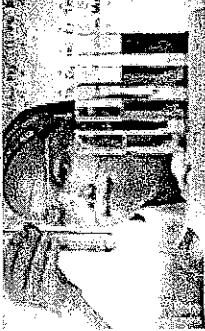




Increasing Student Achievement Using Proven Methods

Gregg Fleisher
National Director
National Math and Science Initiative

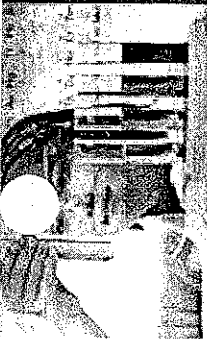


National Math and Science Initiative

The National Math and Science Initiative is an agent of change focused on improving student achievement in math and science across the public school system. NMSI brings best practices in management to the education sector by replicating proven programs on a national scale.

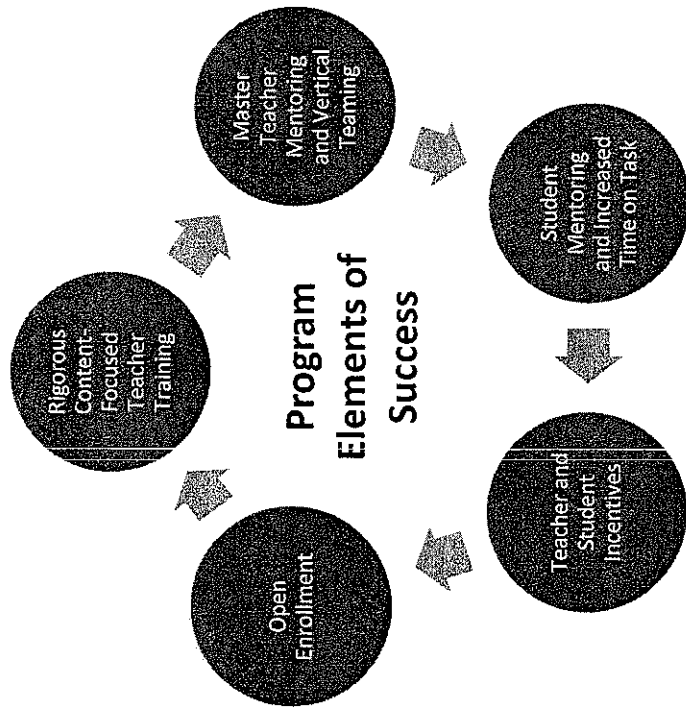
Results from the 2008 – 2009 school year show that NMSI programs:

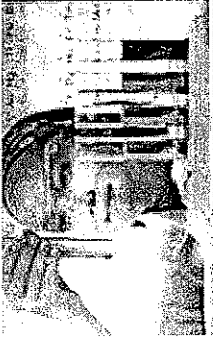
- Dramatically increase student achievement in rigorous math and science courses.
- Work for all students in all types of schools.
- Change the culture of expectations.
- Make American public school students more competitive globally.
- Help close the achievement gap in math and science education.



