerque public schools. We have some great partnerships in Las Cruces, and we are very proud of those.

But I want to take a couple of minutes here, the few bits of my time, to talk about the issues that we must face, I think they face all accelerated learning programs, and there are the ways that you all can help us think about making these programs come to scale.

First is really collaboration between high schools and colleges and universities. There are numbers of points of tension between those two institutions that really have to be overcome. One of the biggest tensions is funding. We have funding streams that reward colleges for having students enrolled in colleges, funding streams that reward high schools for having kids enrolled in high schools, and how do you think about funding the two of them together.

There are issues of quality and accountability. AP is famous for its quality, and that is really excellent. As other dual credit programs, accelerated programs come online, we have to think about how to make sure there is quality.

Then I want to take a minute for this one, because this is really important. There is lots of debate in this country about the value of going to college. Everybody kind of agrees high school is pretty important, but you have seen in the national debates: is college for everybody? What about just going straight to work? What about career tech?

We do not believe that everybody needs a 4-year degree. I think it is very valuable, but I find it hard to make that argument for everybody. But the large disparities in educational attainment with African-Americans, Hispanics, Native Americans should not stand. That is not an issue about everybody going to college. That is an issue about making access to higher education really equitable.

Lesson No. 6, in all of the programs, AP, our programs as well, you have underrepresentation of minorities. The program you mentioned about starting early is really important. We find we lose too many kids in early childhood, in elementary school, and middle school and they are just not ready to take advantage of more rigorous courses when they get to high school. So how do we really address that?

Where do we go from here? Thank you so much for this committee and for you all's advocacy of higher education for New Mexico. The vision of statesmen and stateswomen in this country about what America could be is just crucial. We have always had to fight for education and your fight is critical there.

Please continue to focus attention on the benefits of accelerated learning programs. We think those are great for the programs themselves, but they also have important lessons for the rest of American education.

Use all your levers, all the bills that you all are looking at, the reauthorization of ESEA to include funding for accelerated learning programs. And make sure there is some accountability and teeth in those regulations.

Thank you so much for the push that you all have done on getting colleges, and schools, and State agencies to share data.

We cannot come in front of you and tell you whether the money is useful or it is wasted unless we have good data, and that is just crucial. So thank you for all your help.

I will stop here by thanking you for this issue. It is crucial to the future of our country. It is essential for all of our kids and your championship of this issue is really important. Thank you.

[The prepared statement of Mr. Winograd follows:]

PREPARED STATEMENT OF PETER WINOGRAD

SUMMARY

The hearing today focuses on accelerated learning. In particular, how do we help more of our high school students to learn more and learn faster so they can make a successful transition to college and careers?

Why Is Accelerated Learning Important? Accelerated learning has the potential to make schools more flexible and responsive to students, increase the rigor of the curriculum, raise student aspirations, and enhance collaboration between high schools and colleges. These changes must occur if America is to meet the daunting educational challenges it faces.

What Do We Know About Accelerated Learning? Accelerated learning covers a number of approaches including Advanced Placement, International Baccalaureate, Dual Credit, and others. Our testimony focuses on lessons learned from New Mexico's statewide Dual Credit initiative. These lessons include:

Lesson 1: Dual credit programs appear to be an effective approach to large scale implementation of accelerated learning.

Lesson 2: Dual credit is associated with higher rates of high school completion, higher rates of college attendance, lower rates of remediation, higher rates of college graduation, and faster times to college completion.

Lesson 3: Dual credit programs need to be refined and monitored to ensure consistency and rigor across a large statewide program.

Lesson 4: High schools and colleges can work together.

Lesson 5: Dual Credit programs must overcome a number of issues if they are to become large-scale sustainable efforts.

Lesson 6: We need to ensure equity and accessibility of accelerated learning programs to all students.

Where Do We Go From Here? We offer four recommendations we believe will help promote accelerated learning including:

1. Keep the vision of a highly educated America alive.
2. Focus attention on the positive results of accelerated learning so that we can use lessons learned to strengthen America's education system.
3. Use every policy lever possible to get adults in different parts of the education system to work together for the benefit of all students.
4. Continue to pressure States, schools, and colleges to share data that can be used to determine the impact of our efforts.

We thank the committee for its commitment to the welfare of our children and our future.

Chairman Harkin, Senator Enzi, and members of the committee, thank you for the opportunity to speak with you today. Senator Bingaman, I bring you warm greetings from your home State of New Mexico. My colleagues Kevin Stevenson, Adai Tefera, and Meriah Heredia Griego, and I are honored to have this chance to talk about New Mexico's efforts to improve its education system.

The hearing today focuses on accelerated learning. In particular, how do we help more of our high school students to learn more and learn faster so they can make a successful transition to college and careers? We have organized our testimony today around three key questions:

1. Why is Accelerated Learning so important?
2. What do we know about Accelerated Learning?
3. Where do we go from here?

WHY IS ACCELERATED LEARNING SO IMPORTANT?

One has only to look at the recent titles of the U.S. Senate HELP Committee hearings to understand the daunting challenges we face as a nation:

- The Key to America's Global Competitiveness: A Quality Education.
- Is Poverty a Death Sentence?
- Building the Ladder of Opportunity: What's Working To Make the American Dream a Reality for Middle Class Families?
- Educating Our Children To Succeed in the Global Economy.
- The State of the American Child: Securing Our Children's Future.

We want to emphasize three recurring and interrelated themes that come from your hearings and the national and local discussions around these daunting challenges:

1. Too many Americans are undereducated. The United States must do a profoundly better job of developing its human capital if it is to remain competitive in the world. We know that you are familiar with the Program for International Student Assessment (PISA) data about America's rankings compared to other countries and the strong correlation within the United States about educational attainment and life earnings. Here are a couple of the statistics that are of most concern to us.

According to the Lumina Foundation (2012), only 39.3 percent of Americans between the ages of 25 and 64 held an Associate's degree or higher in 2010. In New Mexico, that number is 33.1 percent, which places us in the bottom 10 States in the country. As you know, New Mexico is known for its beauty, culture, and chile. New Mexico is also home to "big science" with the Very Large Array, Los Alamos National Laboratory, Sandia National Laboratories, and Spaceport America. In 2010, New Mexico ranked 15th in the county in the number of individuals in science and engineering occupations as a percentage of the workforce (National Science Board, 2012). We know that the future belongs to the communities, States, and countries that have an educated population, the natural resources, the quality of life and the entrepreneurial spirit to take advantage of what is to come. We know that New Mexico must do a better job of educating all of its citizens, or our State and our children will continue to be left behind.

2. America's schools work better for some students than for others. I have had the privilege of working with inspirational teachers and principals over my 35 years in education. I have visited some outstanding schools across the country and in New Mexico. Moreover, America has some of the best higher education institutions in the world. In a recent international ranking, 44 American universities were ranked among the top 100 universities in the world (Times Higher Education, 2011–12). It is clear that the students who are fortunate enough to attend the good schools and graduate from the great universities are well-prepared for the future.

But equally clearly, we face enormous achievement gaps among children of different racial, ethnic, and socio-cultural backgrounds. In New Mexico, for example, 15 percent of Native American fourth graders, 19 percent of African-American fourth graders, and 23 percent of Hispanic fourth graders were proficient or above in math compared to 48 percent of White fourth graders on the 2011 National Assessment of Education Progress (NAEP, 2011). The achievement gap among Native American, African-American, Hispanic, and White students is evident at every level of the education system. That same gap is evident when one looks at health, economic vitality or any other measure of social well-being.

Our challenge is as obvious as it is difficult. How do we strengthen our system of education so that it enables more of our students to fully develop their potential? If human capital is the most important resource for a more prosperous future, then we believe we must recognize the achievement gap crisis for what it truly is—a national emergency that requires our urgent attention.

3. The American dream of education is in danger of dying. Americans have always believed that education was the path to increased equality and a brighter future. Unfortunately, current data indicate that the gap between rich and poor students is widening, and this country is in danger of losing its heritage of using education as the path for upward social mobility. Recent scholarship by Dr. Greg Duncan and Dr. Richard Murnane (2011) and many other researchers have sounded the alarm clearly.

Dr. Murnane's testimony to this committee last month stressed how changes in the economy have altered the demands for skills in the workplace, how the edu-

cation gap between high-income families and low-income families is increasing, and that meeting the challenge of preparing all students to be college- and career-ready cannot be met by simply pushing teachers to work harder.

We want to expand on Dr. Murnane's last point. Although we are talking about education, we want to stress that schools, by themselves, cannot address all of the challenges that children face. We must strengthen the systems of support—the social and health safety nets—that help children, families, and communities overcome the brutal inequalities that keep too many of our children from succeeding in school. Our research in New Mexico has revealed that far too many students are truant; use drugs, tobacco and alcohol; face violence; have unprotected sex; and engage in other risky behaviors. In addition, too few students are engaged in afterschool activities; have relationships with caring adults; or benefit from other sources of resiliency (UNM Center for Education Policy Research, 2012). For example, 21 of New Mexico's school districts had between 30 percent and 60 percent of their high school students classified as habitually truant, which is defined as students with 10 or more unexcused absences (New Mexico Public Education Department, 2009–10). We are deeply concerned that we are losing another generation of children and youth who will, in turn, become the parents of another lost generation, and that this cycle will continue.

Accelerated learning is important because we believe that these approaches can make schools more flexible and responsive to student needs, increase the rigor of the curriculum, raise student aspirations, and enhance the collaboration between high schools and colleges. We believe these critical changes must occur if America is to be globally competitive, if the achievement gap is to be addressed, and if education is to be the path to a better future. So how are our hopes for accelerated learning working out? We turn to that question next.

WHAT DO WE KNOW ABOUT ACCELERATED LEARNING?

Accelerated learning covers a number of approaches including Advanced Placement, International Baccalaureate Programs, dual credit, concurrent enrollment, early college high schools, and others. Table 1 provides brief definitions of four of the main approaches from the recent literature (e.g., Waits, Setzer, and Lewis, 2005; Western InterState Commission for Higher Education, 2006; Lowe, 2010).

Table 1.—Definitions of Selected Accelerated Learning Programs

Approach	Definition
Advanced Placement	Courses that follow the content and curricular goals as developed and published by the College Board.
International Baccalaureate	Courses that compose a 2-year liberal arts curriculum that leads to a diploma and meets the requirements established by the International Baccalaureate Program.
Dual Credit/Concurrent Enrollment	Courses in which high school students enroll in college classes. In many cases, students receive both high school and college credit for college classes successfully completed. Dual credit/concurrent enrollment courses can be taught by high school and/or college/university instructors and can occur on the high school campus, on the college/university campus, or via distance education.
Early College High Schools	High schools that offer students the opportunity to earn substantial amounts of post-secondary credit while still in high school in order to allow students to graduate with a high school diploma and an associate's degree in 4 or 5 years, instead of six. Early college high schools often focus on at-risk students by emphasizing real-world learning, relevance and relationships in a small setting.

For the purpose of this testimony, we will focus on New Mexico's experience with a statewide dual credit initiative. We focus on dual credit because it is an important topic in New Mexico's policy discussions and we have been conducting a year-long study on this reform. In addition, several of my fellow panel members will address Advanced Placement.

We believe that New Mexico's experience with dual credit is important for a number of reasons, including the fact that New Mexico looks now like what the United States will look like in the future. We are a multicultural, "majority-minority" State; we have communities of extreme wealth and of extreme poverty; we are both urban and rural; our future depends on a workforce able to fill jobs in science, technology, engineering, and mathematics; and we share an international border. In addition,

New Mexico is at the very bottom of most measures of educational achievement and attainment. So, to paraphrase Frank Sinatra, "If dual credit can make it here, it can make it anywhere."

New Mexico's Dual Credit Program. In 2007 and 2008, New Mexico passed legislation aimed at increasing the rigor of high school. The State's high school redesign efforts included a number of changes but most pertinent to this testimony is that the number of units required for high school graduation increased to 24 units from 23 units. In particular, students are now required to take four units of math rather than three units, and one of those math units must be Algebra 2 or higher. In addition, the high school redesign required that—beginning with the 2009–10 school year—at least one of those 24 units must be an honors, Advanced Placement, dual credit, or distance learning class.

In 2007, New Mexico also passed legislation establishing the statutory requirements for a "dual credit program," which allowed high school students to enroll in college-level courses that may be academic or career-technical, but not remedial or developmental, in order to earn credit toward a high school diploma *and* a post-secondary degree or certificate. In 2008, New Mexico passed legislation to include additional schools in the dual credit program, including the New Mexico School for the Blind, New Mexico School for the Deaf, and the New Mexico Military Institute. And in 2010, New Mexico passed legislation adding tribal colleges and Bureau of Indian Education (BIE) schools to the dual credit program. In addition, the legislation passed in 2010 allowed high school core classes to be included in dual credit programs, and it restricted physical education activity courses.

The theory of change underlying the high school redesign and dual credit reforms is that accelerated learning approaches, including dual credit, are an effective way for New Mexico's high school students, particularly minority students and students in high poverty or rural areas, to gain access to higher education. More specifically, New Mexico's policymakers are counting on dual credit programs to enable students to earn credit at both high school and college simultaneously and to obtain an early glimpse of college life. This is essential in New Mexico where the aspirations of and expectations for too many of our students are low.

In addition, New Mexico policymakers hope that dual credit programs would encourage more students from underrepresented groups to consider higher education; result in better completion rates for both high school and college; reduce the need for remediation; create a shorter route to a high school diploma or college degree; reduce the cost of higher education; provide an alternative for students tempted to leave high school and enter the workforce; and, when offered through distance education, provide equitable access to higher education opportunities for rural students.

The increase in graduation units, as well as the requirement that students take one of their units in an honors, Advanced Placement, dual credit, or distance learning class, took effect for the freshmen who entered high school in the 2009–10 school year, scheduled to graduate next year as the class of 2013. Although this reform is in the early stages of implementation, we have already learned a number of lessons.

Lessons Learned. The University of New Mexico Center for Education Policy Research (CEPR) has been working with the New Mexico Legislative Finance Committee (LFC), The New Mexico Legislative Education Study Committee (LESC), Albuquerque Public Schools (APS), Central New Mexico Community College (CNM), the University of New Mexico (UNM), Las Cruces Public Schools (LCPS), Doña Ana Community College (DACC), New Mexico State University (NMSU), The Bridge of Southern New Mexico, and a number of other partners to study the impact of dual credit on student success.

Although the official New Mexico dual credit program is relatively new, students have been participating in dual and concurrent enrollment programs at New Mexico colleges for more than a decade. The data contained in our analyses include the results of both State-sponsored dual credit, as well as other dual and concurrent enrollment programs taking place prior to the 2007–8 school year. Thus, our analyses of student performance and program effects are based on the multiple data sets available to us. What follows are some lessons learned from our analyses of approximately 20,000 high school seniors, 6,000 community college students, and 6,000 university students.

Lesson 1: Dual credit programs appear to be an effective approach to large-scale implementation of accelerated learning. This is important because some of the difficult challenges we face include ensuring that large numbers of minority, high-poverty, and rural students have the opportunity to participate in accelerated learning programs.

1. Dual credit enrollment has increased over time, both in numbers of students who are participating and in number of courses that are offered. In academic year

2010–11, 12,263 New Mexico students participated in dual credit programs, taking a total of 27,751 courses (see Figure 1). These figures represent 12.4 percent of all New Mexico public high school students, and approximately 3.5 percent of all courses offered at public high schools. Currently, the overwhelming majority of dual credit course takers are juniors and seniors. Unlike the current senior class, the current cohort of juniors will be the first class to graduate under the more rigorous New Mexico graduation requirements. Consequently, as more students begin to come under the new requirements, we expect substantial growth in dual credit enrollments over the next few years.

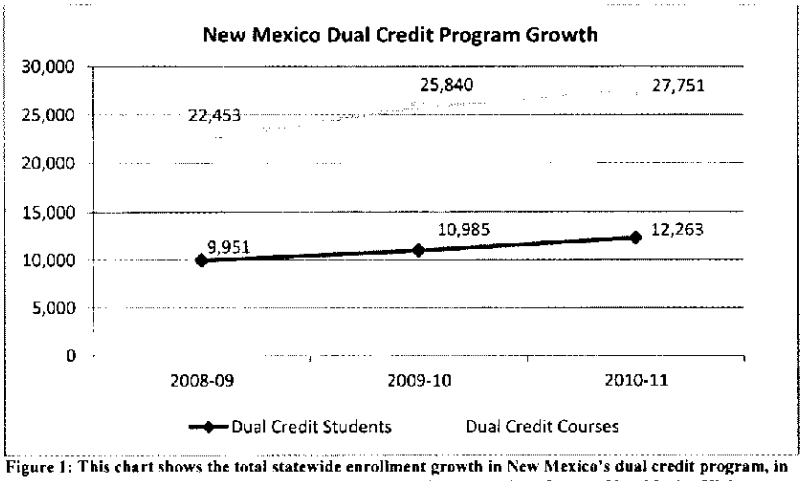


Figure 1: This chart shows the total statewide enrollment growth in New Mexico's dual credit program, in terms of both number of students enrolled and number of courses taken. Source: New Mexico Higher Education Department

2. New Mexico's Dual Credit program provides access to students across the State, in both urban and rural settings. As a part of the program, each New Mexico community college is assigned a geographic area of responsibility, ensuring that every school district in the State has a partnership with a community college to offer dual credit courses. Additionally, colleges have implemented a variety of delivery methods (courses taught at a high school, online or distance learning, etc.) to further accommodate high school students where distance to a college is a potential barrier to access. As the following map illustrates, there are community colleges and universities across the State offering dual credit courses, with substantial enrollments at many colleges in rural New Mexico (Figure 2).

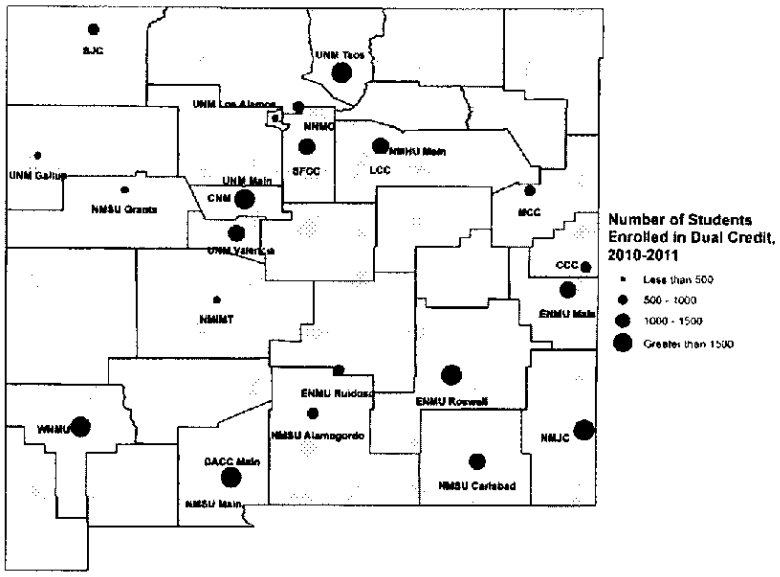


Figure 2: This map shows dual credit enrollments at each public college in New Mexico, with larger circles indicating higher enrollments. Source: New Mexico Higher Education Department

3. Dual credit has high levels of participation from minority students, but they are still underrepresented in the programs compared to overall State public school enrollments. Figure 3 reveals that 42.5 percent of New Mexico dual credit students are Hispanic. However, this is below the level of overall enrollment in public schools statewide. This underrepresentation is also true of American Indian students and Black students. One challenge to this analysis is that ethnicity is self-reported and not mandatory at the college level, resulting in nearly 10 percent of dual credit course takers categorized as "no response."

A promising trend is that Hispanic student participation in dual credit is growing each year (see Figure 4), and growth in 2010–11 may reduce the level of underrepresentation. However, participation among Black students is stagnant, and American Indian student participation declined in 2010–11.

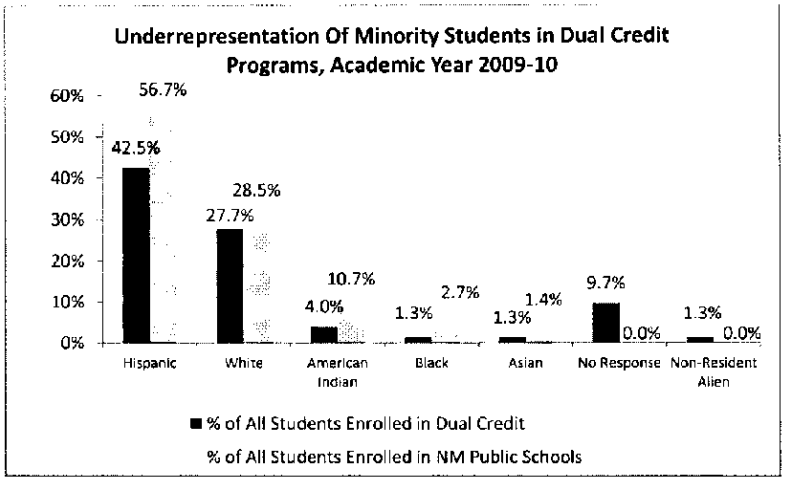


Figure 3. This chart shows the underrepresentation of minority students in dual credit programs. Source: New Mexico Higher Education and Public Education Departments

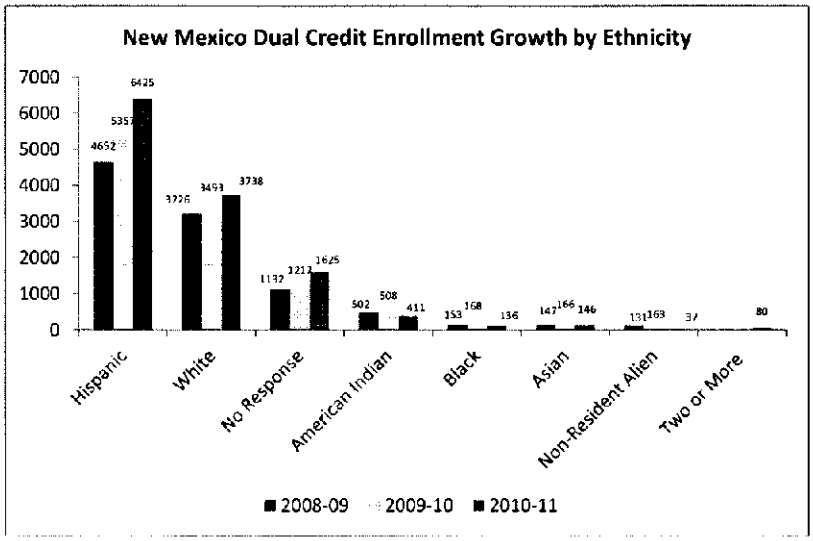


Figure 4. This chart shows New Mexico statewide enrollment by ethnicity of students taking dual credit courses each year. Source: New Mexico Higher Education Department

Lesson 2: Dual credit appears to be associated with improved student performance in terms of increased high school graduation rates, increased college attendance, decreased need for remediation in college, increased persistence from semester to semester in college, increased college graduation rates, and decreased time to completion and graduation in college. Given the complexity of the student pipeline from high school through college, it is difficult for any one measure to completely capture student performance. Recognizing this, we looked at student performance at several different institutions and through several different lenses. It is encouraging that, in all cases, students who took dual credit courses showed higher levels of student performance. It is too early in our research to draw causal connections, but the initial results are promising.

1. Dual credit is associated with increased high school completion. An analysis of 5,223 11th graders at Albuquerque Public Schools showed that those who took at least one dual credit course graduated from high school at much higher rates. Of 11th graders in the class of 2011, 96.2 percent of those who took a dual credit course graduated from high school, compared to 74.9 percent of 11th graders who did not take a dual credit course (see Figure 5). The data presented in Table 2 reveal that those 11th graders who participated in a Free or Reduced Lunch Program and took a dual credit course graduated from high school at much higher rates than Free or Reduced Lunch participants that did not take a dual credit course. This is important because it shows the potential benefit of dual credit programs for low-income students.

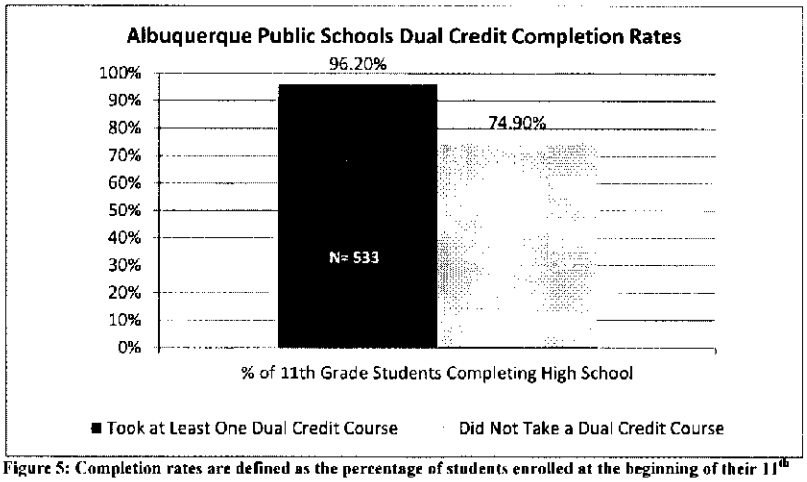


Figure 5: Completion rates are defined as the percentage of students enrolled at the beginning of their 11th grade year who graduated from high school. Source: Albuquerque Public Schools

Table 2.—Completion rates are defined as the percentage of students enrolled at the beginning of their 11th grade year who graduated from high school. Source: Albuquerque Public Schools

Albuquerque public schools dual credit completion rates			
	Took a dual credit course	Did not take a dual credit course	Total
Participated in a Free/Reduced Lunch Program.	86.8 percent (N=91)	44.6 percent (N=1,227)	47.5 percent (N=1,318)
Did Not Participate in a Free/Reduced Lunch Program.	98.2 percent (N=442)	85.6 percent (N=3,463)	87.0 percent (N=3,905)
Total	96.2 percent (N=533)	74.9 percent (N=4,690)	77.0 percent (N=5,223)

2. Dual credit is associated with increased college attendance. Students who participated in New Mexico's dual credit program in their senior year attended college at much higher rates than their peers. Among the class of 2009, 4,524 students took a dual credit course during their senior year of high school, and 67 percent of these dual credit course takers enrolled in college in Fall 2009. That is significantly higher than New Mexico's typical college-going rate of approximately 50 percent (Winograd, Florez, and Garcia, 2010). We have been conducting surveys and interviews with dual credit program administrators, advisors, and other college and high school personnel and they believe that one of the most important benefits of dual credit programs is that they allow students who never viewed college as an option to realize that they can succeed in a college course.

3. Dual credit is associated with a reduced need for remediation. This is important because students who do not take remedial courses graduate from college at significantly higher rates than their remedial course-taking peers (Winograd, Florez, and

Garcia, 2010). Our research indicates that 35 percent of the students who participated in dual credit took remedial courses at a New Mexico college, a percentage far lower than the State average of 47.1 percent (ibid). Figure 6 shows the percentage of students who took at least one remedial course from Fall 2009 to Fall 2010 at Central New Mexico Community College, Doña Ana Community College, New Mexico State University, and the University of New Mexico. At each institution, the remediation rates are lower for students who participated in dual credit programs while in high school.

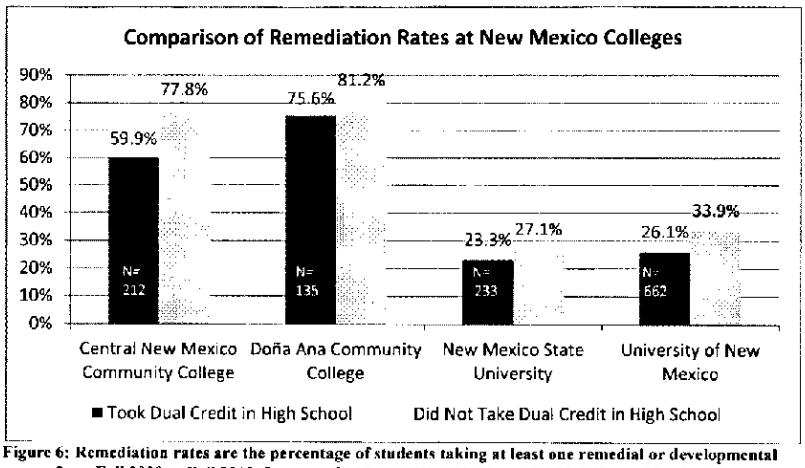


Figure 6: Remediation rates are the percentage of students taking at least one remedial or developmental course from Fall 2009 to Fall 2010. Sources: CNM, DACC, NMSU, and UNM Offices of Institutional Research

4. Dual credit is associated with increased persistence and progress toward degrees. Students who participated in dual and concurrent enrollment programs show higher rates of persistence from semester to semester, as well as increased progress toward degrees. Figure 7 and Figure 8 show the results of an analysis of over 6,000 University of New Mexico students from the freshman classes of 2007 and 2008. Students who took dual credit courses persisted to their sophomore, junior, and senior years at higher rates than their peers. Also, students who took dual credit courses earned college credits at a faster rate than their peers. In addition to these findings, an analysis of approximately 2,700 students at Central New Mexico Community College, Doña Ana Community College, and New Mexico State University showed that students who took a dual credit course in high school had higher rates of persistence to their sophomore year than non-dual credit taking students (see Figure 9).