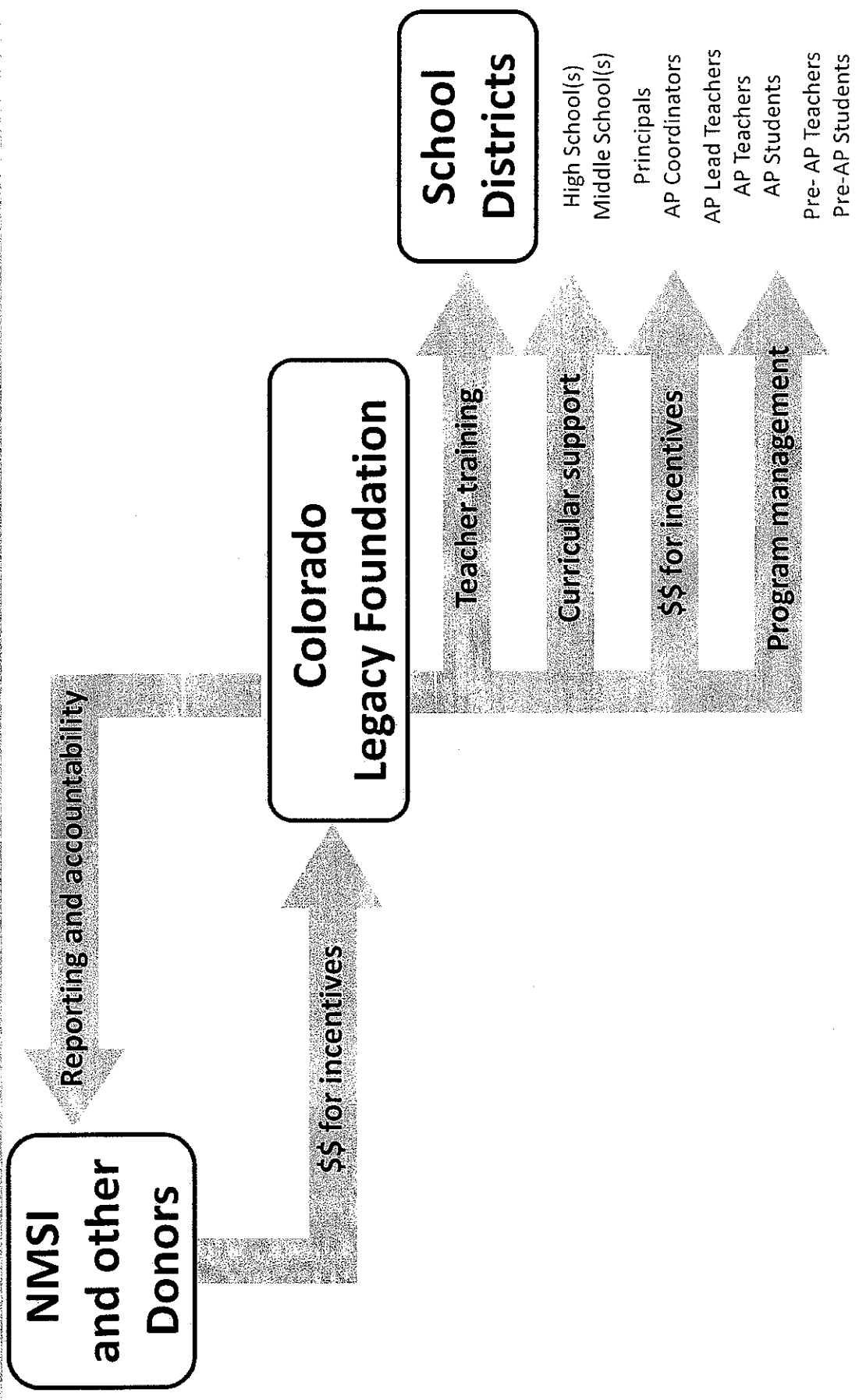
Advanced Placement Training and Incentive Program

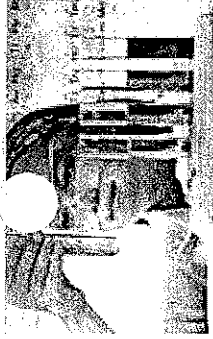
The Advanced Placement Training and Incentive Program (APTIP) is a comprehensive approach that increases teacher effectiveness and student achievement through training, teacher and student support, vertical teaming, open enrollment, and incentives. The program increases dramatically the number of students taking and passing AP math, science, and English exams, and expands access to traditionally under-represented students.