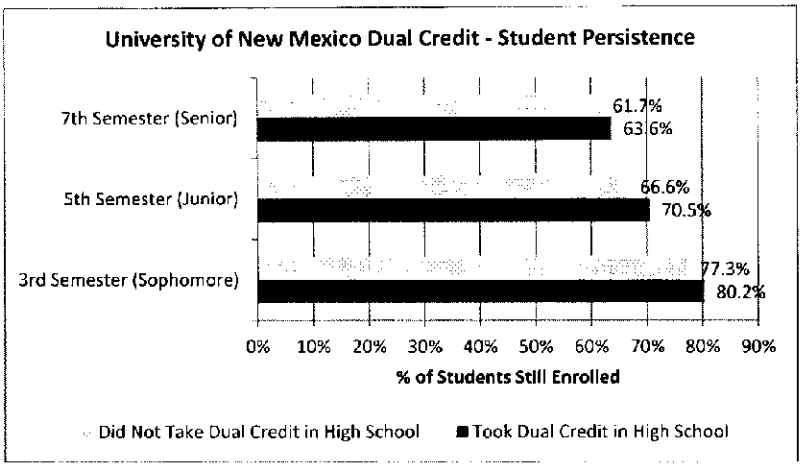


Figure 7. Persistence is defined as students who were still enrolled at the census date of the specified semester. These data are for UNM full-time, first-time entering freshmen in Fall 2007 and Fall 2008. Sample consists of 904 Dual Credit and 5220 non-Dual Credit students. Source: UNM Office of Institutional Research

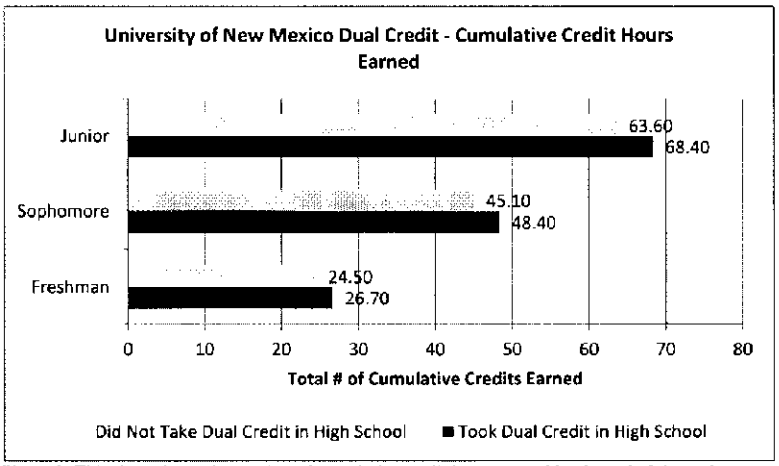


Figure 8: This chart shows the number of cumulative credit hours earned by the end of the spring semester of each year. These data are for UNM full-time, first-time entering freshmen in Fall 2007 and Fall 2008. Sample consists of 904 Dual Credit and 5220 non-Dual Credit students. Source: UNM Office of Institutional Research

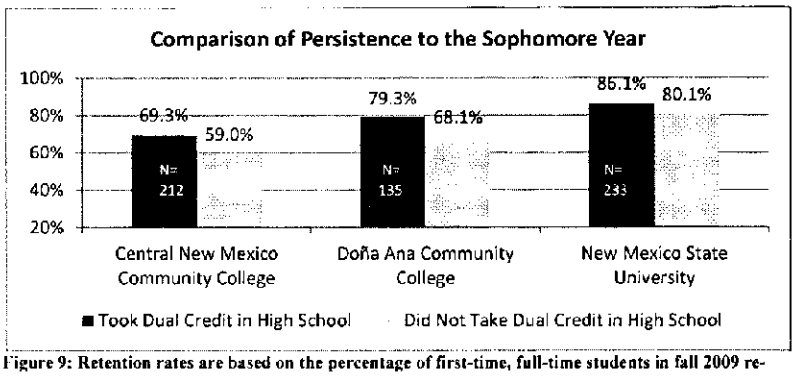


Figure 9: Retention rates are based on the percentage of first-time, full-time students in fall 2009 re-enrolling during the fall 2010 semester. DACC and NMSU retention rates include students retained at any campus in the NMSU system. Source: CNM, DACC, and NMSU Office of Institutional Research

5. Dual Credit is associated with higher college graduation rates. Students who took dual credit courses during high school realized higher graduation rates than their peers. An analysis of the University of New Mexico incoming freshman class of 2005 shows that dual credit students had a graduation rate nearly 5 percent higher than those who did not take dual credit (see Figure 10).

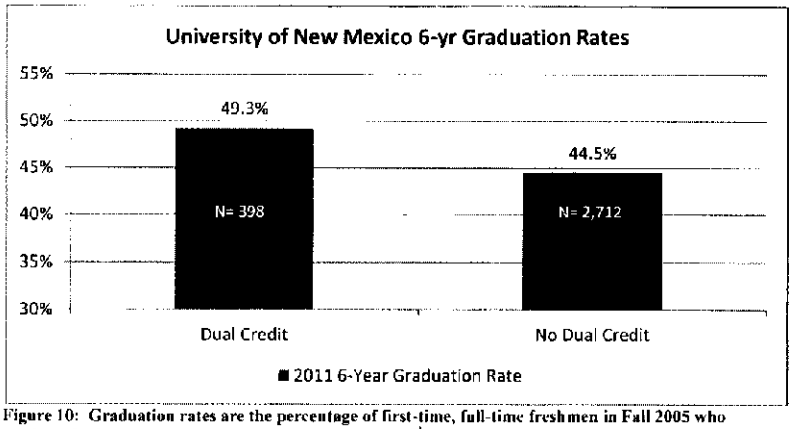


Figure 10: Graduation rates are the percentage of first-time, full-time freshmen in Fall 2005 who graduated with a bachelor's degree or enrolled in the 3rd semester of the PharmD program by the spring semester of 2011. Source: UNM Division of Enrollment Management

6. Dual Credit is associated with faster time to completion. Of the students who graduate with a certificate or degree, those who participated in dual credit programs during high school graduated at faster rates and took fewer courses than their peers. An analysis of Central NM Community College and University of New Mexico graduates shows a substantial reduction in time to graduation for dual credit students (see Figure 11)

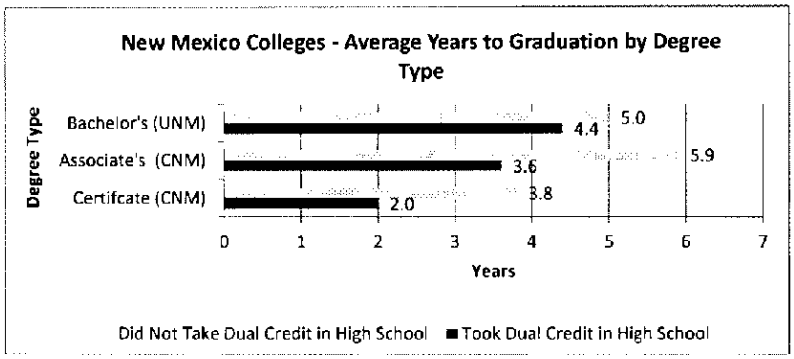


Figure 11: Data are from 2008-10 graduates at CNM and UNM. Years to graduation are calculated by subtracting the semester and year of first enrollment from the semester and year of graduation. The CNM sample consists of 1265 Dual Credit and 5696 non-Dual Credit students. The UNM sample consists of 639 Dual Credit and 8944 non-Dual Credit students. Source: UNM Office of Enrollment Management and CNM Office of Institutional Research

Lesson 3: The content and delivery of dual credit programs needs to be refined to ensure consistency and rigor across a large statewide program. In addition, the program needs to be carefully monitored in order to ensure that it is meeting the State's goals of improving students' success effectively and efficiently.

1. A challenge for dual credit programs is ensuring consistency in rigor and curriculum across a variety of delivery methods. Annually, about 40 percent of New Mexico dual credit courses are offered on high school campuses. In most cases, these courses are taught by high school faculty, with oversight or approval from college academic departments. Some policymakers are concerned that courses offered at high schools do not provide the same benefit and are perhaps less rigorous than courses taught on a college campus. For example, an analysis of New Mexico dual credit courses shows that students taking courses taught at a high school earn higher grades than those taking courses taught at a college (see Figure 12). This variation in GPA raises concerns among policymakers that these high school-located courses may be less rigorous than their counterparts offered at college campuses. It is important to note, however, that New Mexico is an extraordinarily rural State. Transporting high school students over long distances to college locations is simply not feasible.

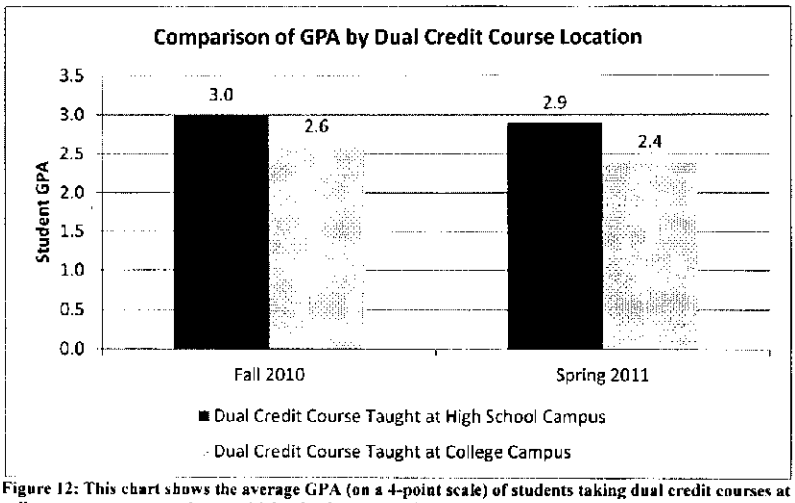


Figure 12: This chart shows the average GPA (on a 4-point scale) of students taking dual credit courses at a college campus compared to at a high school campus. For this analysis, online or distance education courses are categorized as being offered at the college campus. Source: New Mexico Higher Education Department

2. New Mexico has one of the most generous dual credit programs in the Nation, designed to promote access for any interested high school student. New Mexico's statewide program requires that colleges waive student tuition and fees, and that public school districts provide funding for books and instructional materials. The result is a statewide program with minimal, if any, financial barriers to entry for students. The State also provides full funding to both the high school and college for the dual credit course, independent of the course location or delivery method. The rapid growth in participation in dual credit has created concern among policymakers that some higher education institutions are taking advantage of the program, essentially receiving State funding for courses which they expend little or no effort to deliver (a college course taught at a high school campus by a high school faculty member, for example).

3. A number of policymakers are concerned that student enrollment in dual credit programs will grow and the costs of the program will rise. We estimate that New Mexico currently spends approximately $33 million on dual credit programs, including instructional materials. Recall that currently about 11 percent of high school students are enrolled in dual credit courses and that approximately 3.3 percent of high school courses offered are dual credit courses. If the program proves to be successful and becomes more widespread, the costs will increase as well. New Mexico is currently wrestling with how to think about balancing the immediate costs of the dual credit program with its potential long-term benefits and how to best structure the funding mechanisms to support program growth efficiently.

4. Finally, there is persistent skepticism by policymakers that the gains in student performance as a result of dual credit programs are misleading and overstated. Most of the current performance data on New Mexico dual credit students is from prior to the complete implementation of the New Mexico High School Redesign (first graduating class with new requirements will be in Spring 2013). As a result, some argue that the students who "self-selected" to participate in dual credit programs were already more likely to attend and succeed in college, and their increased performance is not in fact a result of taking dual credit courses. This is an important question and one that must be answered by future research.

Lesson 4: High schools and higher education institutions can, in fact, work together. This is no small feat. New Mexico has a number of promising partnerships that can teach us much about how high schools, higher education institutions, and the community can work together for the benefit of the students. Here are some of those promising partnerships:

1. In 2008, Superintendent Winston Brooks, President Katharine Winograd, and President David Schmidly established a partnership among Albuquerque Public Schools (APS), Central New Mexico Community College (CNM), and the University

of New Mexico (UNM). This partnership has doubled the number of APS students taking dual credit courses at CNM and doubled the numbers of students who transfer from CNM to UNM. Most importantly for us, this collaboration enabled us to get the data needed to assess the impact of dual credit for these three institutions.

2. In 2011, the University of New Mexico was awarded a "Latino Student Success" grant from the Lumina Foundation for Education, 1 of only 12 such awards in the Nation. The grant is a collaboration between UNM, APS, CNM, and a number of Albuquerque-based community organizations. Using the principles of "collective impact," these organizations are developing a community-wide plan to ensure that more Albuquerque Hispanic youth graduate with post-secondary degrees and certificates. Because of the low educational attainment rates in Albuquerque among Hispanics, the plan requires a three-pronged strategy of ensuring that more Hispanic students graduate from high school, finding ways to get more Hispanic students into the college pipeline, and ensuring that students are retained and graduate at higher levels once they enroll in a community college or university.

3. In 2010, Las Cruces Public Schools, Doña Ana Community College, New Mexico State University, and a public-private partnership called The Bridge of Southern New Mexico opened Arrowhead Park Early College High School. The impetus for this collaborative effort was the community's concerns regarding dropout rates, workforce adequacy, and the future of Southern New Mexico. The school relies heavily on dual credit classes and is aimed at helping students progress quickly along career pathways in science, technology, engineering and math (STEM) fields. The school opened in Fall 2010 and in the next year, all 112 students went on to 10th grade. Discussions are currently underway for more Early College High Schools in the Las Cruces, Gadsden, and Hatch districts.

Again, most importantly for us, this collaboration enabled us to get the data needed to assess the impact of dual credit for students in the southern part of the State.

Lesson 5: Dual Credit programs and other accelerated learning programs must overcome a number of fundamental issues if they are to make a permanent difference for large numbers of students. These issues include:

1. **Collaboration.** Collaboration between the K–12 public schools and higher education institutions is a much more difficult challenge than it appears. The alignment of high school graduation standards and college admission standards, articulation agreements about which courses will count for what kinds of credit, concerns about college reputations and status, concerns about younger high school students attending college campuses with older students, regulations about which colleges can offer dual credit in which geographic regions of the State, and the practice of blaming public schools for the poor performance of students in higher education are some of the issues potential partners must resolve if they are going to work together.

2. **Funding.** Most current funding mechanisms rely heavily on student enrollments and thus pit high schools and colleges against one another in terms of who gets the credit for dual credit students. These same funding mechanisms can pit high schools, community colleges, universities and families against one another because it may be less expensive to take some courses as dual credit rather than waiting until the student has graduated from high school and is attending the university. In addition, in these tight budget times, some legislators and educators are concerned about "double-funding" programs, in that both high schools and colleges would get funding credit for the same students. Finally, it is important to consider how the costs of transportation, technology, and instructional materials will be covered when public schools, colleges, and families are struggling to make ends meet.

3. **Quality and Accountability.** High schools and higher education institutions often bicker about which courses can be taught at what locations and by whom and they use the issue of quality to mask a wide range of concerns. In addition, it is very difficult to get the data needed to assess the impact of these programs. A number of States have developed effective strategies for overseeing dual credit programs, including collaborative approaches to program approval, periodic program reviews, student outcome analyses, regular collegial meetings, course approvals, periodic reviews of district/college agreements, and annual reporting (Lowe, 2010). We think these are promising strategies that should be expanded.

4. **The Value of a College Degree.** Some of the most interesting debates about dual credit programs come from the differences in people's deeply held beliefs about the purposes of high school and college. Although most of the New Mexicans we work with agree that all students should graduate from high school, there is less agreement that all students should go to college. The national debates about the current value of a college education show that this difference of opinion is nationwide. In addition, we often encounter the higher education perspective that stricter admission requirements and high rates of applicant rejection are the hallmarks of

a better university. We don't think that everybody needs a 4-year college education, but we also don't think that the staggering disparities in educational attainment related to race, ethnicity, and socio-economic status should go unchallenged.

Lesson 6: We need to ensure equity and accessibility of accelerated learning programs to all students. One of the most disheartening findings to come out of our research is that dual credit, Advanced Placement, and International Baccalaureate programs come too late for too many minority and high poverty students. We lose too many children to poor health care and lack of developmental support in the 4 or 5 years before they get to school, and we continue to lose them in elementary and middle schools. Even the most effective accelerated learning programs are limited to the students who make it through the system to high school and are prepared enough to take advantage of these more rigorous learning opportunities.

We know that America's future depends on the success of all of its students, yet we face incredible challenges when it comes to ensuring that all students have access to a rigorous curriculum that prepares them for both college and career. The recently released Office of Civil Rights Data Collection (CRDC) reveals heartwrenching statistics about the state of educational opportunity in our Nation and the tremendous work left to be done. In 2009, for example, 55 percent of high schools with lower enrollments of African-American and Hispanic students offered calculus; compared to only 29 percent of high schools serving mostly African-American and Hispanic students. Additionally, African-American students were three times as likely, and Hispanic students twice as likely, as White students to be retained in all grades. The CRDC data also reveal that African-American and Hispanic students represented more than 70 percent of all students involved in school-related arrests or referrals to law enforcement (U.S. Department of Education 2012a).

The conversations about accelerated learning programs must take place in the larger context of educational opportunity and we need to continuously ensure that these programs are accessible to all of our students. For example, for three of the largest school districts in New Mexico, the CRDC data reveal that in 2009 Hispanics in Albuquerque Public Schools made up 58.7 percent of the 90,375 students in the district, but only 38.5 percent of students taking at least one AP course. Likewise, Hispanics in Las Cruces Public Schools made up 71.9 percent of the 24,970 students, but comprised only 44.2 percent of students taking at least one AP course. Finally, in Santa Fe Public Schools, Hispanics made up 76.8 percent of the 12,550 students, yet only 43.8 percent of students taking at least one AP course.

The evidence is growing that students who enroll in accelerated learning benefit from improved high school graduation rates, increased college enrollment, and higher college graduation rates. As this committee continues to examine accelerated learning programs across the Nation, we encourage you to emphasize the importance of ensuring Dual Credit, Advanced Placement, and International Baccalaureate programs are equitably funded and accessible to all students. Secretary of Education Arne Duncan clearly articulated that,

> "[t]he power of the data [CRDC] is not only in the numbers themselves, but in the impact it can have when married with the courage and the will to change. The undeniable truth is that the everyday educational experience for many students of color violates the principle of equity at the heart of the American promise. It is our collective duty to change that"—(U.S. Department of Education 2012b).

WHERE DO WE GO FROM HERE?

We want to offer four key recommendations that we believe will help promote accelerated learning. These include:

1. Help focus attention on the positive results of dual credit, Advanced Placement, and other approaches to accelerated learning. We can learn much from these attempts to make the education system more flexible and responsive to the needs of all of our students. We would argue that there is widespread agreement that the silos surrounding early childhood programs, K–12 education, higher education, and workforce development need to come down. Successful accelerated learning programs can teach us much about how different parts of the education system can work together.

2. Keep the vision of a highly educated America alive. We cannot overstate the importance of statesmen and stateswomen articulating what America should be. This country is founded on the belief that all men and all women, regardless of color or creed, are created equal. Our history is a story of struggling to make that promise hold true for all of our citizens and that struggle continues today. Your steadfast advocacy for education in general, and the importance of accelerated learning in

particular, is crucial to the future of so many of our children. We quoted Frank Sinatra earlier so we can quote Abraham Lincoln now: "A house divided against itself cannot stand." We have overwhelming evidence that our current education system is becoming more a source of division rather than a force for the common good. Accelerated learning is an important attempt to make the American dream of a good education a reality for more of our students. Thank you for your efforts so far but the fight is far from over.

3. Use all of your policy levers to get the adults in different parts of the education system to work together for the benefit of the students. In recent years, we have seen a number of influential grants from the Department of Education including Race To The Top; Race To The Top Early Learning Challenge Grant; the statewide Longitudinal Data Systems; as well as from the Department of Labor including the Trade Adjustment Assistance Community College and Career Training Program (TAACCCT). We know that several education bills have been and are being considered by Congress, including the reauthorization of the Elementary and Secondary Education Act (ESEA). We understand that the issues are complex but we would urge you to make sure that there are funds to support dual credit, Advanced Placement, early college high schools, International Baccalaureate programs and other forms of accelerated learning in any legislation that is passed. In addition to funding, please consider ways to incentivize collaboration between high schools and higher education institutions. Finally, please include accountability systems with real teeth that focus both on ways to ensuring rigor within accelerated learning programs, and on careful analyses of student outcomes from those programs.

4. Continue the Federal pressure for States, school systems, and higher education systems to gather and share data that can be used to determine the impact of our efforts. We clearly need to pay attention to privacy issues, and I believe we have good safeguards in place to do just that. But it is obvious that we struggle to understand which of our education efforts are helpful and which are a waste of irreplaceable human capital. Despite important legislation like the America COMPETES Act; Federal requirements in the American Recovery and Reinvestment Act; the requirements in the Race To The Top Grants; other Federal grants and strong advocacy by organizations like the Data Quality Campaign, too many State agencies, school districts, and higher education institutions are unable or unwilling to use data to inform our policy debates.

Our call for better data is not just an esoteric request from a group of researchers. We cannot tell if accelerated learning programs are accessible, high quality, and making a difference for the students who need them the most. We need data that lets us understand whether accelerated learning makes a difference in terms of graduation, college enrollment and completion, time to graduation, and economic impact. We need data that gives us guidance on how to scale up these efforts so they make a difference for more students. In summary, we need data to help us understand if we are really addressing the challenges that face our country.

We began our testimony by talking about the challenges that the United States faces in terms of global competiveness, the achievement gap, and education as the pathway to the American Dream. We do believe that accelerated learning can help us face those challenges, but much more needs to be done to ensure that our educational system is as strong as it can be. We deeply appreciate the commitment of this committee to the welfare of our children and our future.

REFERENCES

Duncan, Greg J. and Richard J. Murnane. (2011.) *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances.* New York: Russell Sage Foundation.

Lowe. A. (2010). Promoting Quality: State Strategies For Overseeing Dual Enrollment Programs. National Alliance of Concurrent Enrollment Partnerships, Inc. Retrieved April 7, 2012, from *http://nacep.org/wp-content/uploads/2010/10/NACEP__Promoting__Quality__Report__2010.pdf.*

Lumina Foundation. (2012). A Stronger Nation Through Higher Education. Retrieved April 7, 2012, from *http://www.luminafoundation.org/states__landing/a__stronger__nation__through__education/.*

The National Assessment of Educational Progress (NAEP). (2001). Retrieved April 7, 2012, from *http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012459.*

National Science Board. (2012). Science and Engineering Indicators 2012. Arlington, CA: National Science Foundation (NSB 12–01). Retrieved April 7, 2012, from *http://www.nsf.gov/statistics/seind12/c0/c0i.htm.*

New Mexico Public Education Department. (2009–10). Habitually Truant School Type Report. Retrieved April 7, 2012, from *http://ped.state.nm.us/IT/fs/truancy/SY2010%20Habitual%20Truancy%20by%20School%20Type.pdf*.

Times Higher Education. (2011–12). World University Rankings. Retrieved April 7, 2012, from *http://www.timeshighereducation.co.uk/world-university-rankings/2011–2012/reputation-rankings.html*.

University of New Mexico Center for Education Policy Research. (2012). New Mexico's Hispanic Students: Their Future is Our Future. Presentation to the New Mexico Hispanic Education Advisory Council. *http://cepr.unm.edu/news/25/15/Presentation-to-the-NM-Hispanic-Education-Advisory-Council.html*.

U.S. Department of Education. (2012a). The Transformed Civil Rights Data Collection. Office of Civil Rights. Retrieved April 7, 2012, from *http://www2.ed.gov/about/offices/list/ocr/docs/crdc–2012-data-summary.pdf*.

U.S. Department of Education. (2012b). New Data from U.S. Department of Education Highlights Educational Inequities Around Teacher Experience, Discipline and High School Rigor. Retrieved April 7, 2012, from *http://www.ed.gov/news/press-releases/new-data-us-department-education-highlights-educational-inequities-around-teache.*

Waits, T., Setzer, J.C., and Lewis, L. (2005). Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2002–3 (NCES 2005–009). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Western Interstate Commission for Higher Education (WICHE). (2006). Accelerated Learning Options: Moving the Needle on Access and Success. Retrieved April 7, 2012, from *http://www.wiche.edu/pub/12758*.

Winograd, P., Florez, V., & Garcia, V. (2010). Ready for College 2010: An Annual Report On New Mexico High School Graduates Who Take Remedial Classes In New Mexico Colleges And Universities. Retrieved April 7, 2012, from *http://www.ped.state.nm.us/press/2010/Ready%20For%20College%202010.pdf*.

Senator BINGAMAN. Thank you very much.

Miss Schubert, go right ahead.

STATEMENT OF MARYBETH SCHUBERT, EXECUTIVE DIRECTOR, NEW MEXICO ADVANCED PROGRAMS INITIATIVE, SANTA FE, NM

Ms. SCHUBERT. Good morning, Mr. Chairman, Senators.

I actually am going to reiterate from a slightly different perspective much of what you have heard Mr. Rudin and Miss Bacon talk about already. So I am going to be very brief.

What they are talking about, at the highest possible level—Mr. Rudin is talking about millions of AP exams, and Miss Dickson is talking about very deep, large scale work that has been done in Texas. I am going to talk to you from a very micro perspective, really almost from the student and the teacher perspective.

I run a very small, brand new educational foundation in New Mexico. We have to thank Senator Bingaman for being the thought leader behind this organization because New Mexico has not, in the past, had a statewide educational foundation that could work independently from the outside with best practice solutions for public school districts. That is our purpose.

In order to be brief and to kind of keep the committee on track, I am just going to go through these remarks and try to make a couple of points about how we are investing in advanced placement and why.

The Advanced Programs Initiative is New Mexico's statewide educational foundation. Our mission is to work hand in hand with public school leaders on proven strategies for raising student achievement. In just less than 2 years of operation, we are already working with districts that represent more than half of all students in New Mexico.

One of the solutions that API is promoting in the district is the Advanced Placement program. AP provides evidence of how to prepare teachers to teach advanced curriculum to all students which, in today's world, is what all teachers much do.

Fifty years ahead of its time, AP established a demanding set of national requirements for teaching and learning in its courses. These principles are the same ones that we now know matter most to student achievement and that, as a result, are at the heart of the Common Core State Standards that are now being adopted for virtually all public school students in the United States.

AP curriculum forces students to reason, argue, write, show evidence. This academic intensity in the curriculum is particularly necessary for minority students and at the heart of college readiness.

Second, high quality professional development has been a hallmark of advanced placement. Teacher effectiveness is considered to be the single most important factor in student learning.

And finally, AP assessments—and this is really a critical factor, frankly, and we could talk about this a little bit more in the question period if you have questions—AP assessments are very different from the kinds of standards-based assessment that students typically see in States all throughout the country. They require much more writing. They require much more reasoning and evidence, and they are nationally developed and they are nationally scored.

In this sense, these assessments are also closely aligned with the curriculum, which is kind of a nuanced distinction maybe for you as lawmakers, but what that means is that the students are, in fact, tested on the material that they have had in the course. They have to demonstrate that they understand what they have learned. And these are the kinds of assessments we are going to see in the Common Core State Standards.

AP's value is backed up by the numbers. We have heard this already from your prior panelists. Students who participate in AP are significantly more likely to succeed in college and there are lots of studies to show that, that we can talk to you about.

The API AP Fellows Competitive Grant Program is intervening in the areas that research shows will have the largest impact: teacher professionalism, teacher leadership, and teacher time with students. We are committed to creating great AP teachers who can succeed with diverse groups of students.

Teachers in our program receive professional development, extra time with their students, and support from experts. We select fellows from the disciplines of math, science, and English who are teaching critical college and life skills. We offer fellows the opportunity to become master teachers and mentor other teachers. And finally, we look for teachers and school leaders who share our values and vigorously strengthen school culture and expectations for achievement, especially among low-income and minority students and families.

As Mr. Winograd said, New Mexico is one of the first majority Hispanic States in the United States. Our students represent the future of the U.S. workforce. In 2011, just seven States had closed the achievement gap in AP for both Hispanic and Native American

students meaning that the proportion of students participating in AP match the proportion of minority students in the general school population. New Mexico is not one of those States despite the fact that it has the highest share of Hispanic students in its general school population.

Since its founding in 2010, API has served 1,268 students and 25 teachers in three districts. Of these students, approximately 43 percent were Hispanic, 61 percent of students in these districts would be considered low income. With our first-year results in summer 2011, we saw a 36 percent increase in the number of students passing AP exams, while the State's overall increase was 7.5 percent. There was a 33 percent increase in the number of students, enrolled students who took the national exam, a critical indicator of future success.

API is a young organization and we must raise all of the funds that we invest, and that has been a tough hurdle, as you can imagine, in the height of this recession. So we have started small, but we are confident that our assumption is correct: that it is great teachers who have the subject matter knowledge and teaching skill to teach all students whether in AP or in the Common Core who will improve academic proficiency and college readiness among our Nation's underperforming students.

The effects of our efforts will be scaled throughout the teacher corps by the recognition among teacher and district leaders that the AP standard is the professional standard that all teachers must meet.

I do think it is important for all of you to recognize, those of you who care about educational policy, that we can scale AP, really, much more broadly than it already has been done. But to do that, district leaders have to incorporate AP as a regular part of the high school experience. In New Mexico, the State has already created a major incentive to do that, by making AP participation and success a measure of school accountability.

There are intervention programs like ours that have an impact particularly in raising awareness and preparedness of teachers. But it is really at the district level in incorporating this level of rigor and this level of teacher preparation that we are going to have an impact on the general school population.

Thank you.

[The prepared statement of Ms. Schubert follows:]

PREPARED STATEMENT OF MARYBETH SCHUBERT

Mr. Chairman, thank you for the invitation to speak with you this morning.

Advanced Programs Initiative is New Mexico's statewide educational foundation. The API mission is to work hand-in-hand with public school leaders on proven strategies for raising student achievement. We are collaborating with districts representing more than half of all students in New Mexico.

One of the solutions that API is promoting in the districts is the Advanced Placement program. AP provides evidence of how to prepare teachers to teach advanced curriculum to all students, which in today's world is what *all teachers* must do. Fifty years ahead of its time, AP established a demanding set of national requirements for teaching and learning in its courses. Those principles are the same ones that we now know "*matter most*" to student achievement, and that, as a result, form the basis of Common Core State Standards being adopted for virtually all public school students in the United States.

• First, AP curriculum forces students to reason, argue, write, and show evidence. This "academic intensity" in the curriculum is particularly necessary for minority students and at the heart of college readiness.
• Second, high-quality professional development that helps teachers master course content is a hallmark of AP. Teacher effectiveness is considered to be the single most important factor in student learning.
• Finally, AP assessments are carefully and closely aligned with the curriculum, so that students must demonstrate *understanding* of a topic, not just memorized facts.

AP's value is backed up by the numbers. Students who participate in AP, whether or not they earn a passing score (an AP grade of 3 or better) on the exam, no matter their income or ethnicity, have a significantly greater chance of *graduating from college* than students who have not taken an AP course. In top performing States, nearly one-quarter of all students pass an AP exam before graduating from high school.

The API *AP Fellows* competitive grant program is intervening in the areas that research shows will have the largest impact: teacher professionalism, teacher leadership and teacher time with students. We are committed to "growing up" great AP teachers who can succeed with diverse groups of students. Teachers receive professional development, extra time with their students and support from experts. We select Fellows from the disciplines of math, science and English, who are teaching critical college and life skills. We offer Fellows the opportunity to become master teachers, mentoring other teachers. And, finally, we look for teachers and school leaders who share our values, and vigorously strengthen school culture and expectations for achievement, especially among low-income and minority students and families.

New Mexico is one of the first majority-Hispanic States in the United States. Our students represent the future of the U.S. workforce. In 2011, just 7 States had "closed the achievement gap" in AP for both Hispanic and Native American students, meaning that the proportion of minority students participating in AP matched the proportion of those students in the school population. New Mexico was not one of those States.