Structure of an AP Incentive Program



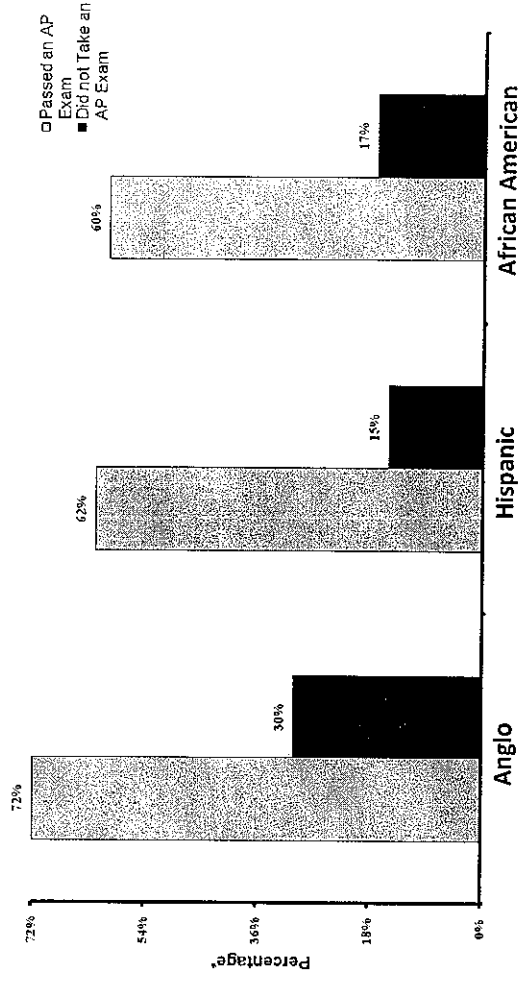


APTIP expands access to rigorous college-level work and increases college graduation rates.

APTIP brings rigorous **college-level coursework** in math, science, and English to more students in public high schools.

Students who take and pass an AP exam are **more likely to graduate from college** than students who do not take an AP exam.*

Six Year Graduation Rates*



*Source: National Center for Educational Accountability. Based on a study of 67,863 public high school students graduating in 1998, who enrolled in a Texas public college or university.



NMSI selected APTIP for national replication because it produces dramatic achievement gains in rigorous math and science courses.

Program Demand

In 2007, non-profits from 28 states applied to replicate the APTIP program. NMSI selected non-profit partners in six states for five-year funding and NMSI program management support.

Program Expansion

NMSI is replicating APTIP in **Alabama, Arkansas, Connecticut, Kentucky, Massachusetts, and Virginia**. To sustain long term improvement in math and science education in their public schools, NMSI's state affiliates have built extensive coalitions with strong support from leaders in business, state government, education, and their communities.

Program Implementation

Implementation began during the 2008 – 2009 school year and will expand to include a new cohort of public high schools each year over the five-year grant period. In 2008 – 2009, NMSI affiliates implemented the APTIP program in 67 public high schools. This fall, they will be implementing the program in 142 public high schools.

If our NMSI high schools were a state, it would have the 33rd largest student enrollment and the 28th largest African American and Hispanic student enrollment.



AP Training and Incentive Program Results 2008 – 2009 School Year

NMSI program results demonstrate that it is possible to rapidly improve student performance in math and science through expanding proven programs.