Since its founding in 2010, API has served 1,268 students and 25 teachers in three districts. Of these students, approximately 43 percent were Hispanic. Sixty one (61) percent of students in these districts would be considered low-income. With our first-year results in summer 2011, we saw a 36 percent increase in the number of students passing AP exams, while the State's overall increase was 7.5 percent. There was a 33 percent increase in the number of enrolled students who took the national exam, a critical indicator of student future success. Results for 2012 will be available in July.

API is a young organization, and we must raise all the funds that we invest. So we've started small. But we are confident that our assumption is correct: that it is great teachers who have the subject-matter knowledge and teaching skills to teach *all students*—whether in AP or in the Common Core—who will improve academic proficiency and college readiness among our Nation's underperforming students. The effects of our efforts will be scaled throughout the teacher corps by the recognition among teacher and district leaders that the AP standard is the professional standard that all teachers must meet.

Mr. Chairman, thank you for the invitation to speak with you this morning.

The Advanced Programs Initiative is New Mexico's statewide educational foundation. Our mission is to ensure that all New Mexican students are prepared with the advanced knowledge and skills they need to earn high school and college degrees. We reach this goal by working at the district level, hand-in-hand with public school leaders and teachers, to promote proven practices that we know work to improve student achievement.

Why is the emphasis on completion important? Because diplomas matter. In today's recession, the unemployment rate for those without a high-school degree is 12.6 percent, but for those with a bachelor's degree it is only 4.2 percent.[1] Among young workers just entering the workforce, the unemployment rate for those without a high school diploma is 33 percent.[2] At the same time, the latest ACT college-entrance exam data show that *only 25 percent* of 2011 high school graduates possessed the competencies in math and English to be successful in college.[3]

On almost every measure of expected quality of life from poverty to academic performance, New Mexico's children fall woefully short. The following few facts illustrate the scope of the problem:

• According to the 2011 National Assessment of Educational Progress (NAEP), New Mexico's reading and math scores for 4th and 8th grade students are in the bottom decile of all States.
• The 2011 "Quality Counts" report ranks New Mexico 50th in students' "Chance for Success," and 47th in K–12 achievement.

Although just starting its third year of operation, API already is collaborating with a dozen public school districts in New Mexico to implement changes in curriculum, instruction, and assessment. Together these districts represent more than one-half of all students in the State.

One of the solutions that API is promoting in the districts is the College Board's Advanced Placement program. Advanced Placement, sponsored since 1955 by the College Board, was designed to make students more productive in college by exposing them to nationally developed and nationally sanctioned college-level courses and exams while still in high school. Since then it has become one of the best, and best-known, examples of a best-practice instructional program.

Research has demonstrated the impact of AP. Students who participate in AP, whether or not they earn a qualifying score (an AP grade of 3 or better) on the exam, no matter their income or ethnicity, have a significantly greater chance of graduating from college than students who have not taken an AP course. This research also tells us that students who do earn qualifying scores on AP exams are three times more likely to earn a college degree than students who score below 3 on the exam.

The proof of AP's value is not just in the numbers, but in the design of the program itself, and it is for these reasons that API has made Advanced Placement teaching and learning a centerpiece of its investing in New Mexico public schools.

Half a century ahead of its time, Advanced Placement was emphasizing the things that we now know are most critical to student success, and that, as a result, are represented in the new Common Core curriculum being adopted in our Nation's public schools.

According to Adelman's seminal research [4] on student achievement, "academic intensity" in the high school curriculum "matters most" to students' success in college, and this is particularly true for minority students. Students who participate in rigorous courses in high school gain improved confidence, study discipline, and complex speaking, writing and reasoning skills. These are the same traits we are now requiring of *all U.S. students* with the Common Core State Standards.[5]

AP provides evidence of how to prepare teachers to teach advanced curriculum to all students, which in today's world is what *all teachers* must do. Like the Common Core, AP emphasizes:

(1) Teacher excellence in the *process* of learning as well as subject-matter expertise, and offers high-quality professional development to reach that level of mastery;
(2) Rigorous content and practice standards in the curriculum—which force students to reason, argue, write, and show evidence and are tied directly to *performance expectations in college*;
(3) Assessments that are carefully and closely aligned with curriculum and instruction, and that, as a result, require students to demonstrate *understanding* of a topic, not just memorized facts.

Despite the success of Advanced Placement in many States, New Mexico trails the Nation in the adoption and acceleration of AP coursework and teachers in its public schools. In high performing States like Maryland and New York, nearly a *quarter of all high school students* pass an Advanced Placement course with an exam grade of 3 or higher, well enough to qualify for college credit. New Mexico ranks in the bottom tier of States with 10 percent of high school seniors scoring a grade 3 or higher on an AP exam, compared to 17 percent for the Nation. And while the College Board recognizes that New Mexico had the largest share of any State of Hispanic students who passed AP exams in 2011, this is at least partly attributable to the fact that New Mexico has the highest proportion of Hispanic students in its general school population and fewer exam-takers overall.

The API *AP Fellows* competitive grant program is intervening in the areas that research tells us will have the largest impact: teacher professionalism, teacher leadership and teacher time with students. We are committed to "growing up" great AP teachers who can succeed with diverse groups of students.

The AP Fellows are selected annually in a competitive application process to ensure that our goals for the program match the teachers' teaching goals. First, we offer teachers direct classroom support, providing them professional development, additional time with their students and mentoring from master teachers for themselves and their students. They join a learning community of similarly-minded teachers. And we ensure that the AP exam fee (currently $87 per course) is not a

barrier to student participation by providing additional fee remission to that already offered in New Mexico with Federal and State funds.

Second, following the approach pioneered by the Peter O'Donnell Foundation and used by the National Math and Science Initiative, we support students in math, science and English disciplines, because we believe those to be the skill sets most important to life success.

Third, we offer Fellows the opportunity to become master teachers, mentoring other teachers and becoming leaders in their districts.

And, finally, we look for teachers and school and district leaders who share our values and vigorously promote their efforts to strengthen school culture and expectations, especially among low-income and minority students and families.

New Mexico is one of the first majority-Hispanic States in the United States. Our students represent the future of the U.S. workforce. In 2011, 14 States[6] had "closed the achievement gap" in AP for Hispanic students, meaning that the proportion of minority students participating in AP matched the proportion of those students in the school population, and just seven States had eliminated the achievement gap for both Hispanic and Native American students.[7] New Mexico was not among those States.

The districts in which API has begun its work, Albuquerque, Farmington, and Santa Fe, are diverse and representative of New Mexico itself. In Albuquerque public schools, for example, nearly 60 percent of students are Hispanic, and in our target school, West Mesa High School, 84 percent of students are Hispanic. In Farmington Municipal Schools, 30 percent of students are Native American. In Santa Fe Public Schools, 71 percent of students are low-income. Sixty one (61) percent of students in our districts would be considered low-income.

The outcomes of the AP Fellows program are to improve both *participation* in AP courses and *success* on AP exams. In the past 2 academic years, we have served 1,268 students and 25 teachers in three districts. Of these students, approximately 43 percent were Hispanic. In 2011 our Native American participation was only about 2.5 percent, but in 2012 Native American participation was 22 percent.

With our first-year results in summer 2011, we saw a *36 percent increase* in the number of students passing AP exams, while the State's overall increase was 7.5 percent. In 2011, there was a 33 percent increase in the number of enrolled students who took the national exam—a critical indicator of student future success—and in 2012 more than *80 percent of students* enrolled in our cohort are taking the AP exam. Results for 2012 will be available in July.

API is a young organization, and we must raise all the funds that we invest. So we've started small. But we are confident that our assumption is correct: that it is great teachers who have the subject-matter knowledge and teaching skills to teach *all students*—whether in AP or in the Common Core—who will improve academic proficiency and college readiness among our Nation's underperforming students. This is a conclusion also reached by the authors of the *Rising Above the Gathering Storm*[8] report of the National Academy of Sciences and the resultant *PACE (Protecting America's Competitive Edge) Act*, sponsored by members of this committee.[9]

If we are to scale-up the known benefits of the Advanced Placement program in New Mexico and elsewhere, we must expand the number of certified AP teachers, improve their effectiveness with all types of students, and make them leaders in the development of other teachers. The effects of our efforts will be scaled throughout the teacher corps by the recognition among teacher and district leaders that the AP standard is the professional standard that all teachers must meet.

ENDNOTES

1. *Bureau of Labor* Statistics, March 2012.

2. *Understanding the Economy: Unemployment Among Young Workers*, U.S. Congress Joint Economic Committee, Washington, DC, May 2010.

3. *2011 Condition of College and Career Readiness*, ACT, Iowa City, IA.

4. *Answers in the toolbox: Academic intensity, attendance patterns, and bachelor's degree attainment*, Clifford Adelman, Washington, DC, U.S. Department of Education, 1999.

5. New Mexico and 45 other States have adopted Common Core State Standards (CCSS) for public schools, establishing new guidelines for student learning that are internationally competitive. The CCSS represent a very different approach to teaching, learning, and assessment—one focusing on fewer but more rigorous standards, and fostering a deeper understanding of critical concepts and the practical applications of knowledge. Developed over many years, tested, and proven to be effective, these new learning standards draw on research on how students learn and how best to prepare them for college and the increasingly competitive job market.

6. States that have eliminated the Achievement Gap in AP among Hispanic students, according to the College Board's *AP Report to the Nation* (2011) are: District of Columbia, Louisiana, Mississippi, North Dakota, Florida, Alaska, Maryland, Arkansas, South Dakota, Georgia, Virginia, Kentucky, Alabama, Ohio.

7. States that have eliminated the Achievement Gap in AP among both Hispanic and Native American students are: Mississippi, Maryland, Arkansas, Georgia, Virginia, Kentucky, Ohio (College Board, 2011).

8. *Rising Above the Gathering Storm*, The National Academies Press, Washington, DC, 2005.

9. *Protecting America's Competitive Edge Act*—S. 2197, 2198 and 2199—was introduced by U.S. Senators Lamar Alexander, Jeff Bingaman, Pete Domenici, and Barbara Mikulski. It called to increase Federal funding for science and education programs. The legislation stemmed from the *Rising Above the Gathering Storm* report, outlining a plan to ensure U.S. economic competitiveness with the rest of the world, that was requested by Senators Bingaman and Alexander.

BIBLIOGRAPHY

2011 Condition of College and Career Readiness, ACT, Iowa City, IA.

Advanced Placement Report to the Nation 2011, College Board, New York, NY, 2011.

Advanced Placement Report to the Nation 2011 State Supplement: New Mexico, College Board, New York, NY, 2011.

Enrollment by Ethnicity 2009–10, School Fact Sheets, New Mexico Public Education Department, Santa Fe, NM, 2012.

Free/Reduced Lunch 2011–12, School Fact Sheets, New Mexico Public Education Department, Santa Fe, NM, 2012.

How Groups Fared in U.S. Jobs Data, at a Glance, Associated Press, April 6, 2012. Available at *http://abcnews.go.com/Business/wireStory/groups-fared-us-jobs-data-glance-16086632#.T4hYctn82uI*.

Leaders and Laggards: A State-by-State Report Card on Educational Effectiveness, Center for American Progress, Washington DC, 2007.

Legislative Education Study Committee Public School Reference Guide 2012, New Mexico Legislative Education Study Committee, Santa Fe, NM, 2012.

The Nation's Report Card: Reading 2011, National Center for Education Statistics, Alexandria, VA, 2011.

The Nation's Report Card: Mathematics 2011, National Center for Education Statistics, Alexandria, VA, 2011.

Measuring Up 2008: The National Report Card on Higher Education, The National Center for Public Policy and Higher Education, San Jose, CA, 2008.

The Widget Effect: Our National Failure to Acknowledge and Act on Differences in Teacher Effectiveness, D. Weisberg, S. Sexton, J. Mulhern & D. Keeling, The New Teacher Project, Brooklyn, NY, 2009.

School Directory Information, National Center for Education Statistics, 2012.

Understanding the Economy: Unemployment Among Young Workers, C.B. Maloney, U.S. Congress Joint Economic Committee, Washington, DC, 2010.

ATTACHMENT—CONCEPT PAPER

EXECUTIVE SUMMARY

The College Board's Advanced Placement (AP) program is an important means through which the Advanced Programs Initiative (API) fulfills its mission to prepare students for academic success in high school and in college. API believes that the New Mexican public school system must dramatically increase rigor in the K–12 curriculum so that many more students, especially minority and low-income students, can benefit from participation in advanced courses, like AP, that are known to contribute to high school and college completion. If New Mexico is to achieve this goal, it must have well-prepared teachers who have the *subject-matter* knowledge and teaching skills to *teach all students*. The Advanced Placement program provides evidence not only about the effect that expert teachers have on improving student performance, particularly in critical disciplines like math, science and English, but *also* on the type and quality of professional preparation needed to develop master teachers.

API must ensure that its grant making in New Mexico public schools is being directed toward the area of greatest need and greatest impact, which is *teaching and learning*. *Here* we mean the *careful* alignment of curriculum, instruction and assessment, which is exemplified by the Advanced Placement program. The API *AP Fellows* grant initiative, *for example*, was designed to support the two essential ele-

ments of *high quality* instruction: teacher effectiveness, which research demonstrates is the single most important factor in *promoting* student learning; and academic intensity in the high school curriculum, which "matters most" to students' success in college, particularly for minority students. *Research tells us that* students who participate in rigorous courses in high school gain the confidence, study discipline, and complex speaking, writing and reasoning skills *needed to succeed* in college and *in the workforce*.

INTRODUCTION

The Advanced Programs Initiative (API) is the only statewide educational foundation in New Mexico. Our mission is to ensure that all New Mexican students are prepared with the advanced knowledge and skills they need to earn high school and college degrees. We reach this goal by working at the district level, hand-in-hand with public school leaders and teachers, to promote proven practices that we know work to improve student achievement.

On almost every measure of expected quality of life from poverty to academic performance, New Mexico's children fall woefully short, and the argument could be made that our State is doing a terrible disservice to these children in not placing a greater reliance on evidence-based solutions for getting results. The following few facts illustrate the scope of the problem:

- According to the 2011 *National Assessment of Educational Progress* (NAEP), New Mexico's reading and math scores for fourth and eighth grade students are in the bottom decile of all States.
- The 2011 "Quality Counts" report ranks New Mexico 50th in students' "Chance for Success," and 47th in K–12 achievement.

STRENGTHENING THE IMPACT OF THE AP PROGRAM IN NEW MEXICO

Advanced Placement, administered since 1955 by the College Board, *the sponsors* of the SAT college-entrance test, was designed to make students more productive in college by exposing them to nationally developed and nationally sanctioned college-level courses and exams while still in high school.

More than 50 years of research has demonstrated that AP's impact goes further. Students who participate in AP, whether or not they earn a mastery score (an AP grade of 3 or better) on the exam, no matter their income or ethnicity, have *a significantly greater chance of graduating from college than students who have not taken an AP course*. This research also tells us that students who do earn qualifying scores on AP exams are *three times more likely to earn a college degree* than students who score below 3 on the exam.

Despite the success of Advanced Placement in many States, New Mexico trails the Nation in the adoption and acceleration of Advanced Placement coursework and teachers in its public schools. In high performing States like Maryland and New York, *nearly a quarter of all high school seniors* pass an Advanced Placement course with an exam grade of 3 or higher, well enough to qualify for college credit. New Mexico ranks in the bottom tier of States with *10 percent* of high school seniors scoring a grade 3 or higher on an AP exam, compared to 17 percent for the Nation. And while the College Board recognizes that New Mexico had the largest share of any State of Hispanic students who passed AP exams in 2011, this is at least partly attributable to the fact that New Mexico has the highest proportion of Hispanic students in its general school population and fewer exam-takers overall.