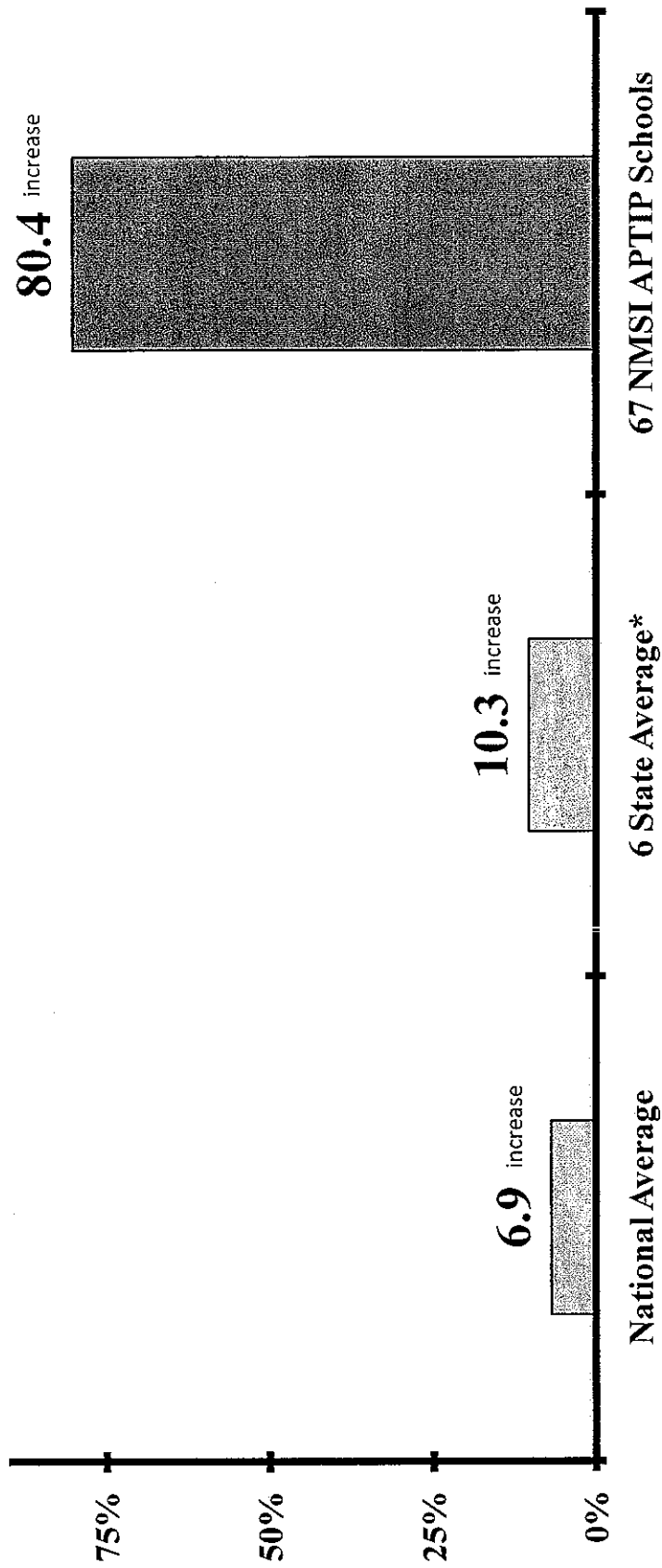
Highlights

- NMSI's state affiliates partnered with 67 public high schools in 49 local school districts to implement APTIP.
- NMSI trained 478 AP teachers in curriculum development, pedagogy, and content in the following subjects: biology, calculus, chemistry, computer science, English language, English literature, environmental science, physics, and statistics.
- Over 12,500 exams **taken** by AP students in math, science, and English, which is an 80.4 percent increase over the previous school year.
- 52.0 percent increase in AP exams **passed** in math, science, and English, which is over 9 times the national average.
- 134.3 percent increase in AP math, science, and English exams **taken for African American and Hispanic students.**
- 71.5 percent increase in AP exams **passed by African American and Hispanic students** in math, science, and English.
- 55.8 percent increase in AP exams **passed by female students** in math, science, and English.
- State affiliates raised \$27 million in state matching funds, outpacing NMSI's matching requirement.



NMSI is changing the culture of expectations by increasing student participation in rigorous courses.