If we are to scale-up the known benefits of the Advanced Placement program in New Mexico and elsewhere, we must expand the number of certified AP teachers, improve their effectiveness with all types of students, and make them leaders in the development of other teachers.

API is committed to the processes of identifying, training, and supporting these great teachers with its *AP Fellows* program, a competitive grant program for AP math, science and English teachers in our partner schools and districts. API is investing in the areas that research shows will have the largest impact: teacher professionalism, teacher leadership and teacher time with students. At the same time, the AP enrichment and incentive programs pioneered by the Dallas-based O'Donnell Foundation and National Math and Science Initiative have informed our efforts.

BUILDING A COMMUNITY OF EXCEPTIONAL AP TEACHERS FOR NEW MEXICO: API'S AP FELLOWS PROGRAM

Although our primary goal in the *AP Fellows* program is to identify and support great teachers, API also is committed to working through those teachers to transform the culture of learning in schools. Therefore, teachers within a *high* school are

invited to apply to the program only after API has vetted the potential for improvement at the school and district levels, according to such criteria as:

- District and school leadership;
- District and school commitment to rigorous coursework, as demonstrated by expectations that all students should have pre-AP and AP coursework in high school;
- API's independent analysis of the historical performance of the district AP program; and
- District and school commitment to teacher collaboration, as demonstrated by coordinated prep time among teachers and support for vertical teaming within disciplines.

The bulk of grant funding for the *AP Fellows* program goes directly into teaching supports. The application process requires teachers to submit prior-years' AP student performance data, and includes a short statement of personal interest and commitment. We evaluate applicants' skills, knowledge and philosophy based on a variety of factors, including classroom observations. Candidates selected *for* the program are eligible to be considered for support for at least three consecutive *academic* years. Following their participation in the program, *AP Fellows* may become *Master Teachers*, working to mentor others.

The outcomes of the *AP Fellows* program are to improve both *participation* in AP courses and success on AP exams. AP teacher fellows receive the following assistance:

- Professional development, including 1-day, 2-day and 5-day trainings as needed;
- Reduced AP exam *fees* for qualifying students;
- Facilitated additional time on Saturdays with their students;
- Facilitated outreach to prospective new AP students;
- Advice and support from Master Teachers;
- Access to advanced on-line homework resources;
- Support from an onsite Grant Coordinator;
- $500 teacher stipend for leading student and school activities;
- $1,000 bonus for those teachers who reach a threshold percentage of students achieving an exam score of 3 or higher;
- Access to funding for travel, equipment, student recognition, and meals.

Fellows commit to the following annual activities:

- Review school-level data to identify high-*potential* students who should be recruited into AP courses;
- Make personal presentations to students in pre-AP or other feeder courses in their discipline and at school-wide AP student and parent outreach events;
- Prepare and present structured student tutorials every month;
- Collaborate with Master Teachers and AP Coordinators in the provision of 3-day-long student Saturday tutorials per discipline per year;
- Attend 5-day summer institutes as recommended by the API management team;
- Attend 2-day and/or 1-day trainings as recommended by the API management team;
- Help lead at least four vertical team meetings organized by the school or the district with pre-AP or pre-AP-level colleagues in middle and high school.

RESEARCH AND OUTCOMES

The API research team, led by Professor Howard Everson of the City University of New York's Center for Advanced Study in Education, is following the progress of students who participate in our *AP* program, not only to assess how well they did in the AP courses, but to collect the trend data that will, over several years, provide information about the effectiveness of our teacher fellows, the effect of AP course-taking on future achievement in high school and in college, and other research questions that relate to API's core goal *of* increasing academic achievement *for all New Mexican students*.

Senator BINGAMAN. Thank you very much.

Mr. Vargas, go right ahead.

STATEMENT OF JOEL VARGAS, VICE PRESIDENT, JOBS FOR THE FUTURE, BOSTON, MA

Mr. VARGAS. Thank you very much. I would like to thank you, Senator Bingaman, and I would also like to thank Chairman Harkin, Ranking Member Enzi, and the honorable members of the Sen-

ate HELP committee, those who are here today and those who are not.

Thank you for inviting me to speak with you. Also, I want to start off by thanking you for your tireless commitment to ensuring that every student and worker in our country has the education, training, and opportunity they need to be successful in today's economy.

It is an honor to share with you the work of Jobs for the Future and our experience in accelerating the college readiness and success of low-income students and other students underrepresented in higher education. Let me just say a word about JFF.

We identify, develop, and promote education and workforce strategies that expand opportunity for youth and adults who are struggling. In this pursuit, our organization, in collaboration with partners nationally, has developed and sustained a national network of Early College High Schools for more than a decade. And this movement is one of the largest and most successful secondary school reform initiatives in the United States.

Since 2002, Early College schools have achieved a record of success in increasing student achievement and high school graduation rates, college enrollment, and college attainment. There are now more than 270 Early College schools in the country preparing low-income youngsters, students of color, and first generation college goers for college success. The schools serve approximately 75,000 students and are thriving in over 24 States.

Early College blends high school and college in a rigorous and supportive academic program that culminates in the completion of key college courses by all students. These schools really transform the lives of young people. As one Early College student with multiple college credits to her name explained, "Before Early College, I had never thought college was remotely possible."

The urgency for innovative models that propel underserved youth to college is great. To echo some of the remarks of my colleagues here, they represent some of the fastest growing segments of our future workforce, but they have traditionally had the lowest educational attainment rates.

Early College schools are a proven reform that is uniquely equipped to meet this challenge. Studies have shown that Early College students' success rates far exceed national and local averages. So allow me to share some of the statistics with you. Ninety-three percent of students graduate from high school compared to 76 percent of students in their respective districts. Graduates of Early College earn 23 college credits, on average, and 56 percent of the class of 2011 graduates earns 2 years of college credits or an associate's degree. Over 72 percent of graduates enroll in college compared to 55 percent of graduates nationally from schools where a majority of students like Early College is low income.

And upon enrollment in college, our early evidence shows that at least 82 percent of graduates persist to their second year in college, compared to 69 percent of low-income students are first generation college goers nationally.

Early College is grounded in research that shows underserved students face multiple barriers in earning post-secondary credentials and that the most effective solutions like Early College ad-

dress the academic, financial, and social challenges students face in a concerted way.

For example, the ways that the schools do this, they provide a rigorous college prep academic program aligned to college-ready standards. They provide a sequence of free college courses as part of the high school program of study. They offer a significant exposure to the college environment and culture. And they have supports that are focused on high school and college completion.

And the success of these schools has really made it a popular approach even in what have been tough economic times. A number of States, including leaders like North Carolina and Texas, have continued their support for Early Colleges. Other States including Kentucky, Massachusetts, New York, and Ohio have appropriated new investments and are developing Early Colleges.

The growth of the movement has also had a ripple effect with many communities embracing Early College, the Early College philosophy, and independently launching their own schools including Arrowhead Park Early College in New Mexico and Chicago public schools, which are starting five STEM Early College schools.

The opportunity for early college, though, is not limited to school-level reform. We are now working with partners to apply the lessons of the original early college movement to entire school districts.

One example is in Pharr-San Juan-Alamo, a 32,000 student district in a low-income Hispanic community in Texas. With JFF and Educate Texas—our partner, which is a public-private State partnership—the district is transforming its high schools to enable all students to graduate with at least 12 college credits.

Congress has an important role to play to ensure that successful approaches like this can reach more students. Already, this committee has recognized this by including in the Elementary and Secondary Education Act reauthorization legislation the proposed Pathways to College competitive grant that will provide support to districts implementing Early College.

The success of our low-income students is critical, as you know, for our Nation to compete globally. And I just want to thank, on behalf of my colleagues at JFF, the members of this committee and Congress for your leadership in supporting strategies with a track record of meeting this important goal.

[The prepared statement of Mr. Vargas follows:]

PREPARED STATEMENT OF JOEL VARGAS

SUMMARY

The early college high school movement is one of largest and most successful secondary school reform initiatives in the United States. Since 2002, early college high schools have achieved a record of success in increasing student achievement, high school graduation rates, college enrollment, and college credit attainment. There are now more than 270 early college high schools across the Nation, preparing low-income youngsters, students of color, and first-generation college-goers for college success. These schools serve about 75,000 students.

The early college design blends high school and college in a rigorous and supportive academic program that culminates in the completion of key college courses by all students. Early colleges prepare low-income and other undeserved students for college through: (1) A rigorous college-prep academic program aligned to college-ready standards; (2) A sequence of free key college courses as part of the high school

program; (3) Significant exposure to the college environment and culture; and (4) Wraparound supports focused on high school and college success.

These schools transform the lives of young people, who haven't historically had the financial ability, academic preparation, and college exposure necessary for college success. The urgency for innovative models that propel underserved youth to college readiness and success cannot be understated. In the United States today, fewer than 75 percent of young people earn a high school diploma. For low-income, African-American, and Hispanic youth, the picture is much bleaker: only about 50 percent of these students graduate from high school on time. Among students enrolling in college, only about half graduate within 6 years; 25 percent for low-income students.

Early College Achieve Results: Early college schools are a cost-effective reform, uniquely equipped to meet this very challenge. Early college has successfully increased the college readiness of rural, urban, and suburban high-need students in low-income communities across our country.

• *They have high rates of high school graduation and college credit attainment:* 93 percent of early college students graduate from high school compared to 76 percent of students in their respective districts. By graduation, students earn 23 college credits on average, and 56 percent earn 2 years of college credit or an AA degree.

• *They have high college enrollment and persistence rates:* Over 72 percent of early college students enroll in post-secondary education upon graduation compared to 55 percent of graduates nationally from schools where a majority of students, like early college schools, receive free or reduced price lunch. Upon enrollment in college, at least 82 percent of early college graduates persist to their second year, compared to 69 percent of low-income or first generation students nationally.

Expanding and Scaling Early College: Early college's track record of success with high-need students and its ability to reduce costs has made it a popular acceleration strategy even in tough economic times. A number of States have continued significant investments in early college high schools while other States have even appropriated new investments. The growth of the early college movement has had a ripple effect with many communities embracing the philosophy of the early college high school and independently launching their own such schools.

The opportunity for early college, however, is not limited to school-level reform. Jobs for the Future has found that incorporating key college courses and supports in high schools for all students is a powerful strategy for catalyzing district reform and extending the benefits of the early college approach to many more students. We are now applying the lessons of the original early college movement to larger schools and school systems.

The HELP Committee and Congress as a whole has an important role to play in making sure that successful approaches like early college can reach more students, and the reauthorization of the Elementary and Secondary Education Act, the Higher Education Act, and the Carl D. Perkins Act all provide opportunities to include policies and direct Federal resources that do such. Already, the HELP Committee has recognized this by including in the ESEA reauthorization legislation the proposed Pathways to College competitive grant that will provide important support to districts adopting early college. The success of our low-income students in high school and college is absolutely necessary for our Nation to compete in the global economy, and early college schools are one solution with a track record of meeting this goal.

Chairman Harkin, Ranking Member Enzi, and the Honorable Members of the U.S. Senate HELP Committee, thank you for inviting me to speak with you today. I'd also like to thank you for your tireless commitment to ensuring that every student and worker in our country has the education, training, and opportunity they need to be successful in today's economy. The work of this committee is critical to the current and future success of our communities and our Nation.

As the vice president of Jobs for the Future's High School through College team, it is an honor to share with you our work and experience accelerating the college readiness and success of low-income students and other students underrepresented in higher education.

Jobs for the Future identifies, develops, and promotes education and workforce strategies that expand opportunity for youth and adults who are struggling in the United States today. Our mission, in concert with our partners, is to double the number of low-income youth and adults who attain post-secondary credentials. In this pursuit, our organization, in collaboration with great partners, has developed and sustained a national network of early college high schools for more than a decade.

EARLY COLLEGE: A POWERFUL ACCELERATION STRATEGY

The early college high school movement is one of the largest and most successful secondary school reform initiatives in the United States. Since 2002, early college high schools have achieved a record of success in increasing student achievement, high school graduation rates, college enrollment, and college credit attainment. There are now more than 270 early college high schools across the Nation, preparing low-income youngsters, students of color, and first-generation college-goers for college success. Early college high schools serve approximately 75,000 students and are thriving in many States including:

Alaska	Kentucky	Pennsylvania
Arizona	Maryland	Tennessee
California	New Mexico	Texas
Connecticut	North Carolina	Utah
Colorado	Oregon	Washington
Georgia	Ohio	

The early college design blends high school and college in a rigorous and supportive academic program that culminates in the completion of key college courses by all students. These schools transform the lives of young people, who historically haven't had the financial ability, academic preparation, and college knowledge necessary to earn a post-secondary degree or credential. Students at early college high schools have the opportunity to earn up to 2 years of free college credits or an Associate degree while in high school. As detailed later in this testimony, students from these schools are graduating at higher rates, completing college prep and college courses by graduation (many times with a college degree), and entering and persisting in college. As one early college high school student with multiple college credits to her name explained, "[before early college], I had never thought college was remotely possible."

THE PRESSING NEED FOR SUCCESSFUL ACCELERATION STRATEGIES

The urgency for innovative models that propel underserved youth to college readiness and success cannot be understated:

• In the United States today, fewer than 75 percent of young people earn a high school diploma.[1] For low-income, African-American, and Hispanic youth, the picture is much bleaker: one national estimate places their rate of on-time high school graduation at just 50 percent.[2]

• Among those students who enroll in college, only about half earn a diploma within 6 years. For low-income students, the college completion rate drops to 25 percent.[3]

• America's low graduation rates threaten our country's global competitiveness and economic vitality. The United States ranks only 12th among 36 developed nations in college graduation rates, when only a generation ago the United States ranked first.[4]

• Georgetown University researchers recently estimated that the United States needs to increase college-educated workers by 20 to 25 million by 2025 to be first in the world again.[5] The United States cannot achieve this outcome without significantly increasing the number of low-income and other high-need students who complete high school and go on to earn post-secondary credentials.[6]

Early college schools are uniquely equipped to meet this very challenge, and help students who face the biggest barriers to educational success beat the odds. Research has shown that early college high schools help students surpass peers attending traditional high schools in achieving milestones on the pathway to college completion. And early college is a reform that can reach students no matter where they go to school in the Nation. This acceleration strategy has successfully increased the college readiness of rural, urban, and suburban high-need students in low-income communities across our country.

EARLY COLLEGE SCHOOLS ACHIEVE RESULTS AND MAKE A COMPELLING IMPACT

The impact of early college is substantial. With a student population primarily composed of students of color, low-income youth, and first-generation college goers, early college schools are overcoming historically low-education attainment levels. Early college high school students achieve milestones toward a college degree at rates that far exceed national and local averages:

• *Progress in college-preparatory courses:* Rigorous studies have shown that early college high school students in Texas are two times more likely to pass State exams

in all four core subject areas than peers in comparison schools and more than two times more likely to pass the next math courses in the college prep sequence.[7] Another study found similar results and demonstrated that early college high schools reduce high school dropouts.[8]

• *Graduation rates:* 93 percent of early college students graduate from high school compared to 76 percent of students in their respective districts.[9]

• *College credit attainment in high school:* By graduation, early college students earn 23 college credits on average, and 56 percent of the graduates of 2011 earned 2 years of college credit or an AA degree.[10]

• *College enrollment:* At least 72 percent of early college high school students enroll in post-secondary education upon graduation compared to 55 percent of graduates nationally from schools where a majority of students, like early college schools, receive free or reduced price lunch.[11]

• *Persistence rates:* Upon enrollment in college, at least 82 percent of early college high school graduates persist to their second year, compared to 69 percent of low-income students or first-generation college goers nationally.[12]

Studies have also shown that early college high school is a cost-effective proposition that reduces the expense of remediation in college for students who are not college-ready. With the help of school finance experts, Augenblick, Palaich, and Associates, JFF has developed a financial model that projects the cost-benefit to States graduating more students college-ready.[13] For example, students who graduated from an early college in Texas with an average of 40 college credits will save the State an estimated $6,800 per student completing an Associate's Degree and $10,500 per student completing a Bachelor's degree.[14]

THE COMMON ELEMENTS OF EARLY COLLEGE

In contrast to many selective programs that provide accelerated work only for advanced students, early college high schools are focused on preparing all students for success at the post-secondary level. While specific programming may vary from school to school, early college high schools are all committed to preparing low-income youngsters, students of color, and first-time college goers for college through:

• **A rigorous college-prep academic program aligned to college-ready standards.** Through a program of demanding college-preparatory and college courses, early college schools challenge students to reach new academic heights while providing appropriate support. The introduction of college coursework into the high school program provides students with direct evidence of their readiness for college and motivates them to improve their skills. As one early college student at Lincoln Hostos Academy in New York put it: "college makes you a better high school student."

• **A sequence of free key college courses as part of the high school program of study.** Early college high schools offer aligned course sequences that result in students taking transferable college credits that lead to a post-secondary degree. These carefully constructed pathways remove cost barriers for low-income students and set them on a direct path to completing college. In some cases, students begin their college coursework by taking stretch courses that transform a college semester course into a yearlong course, while in other cases, such as at Ohio's Metro Early College, students are placed in their college courses with a cohort of peers so that students can provide support to each other. In all cases, the courses that early college students enroll in meet rigorous academic standards and are taught by full-time college faculty or adjunct faculty certified by partner colleges.

• **Significant exposure to the college environment and culture.** From orientation to college classes, the experience at early college is structured to raise expectations and increase knowledge about college for all students, and particularly those students who lack the tradition of college going in their family and community. Many early college high schools reside on college campuses and students benefit from being immersed in a college-going culture. Early college schools that are not at college sites help students develop college-going identities by exposing students to campus life regularly and organizing a range of programs to demystify the process of applying to, attending, and succeeding in college. For example, at Alameda Science and Technology Institute in California, early college juniors take part in a summer bridge program that includes a seminar-style college class on campus.

• **Wraparound supports focused on high school and college completion.** Early college schools accelerate all students to greater achievement, even those entering with significant skill gaps, by relying on high-quality instructional practices and academic supports. Early college schools use instructional approaches that help students access advanced content even as they are mastering more basic skills. Early college schools also employ intensive tutoring, strong peer and adult support

systems, and scheduling that maximize time for college connections and academic support. For instance, at Buncombe County Early College in North Carolina, staff arranged for students to have an extra support period with a high school teacher in the content area of their college course.

Early college schools work for low-income students, students of color, and first-generation college goers because they are designed to remove multiple barriers in attending and completing college. The philosophy behind this approach is grounded in decades of research that show that the most effective college access and success strategies for these students address the academic, financial, and social challenges they face in a concerted fashion. Early college schools do just that.

EXPANDING AND SCALING EARLY COLLEGE

Early college's track record of success with high-need students and its ability to reduce costs has made it a popular acceleration strategy even in tough economic times. Despite the severe cuts in State budgets in recent years, a number of States have continued significant investments in early college high schools and even appropriated new investments. North Carolina now leads the Nation with 74 early college high schools and Texas is close behind with 49. New York State established a program to create 23 early college high schools and Massachusetts is developing six STEM-focused early college high schools. Kentucky has invested in six new early college high schools and has plans to create six more in the coming year while Ohio is adding six new schools to its early college portfolio.

At the local level, the growth of the original Early College High School Initiative network has had a ripple effect with many communities embracing the philosophy of the early college high school and independently launching their own such schools. Throughout the country, there are now dozens of these schools including Arrowhead Park Early College High School in New Mexico. And Chicago recently asked Jobs for the Future for our help supporting its new initiative to create five Early College STEM High Schools.

The opportunity for early college, however, is not limited to school-level reform. At Jobs for the Future, we've found that incorporating key college courses and supports in high schools for all students is a powerful strategy for catalyzing district reform and extending the benefits of the early college approach to many more students. We are now working with partners to develop a range of designs that apply the lessons of the original early college movement—composed largely of small high schools to date—to entire school systems in the future.

One noteworthy example is Pharr-San Juan-Alamo Independent School District, a school system with 32,000 students in a low-income Hispanic community in Texas. With Jobs for the Future and Educate Texas (a public-private State partnership), the district is transforming its schools to enable all students to graduate from high school with at least 12 college credits and the skills to progress to a degree or credential. Initial data is very promising—the district has become a national model for dropout recovery, having graduated nearly 900 former dropouts and off-track students—and connected them to college—since 2007. Pharr-San Juan-Alamo has raised its 4-year graduation rates from 62 percent to 87 percent in 3 years. And between 2007 and 2009, the district doubled its number of students enrolling in college after graduation.

With the widespread adoption of college-ready standards by States, it is even more critical than ever that districts have access to the structures, supports, and practices that will enable them to prepare all of their students for college success. Early college is a powerful reform that has already propelled thousands of young people, not historically expected to earn a high school diploma and enroll in college, to earn meaningful college credits on the path to a post-secondary credential or degree.

The HELP Committee and Congress as a whole has an important role to play in making sure that successful approaches like early college can reach more students in communities across our Nation. Already, the HELP Committee has recognized this impact and further promise by including in the ESEA reauthorization legislation the proposed Pathways to College competitive grant that will provide important support to districts implementing early college designs.

The reauthorization of the Elementary and Secondary Education Act, the Higher Education Act, and the Carl D. Perkins Career and Technical Education Act all provide opportunities to include policies and direct Federal resources that promote secondary and post-secondary collaborations, early college credit accrual, and financial and academic supports for early college students. For example, each of these laws should include post-secondary enrollment, persistence, and credit/credential attainment in its accountability and reporting expectations to ensure post-secondary suc-

cess for all students. Data, accountability, and teacher and leader preparation and supports provisions in these laws can all put a premium on partnerships facilitating innovative programming like early college high schools for low-income, underrepresented students. As an example, Perkins should encourage the development of innovations such as career pathways for students that result in early attainment of post-secondary credits in high school, with the end goal of a credential with value in the labor market. The success of our low-income students in secondary and post-secondary education is absolutely necessary for our Nation to compete in the global economy, and early college high schools are one solution with a track record of meeting this goal.

One early college senior from one of the most economically depressed metropolitan areas with one of the lowest number of college-educated adults explained it best.

> "My classmates and I will enter the university full-time following graduation next year knowing that college will not be a road block and will not be impossible to complete . . . early college brings out the best in all students."

ENDNOTES

1. Aud, S., Hussar, W., Kena, G., Bianco, K., Frohlich, L., Kemp, J., Tahan, K. (2011). *The Condition of Education 2011* (NCES 2011–033). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office, 2011.

2. Spotlight on Poverty Spotlight on Poverty and Opportunity. "Education and Poverty." *Spotlight on Poverty and Opportunity.* Web. 31 July 2011. <*http://www.spotlightonpoverty.org/education__and__poverty.aspx*>.

3. Spotlight on Poverty Spotlight on Poverty and Opportunity. "Education and Poverty." *Spotlight on Poverty and Opportunity.* Web. 31 July 2011. <*http://www.spotlightonpoverty.org/education__and__poverty.aspx*>.

4. Organization for Economic Co-Operation and Development. "*Education at a Glance: 2010*," 26. Web 31 July 2011. <*http://www.oecd.org/dataoecd/45/39/45926093.pdf*>

5. Carnevale, A., and Rose, S. *The Undereducated American.* Washington: Georgetown Center on Education and the Workforce, 2011.

6. National Center for Higher Education Management Systems. *Adding It Up: State Challenges for Increasing College Access and Success.* Boulder: NCHEMS, 2007.

7. SRI International. (Forthcoming). *Evaluation of the Texas High School Project: First comprehensive annual report.* Austin, TX: Texas Education Agency.

8. Edmunds, J.A., Willse, J., Arshavsky, N., and Dallas, A. "Mandated Engagement: The Impact of Early College High Schools." *Harvard Education Review*, under review.

9. Data are drawn from the ECHS Student Information System and based on publicly reported State data for early college schools and their home districts in 2010–11. The rates reported here are median 4-year graduation rates.

10. These data come from the ECHS Annual National Survey 2010–11.

11. The national college enrollment rate is drawn from: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Questionnaire," 2003–4. Early college data is drawn from the National Student Clearinghouse.

12. The persistence rate for low-income/first generation students is drawn from: Engle, J., & Tinto, V. (2008). *Moving beyond access: College success for low-income, first-generation students.* St. Paul, MN: Pell Institute for the Study of Opportunity in Higher Education. Retrieved from ERIC database. (ED 504448). Early college data is drawn from the National Student Clearinghouse.

13. Jobs for the Future and Augenblick, Palaich, and Associates (2010). Cost to Completion Calculator. Retrieved from *http://application.jff.org/costtocompletion.*

14. Jobs for the Future (2011). *Making the Grade: Texas Early College High Schools Prepare Students for College.* Boston, MA.

Senator BINGAMAN. Thank you very much. Thank you all for your excellent testimony.

We have been joined by Senator Bennet, who is really the only bona fide expert on education in the Senate, as far as I know having run a school district, a very large school district himself.

Let me start with some questions and then I am sure Senator Franken and Senator Bennet will have questions. One obvious threshold question is the issue of Federal support for what we are

talking about here. I am concerned, of course, that we are, apparently, cutting back on Federal support for AP. I think it was $43 million, now down to $27 million.

What is the impact of this going to be on the ability of this program to continue to grow around the country? Do we have a sense of what the importance of Federal support is in this area? Mr. Rudin, did you have a thought on that?

Mr. RUDIN. Yes, Mr. Chairman. That concerns us too. We are worried about the reduction in funding. We think it will have an impact on especially low-income participation in AP courses, because those funds are used to help cover the AP exam fee. The other portion, of the funds, is used to support teacher training programs through grants to States and school districts.

That was a significant reduction. We are grateful for the fact that the program was not eliminated and much good can come from the $27 million that remains, so we are very happy for that.

One of the things that has happened in just the last week, I think, is due in large part to encouragement, if you will, from the Senate. The Department of Education is moving funds around to cover the AP exam fees and make up some of this deficiency. There will be anywhere from $5 to $10 million in funding within the Department shifted to this program so that it can cover the cost of AP exam fees for students. That is a good stopgap measure for this set of exams coming up next month. This full funding will enable more than 550,000 students to take the AP exam at no cost.

We are worried about next year and we will be bringing you data on the value of this Federal investment in terms of both college readiness and completion for low-income students and savings on tuition costs for those students.

We were discouraged by the reduction in funding. We are hoping to see it restored. We are grateful to the Senate and the Department for, at least for this year, salvaging as much funding as possible.

Senator BINGAMAN. Let me ask a general question for any of you that want to comment on it.

It seems to me that we have a variety of approaches here, all of which have a lot of merit. But in the case of Advanced Placement, it has always seemed to me that the value of Advanced Placement is the rigorous standards that it puts in place and insists upon, and the training of teachers to teach those courses, which I think, generally involves upgrading of the teaching profession throughout.

When we have just dual credit courses in our high schools, I do not know that we have the same assurance about the rigor of the standards and I do not know that we have the same focus on upgrading teacher skills to provide that instruction. And I do not know if this is a valid concern on my part, but I just want to get peoples' reaction to it.

Mr. Winograd, did you have a thought on this?

Mr. WINOGRAD. Mr. Chairman, thank you so much for that.

The question of rigor is an important one, so let me answer it this way.

One of the things that we need to watch with AP students, with International Baccalaureate, with middle college high schools, and with dual credit is, in fact, how students do once they get to col-

lege. And so, for us to be able to follow those students, make sure they get through college, they take rigorous courses in college, and how they graduate from college is really the gold standard of rigor. We want to be able to see that.

I think I mentioned at the very beginning, I think all of these accelerated learning programs have some important lessons for education in general. You put your finger on two of them: one is rigor of coursework; the other is the quality of the teacher. Those two are essential.

But I believe there are two other things within our programs that are important for all of them, American education. One is that it engages the student; you get students who are engaged.

There is a huge issue in New Mexico, the number of kids who dropout. By having a rigor, by having courses that are relevant, by having courses they see the value of, that is really important.

The other, and you have heard it from all of us is this gives kids, especially kids who may not have ever thought about it, the aspiration to go to college. That is essential. One of the ways we do real damage to our kids is we lower their expectations. "You are not good enough to go to college." And when they are successful in these programs, that is important.

Then the last, which is really essential for our kids in New Mexico, but across the country, are the kinds of supports that they get. A lot of our students are dealing with all kinds of social issues, health issues, drug issues, gang issues and these successful programs like Early College High School, the one in Las Cruces, Arrowhead, some of the other kinds of partnerships that we have across New Mexico give kids support.

So in direct answer to your question, rigor is important, but one of the ways we see that is to make sure that kids are actually successful when they go to college for a career. And these approaches have important lessons for all of American education, and we need to pay attention to those.

Senator BINGAMAN. Why don't we do this: since my time has already expired, why don't we go to Senator Franken, and then Senator Bennet, and then I will come back and ask some more questions.

Senator Franken.

Senator FRANKEN. Thank you, Mr. Chairman, for coming to me because unfortunately, after I finish my questions, I am going to have to go to another hearing.

Miss Bacon Dickson, of course, I share your conviction that all our teachers should be excellent teachers. We must, I believe, improve professional development and advancement opportunities for STEM teachers. We lose a lot of STEM teachers because their skills on the open market tend to be compensated higher. On the open market, they get more than they would get teaching. I think for all teachers that might be true, but especially STEM teachers.

I introduced a piece of legislation, the STEM Master Teacher Corps Act to recognize and retain teachers, because you were talking about training STEM teachers. I would like to retain them once we get them. And this would reward high performing STEM teachers in high-needs schools by giving them a master teacher designation, and let them mentor other STEM teachers.

Do you see value in that kind of program?

Ms. DICKSON. There is great value in that kind of program. We talk about strengthening the teacher corps. It is so important right now.

We have good teachers in our classrooms, but with technology, with the new AP exams in the STEM fields, teachers need a lot of retraining. They need mentoring. We find that to really be successful in our teacher training programs, the teachers come to the training, but then there has to be followup mentoring.

I think one of the greatest incentives for teachers is not really the money, it is the recognition. It is when their peers recognize that they are contributing some valuable skills to their students and to their schools, that counts for a lot. And I think the idea of a master teacher mentoring program, especially in STEM—that is the hardest field for these teachers and these students—is what this country needs.

I also think that sitting here listening to all of these three very good programs, I hope we can all work together and share our mentors because when new teachers go in, they need several years of induction and mentoring. We are doing a lot more of that now online. They will have face to face initial training, but then the mentoring is coming with some good online services.

But I think anything that will increase the quality of good mentors and give recognition to our outstanding teachers is critical to success.