Percent increase in AP exams taken in math, science, and English for 2008-09 school year



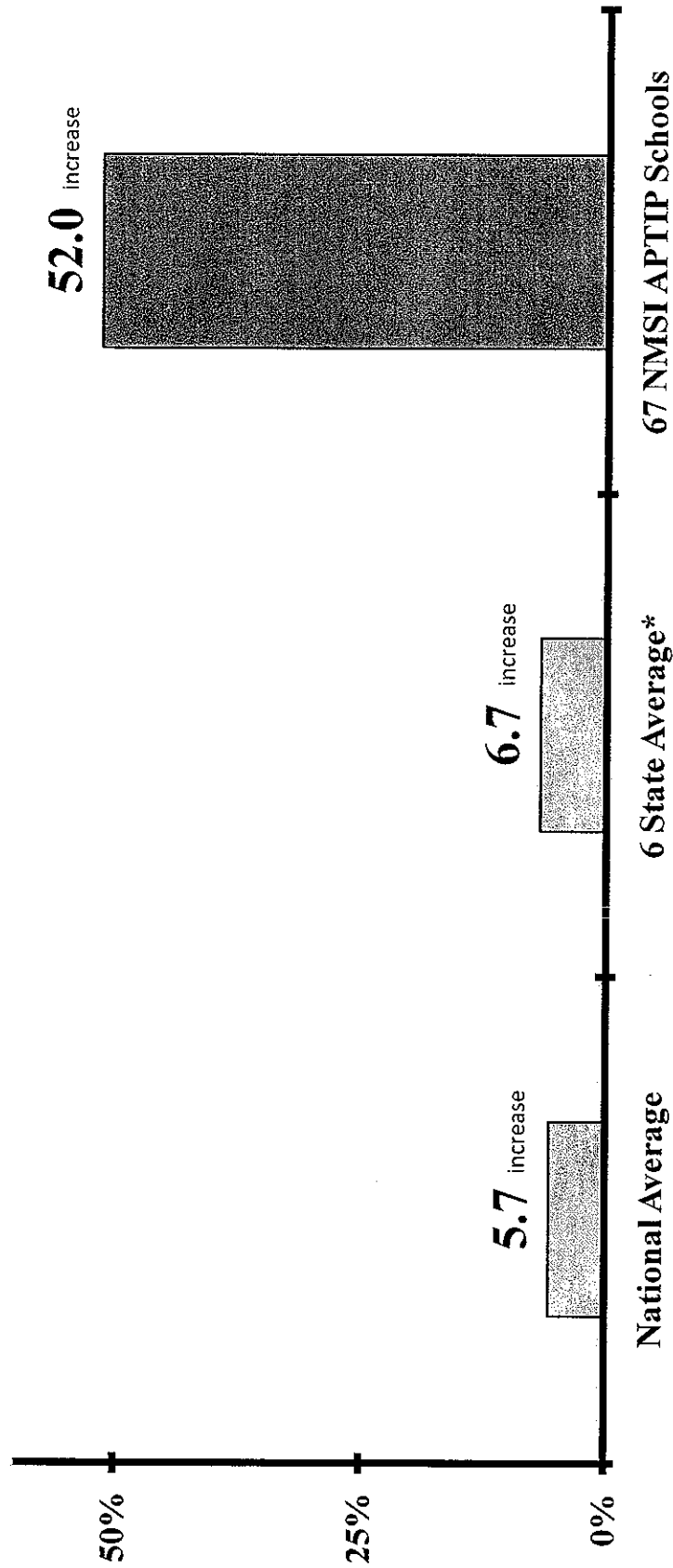
Source: College Board. National average is for public schools only.

*NMSI is funding replication of the APTIP program in 6 states: AL, AR, CT, KY, MA, and VA.



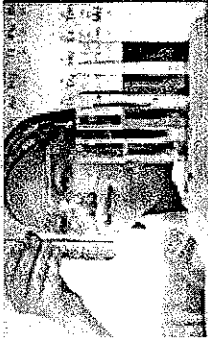
Student performance in NMSI program schools demonstrates the untapped student potential across NMSI program states.