Senator FRANKEN. Thank you. And by the way, I did not hear anything from the panel on the International Baccalaureate program, which I have heard also incredibly good things about. St. Louis Park High School, which is in St. Louis Park, MN is a high school, that at least last year, was named the No. 1 school in Minnesota and they used the International Baccalaureate a lot, as well as AP.

Mr. Rudin, in Minnesota we have a lot of disparities, and we have significant disparities among high school students who take AP courses. In 2011, there were about 11.5 times as many middle- and high-income students taking AP exams as low-income students. You also told us that a high percentage of minority students who have demonstrated strong potential for success in AP courses are not taking the courses.

What are the reasons for these disparities? Is it because low-income and minority students often attend schools where AP classes are less likely to be offered? Or is it because they do not think they can succeed in these classes, or is it both?

Mr. RUDIN. Senator, thank you. That concerns us a great deal. There is a huge disparity, especially among African-American and Hispanic students, between those who should be taking these courses that show the potential to do well, and those who actually take them.

We administer the PSAT exam at The College Board and about 3.5 million students a year take that. We have done research that links PSAT performance to AP success. We can identify millions of students who should be taking AP because we know they would do well, but are not taking it.

We did a survey of a number of the students who took the PSAT, did well, but did not take AP, and also talked to their teachers and administrators. And there are three or four reasons why they do not take the course, all of which we can overcome if we work at it.

One is that they are simply discouraged. Counselors say, "You are not an AP kid. Don't take the class." It is discouraging to hear that, and I am sure Senator Bennet when he was superintendent heard stories about that, and obviously being a great superintendent, took steps to correct that. We want counselors to encourage kids to achieve at these levels.

But the other problem is that in 30 percent of our Nation's high schools, there is no AP course offered, which is also discouraging and that is often because there are not well-qualified teachers to teach those courses. So this Federal funding and in Minnesota, there is $4 million in State funding for AP teacher training. So the State is working hard to correct that. If we can get good teachers in place, we can offer these courses.

I think a third issue that arose is that parent support was not where it should be. Sometimes parents say, "Don't take that hard course. You might get a 'C' or a 'D'. Take the easy course, you will get an 'A'" College admissions officers tell us they would rather have the student take the harder course and get maybe a 'B' or 'C', than take the easy course and get the 'A'. They look at the transcripts carefully and especially for low-income kids, there is great potential for achievement by taking AP, getting into college, and completing college.

Senator FRANKEN. Thank you. Perhaps, I mean I am sure you have, shared this correlation between scores on the PSAT and success on the AP tests with the high school counselors, and emphasize to them that these kids can do it.

That would be a good thing and maybe get the counselors talking to the parents about the importance of taking rigorous tests in terms of admissions to college. That assumes, of course, maybe more counselors because I know in Minnesota, we have a very low ratio of counselors to students.

I have to go. Thank you all. Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you.

Senator Bennet.

STATEMENT OF SENATOR BENNET

Senator BENNET. Thank you, Mr. Chairman. I also, unfortunately, have an 11 o'clock agriculture committee meeting that I have to get to.

But I wanted to come, mostly, just to applaud all of you for the work that you are doing, and to tell you, Mr. Chairman, how much I appreciate the topic of this hearing because even before you get to the question of accelerated learning, which is so critical for all the reasons that the panelists have said, I think it is worth thinking a little bit about where our starting point is here in America.

Because when I became Superintendent in Denver, I looked at a lot of data. One of the most discouraging things I saw was the remediation rate in mathematics of the kids that graduated from Denver public schools and went on to college. These are our most

successful kids. And it turned out there were a lot of reasons for that, but one of the reasons for that was that our graduation requirement in mathematics was only 2 years. And math, unlike other subjects, if you do not practice it, you lose it, you forget it, and that was leading to these remediation rates.

Two years' graduation requirement, even though we say we want mathematicians and engineers. Unless you pass the algebra exam in the eighth grade, in which case, your reward for that, what we were saying to our strongest adolescent mathematicians was, "You only have to take 1 year of math before you graduate." That is true all over the United States.

Today in Denver, you have to take 4 years of math and your reward for passing that algebra exam in the eighth grade is that you get to take higher level mathematics before you graduate, usually a college class. And we have a long way to go in Denver still, but there are 70 percent more kids today taking college classes than in 2004, 72 percent increase in the number of kids taking the AP, a huge number more that are scoring 3 and above on their test.

But most important of all, and I think Mr. Winograd touched on this, there are 30 percent more kids in college today that are products of Denver than in 2005.

And it really began with rigor, which is what you guys are talking about here, and Mr. Chairman, why this is so vitally important. I mean, if we are not even expecting our kids to do the work, why would we expect them to do the work? Just set a standard that we actually believe in and understand.

Having said all of that, I want to say thank you for everything you are doing. I wonder, and I am going to absurdly do an impolite thing of walking out because I have to get to this other meeting, but I think the committee and the staff here would benefit from hearing your thoughts about what we could do—Mr. Vargas, touched on this a little bit—at the Federal level to make sure that our K–12 system and our higher education systems are actually talking together, that they are integrated.

Nobody came to me and said, "Michael, the remediation rates in mathematics for your graduates are ridiculous. You better do something," you know, "You had better do something about it." I mean, we stumbled on that fact.

And for our kids that are in high school—my own view is that I think Early College, in particular, gives us the chance to be able to integrate what we are doing in higher education and what we are doing in K–12. But I wonder to what degree our Federal policies, because we think about higher education as being over here and K–12 as being over here, to say nothing of how we think about early childhood education.

Are there things, are there new approaches we could take here that would incentivize people at the State level or at the district level to think in a more integrated way about the work? I do not know. Mr. Vargas, if you would like to start.

Mr. VARGAS. I appreciate the question.

Senator BENNET. Thank you.

Mr. VARGAS. I appreciate the question, Senator, and the chance to comment. And let me say that Colorado and New Mexico are two

of the leading States in the country in this accelerated learning area, so it is an honor to be here with you.

To answer the question, I think I alluded, first of all, to the Pathways to College provision in the Elementary and Secondary Education Act reauthorization legislation that this committee put forward as being an example. To the extent that there are still incentives for innovation in the field, can they be tailored so that to send the strong signals to States and to local colleges and districts that their partnership around these kinds of acceleration strategies would be privileged in some way? That would receive some sort of priority. So the Pathways to College provision is one example of that.

Another example would be all of the programs that are currently funded, including ESEA, the reauthorization of the Higher Education Act, the reauthorization of Perkins, they all have reporting data and accountability requirements. If we can be, if Congress can think about what kinds of signals they can send to locals that would actually forge, incentivize, encourage these types of partnerships. Such as let us look at, and reward, and have grantees report on the extent to which they have low-income students completing accelerated options such as AP, such as dual enrollment. To what degree are they earning college credit by the time they enter high school, by the time they enter college, rather. That would provide some signals to the field about the importance of incorporating accelerated learning strategies into the curriculum.

The last thing I would add there are teacher and support provisions in many of these pieces of legislation that could be also privileged to actually incentivize teacher training, leadership training, that privileges programs that grow out of partnerships such as Early College Schools or those that are training AP teachers, for example.

Senator BINGAMAN. Let me ask a question that probably I should know the answer to. What is the difference between Early College High Schools and middle college high schools, because I have visited both in my State, and I am not clear in my mind what the distinction is?

Mr. VARGAS. That is a great question. It is one we get a lot. There is a lot of overlap because, in truth, a lot of the Middle College Schools in the country became Early College Schools. Middle Colleges, I believe, were actually lower and the technical, direct answer to your question is Middle Colleges are actually high schools that are based on college campuses. And when they first began, I believe the first one was at LaGuardia College in New York, and it is now an Early Middle College. When it first began, it was really a program designed to help students at risk of dropping out to make sure that they stayed in school.

During the course of their history, they found that some of the students actually benefited from sometimes taking college courses. But college courses were not an expectation of the Middle College curriculum until they became Early Colleges. And when they became an Early College, what they did is they were not only based on a high school campus, but the expectation was that all students would complete 1 to 2 years of college credit or an Associate's Degree by the time they graduated.

Senator BINGAMAN. Now, there is a pretty significant distinction between high school students taking courses, college-level courses in the high school that they are attending and high school students taking college-level courses at a school, a secondary college of some kind.

What do we know about that? My impression is that the opportunity—obviously, there are some circumstances where you just cannot get from the high school that you are attending to a college. So you do not have the opportunity of going to that school to take the class. You may also not have the opportunity to take the course in the high school, because the course is not taught, the college-level course is not taught in the high school. And I guess, then, your option is to do it online.

To what extent is that a viable option? Or is this assuming a level of discipline that is just not realistic to assume? Mr. Winograd.

Mr. WINOGRAD. Mr. Chairman, about 40 percent of the students in New Mexico actually take their course at the high school, about 12 percent take it online. So you can see some of the percentages there.

Senator BINGAMAN. And the other 48 percent go to the college?

Mr. WINOGRAD. Yes, sir.

Senator BINGAMAN. To the community college or the university.

Mr. WINOGRAD. Yes, sir.

Senator BINGAMAN. And take the course physically there in the classroom.

Mr. WINOGRAD. Yes, sir, they do.

Senator BINGAMAN. What do we know about the results, if anything? Do we know about which of these methods works best or what the advantages or disadvantages of them are?

Mr. WINOGRAD. One of the things that we have found from our research is that the students who take courses at the high school actually score a little bit higher in GPA, which has led to the concern that you voiced earlier: are those courses taught at the high school less rigorous than those that are taught on the college campus? It is one of the things we really need to look at.

The issue again as you know, Mr. Chairman, in New Mexico is we have got high schools all over and the physical distance between a college campus and a high school is too far to bus kids.

So the important thing is: how do we ensure rigor across all of those courses? Your comments earlier were right on target. How do we ensure rigor when we do distance courses?

One of the things that is out there, which is pretty promising, is the National Alliance of Concurrent Enrollment Partnerships has a series of strategies for ensuring rigor and consistency, and we think those are worth exploring. It's collaborative approach is to program approval, periodic program reviews, student outcome analysis, regular collegial meetings, course approvals, periodic reviews of district college agreements, and annual reporting.

And to my colleague's point, as you all are thinking about funding, Federal funding, to incentivize colleges and schools working together so that money does flow to where there are partnerships, and to put some teeth into the accountability measures. How do these programs show rigor? How do they show the outcomes? How

do you show that it is actually reaching rural students, or students of color, students of poverty?

But this issue about high school, whether it is on high school or on campus is a big one. I do want to point out one of the concerns we have heard is, "Why am I going to put a 15- or 16-year-old high school student on a college campus? How do we make sure there is safety there?" That is one of the issues that we have to think about as well.

Senator BINGAMAN. Mr. Rudin.

Mr. RUDIN. Yes, Mr. Chairman, thank you. Let me respond to both. You raised two points, really.

One is The College Board is a huge fan of all of these programs: dual credit, early college, dual enrollment, all of these programs. There is a program out there for every student and our job is to figure out what the best fit is for each child.

This gets to Senator Bennet's question, if I may—he asked, what can the Federal Government do? I would like to propose one very specific thing as you reauthorize ESEA and you look at the title II, the current title II, for teacher training.

I would ask that you think about setting aside a significant proportion of those funds, 15, 20, 30 percent for the training of teachers, including online training, of accelerated programs. Why not dedicate a portion of those funds to programs that work and you have the data that prove they work, and that really help kids. So I would ask you to consider dedicating those, a portion of the title II funds, whatever, however this all turns out to accelerated learning programs, and the teacher training for them.

On online learning, Mr. Chairman, we have a lot of work to do. New Mexico's IDEAL–NM program is an important virtual opportunity for students, and it is one of our best AP options across the country. But we still only have 1 percent of the kids who take AP taking it online. We need to do better. We need to make the courses more accessible.

One of the challenges we face, and I think we all face this, simply having a student in isolation at home at night taking the course does not seem to be as effective as when you offer the course online, but provide a teacher or a mentor onsite with the student during the school day so that they can get extra help because these are tough courses. It is hard to take calculus in the classroom let alone online.

So if you can get a teacher or a mentor to support them, or even a college faculty member to support them, they are much more likely to be successful than if they are simply taking it online on their own with no live support.

Senator BINGAMAN. Yes, Miss Schubert.

Ms. SCHUBERT. Mr. Chairman, I hope you will not think this is too heretical, but I want to respond to Senator Bennet's question as well in a slightly different way.

I think everything that we have been talking about here today has been sort of product of the historical environment. Standards and rigor in the American public school curriculum simply were not there.

With the Common Core State Standards, which is a State's initiative and is not in the purview of the Federal Government per

se, we literally are requiring of all teachers in the United States, grades K–12 to take on the kinds of teaching, content knowledge, the knowledge of how to work at different levels with different students, very advanced sorts of pedagogy, much more rigorous content for all teachers in the United States, for all students.

The kinds of requirements that we have had in the past, essentially for AP students or students in Early College, have become the standard that all students must meet. This is a tremendously difficult bar for teachers to reach.

But we know a lot. I mean part of the reason I framed my testimony the way I did is because we know a lot from looking at Advanced Placement in terms of the level of rigor in the curriculum, assessments directly linked to instruction, and requiring demonstration through written answers, and so forth, demonstration of evidence and understanding. And then through the kinds of professional development that Advanced Placement has required, we know a lot about how to quickly start to bring up these teacher skills.

Just to give you a quick example, if you do not necessarily know a lot about Common Core State Standards, algebraic thinking is now becoming a requirement for kindergarteners. So how do we reframe what we expect all students to know by driving those advanced concepts that students oftentimes did not get until 6th, 7th, 8th, 9th grade literally down into elementary school?

Particularly for math and science teachers, obviously the UTeach program is an enormous resource that is going to be addressing this issue at a national level. But for us in New Mexico, we have some good methods to look at. We can look at the Advanced Placement program. We can make Advanced Placement teachers leaders in districts to help train other teachers to these sorts of standards.

But I would argue that rather than—I mean, of course, we want programmatic funding. Of course, we want the Federal funding designated in such a way that makes the most sense because not all teacher professional development is equivalent.

Teacher professional development of just sending teachers to university to take a course in the summer is not the same as targeted development with teachers about how to teach these advanced concepts to underprepared students.

If we are going to meet this bar of transforming the country, transitioning the country to the Common Core State Standards, we are going to have to do it in a very methodical way.

I think that at the Federal level, you can send important signals. The other important thing to know about the Common Core is that assessments are going to be developed at the national level like the Advanced Placement assessments. They are not going to be developed inside State departments of education. They are going to be developed, essentially, in national consortia. We are going to start to get those sorts of accountability data that Mr. Winograd was saying we need. We are going to have a lot of elements of the system in place that we know are the right ones. But there will be pushback. Once results start coming through from those SBA's, States are going to be kind of back pedaling.

And so, at the Federal level, if we can get important members of the HELP committee and important influential Members of Con-

gress understanding that we have to send a signal that these are the standards that we must require for all students. Whether or not they go to college, all students must be prepared to go to college. And from where we are now to where we need to get to is a gigantic leap, and we can look to the Advanced Placement program as a method for helping us get there. But I also think we need to stop distinguishing between, say, Advanced Placement students and students who are in Early College, and look at these as the standards for all students.

Senator BINGAMAN. Well, I think this has been useful testimony. I appreciate you all coming and participating. We will try to take what you said, and see if there is any good we can do with it around here.

I appreciate it, and that will conclude our hearing.

Ms. SCHUBERT. Thank you, Senator.

Mr. WINOGRAD. Thank you, Senator.

[Whereupon, at 11:18 a.m., the hearing was adjourned.]

○