Percent increase in AP exams passed in math, science, and English for 2008-09 school year



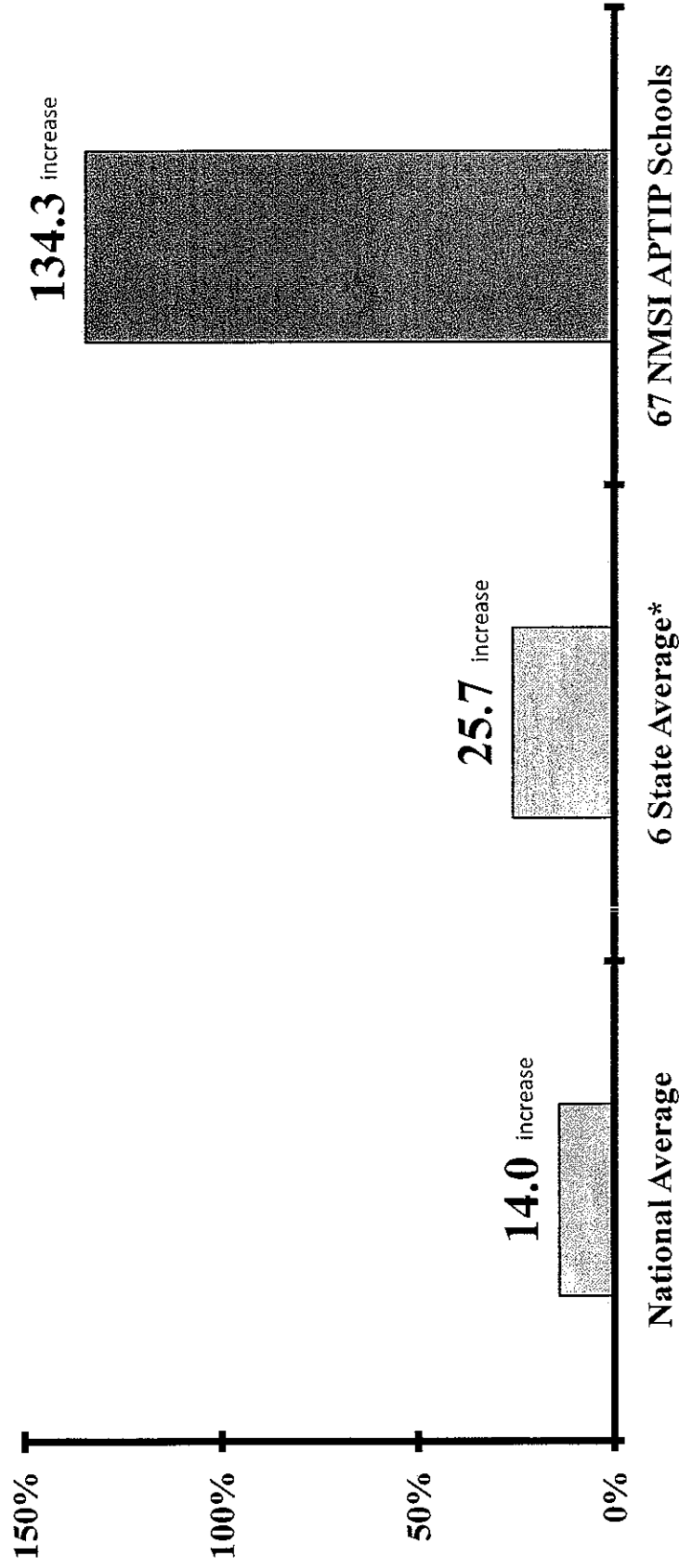
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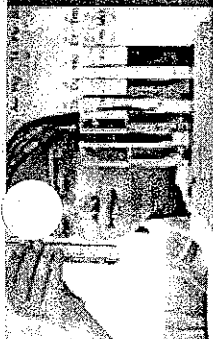
NMSI increases access to college-level work for African American and Hispanic students.

Percent increase in AP exams taken in math, science, and English for African American and Hispanic students for 2008-09 school year



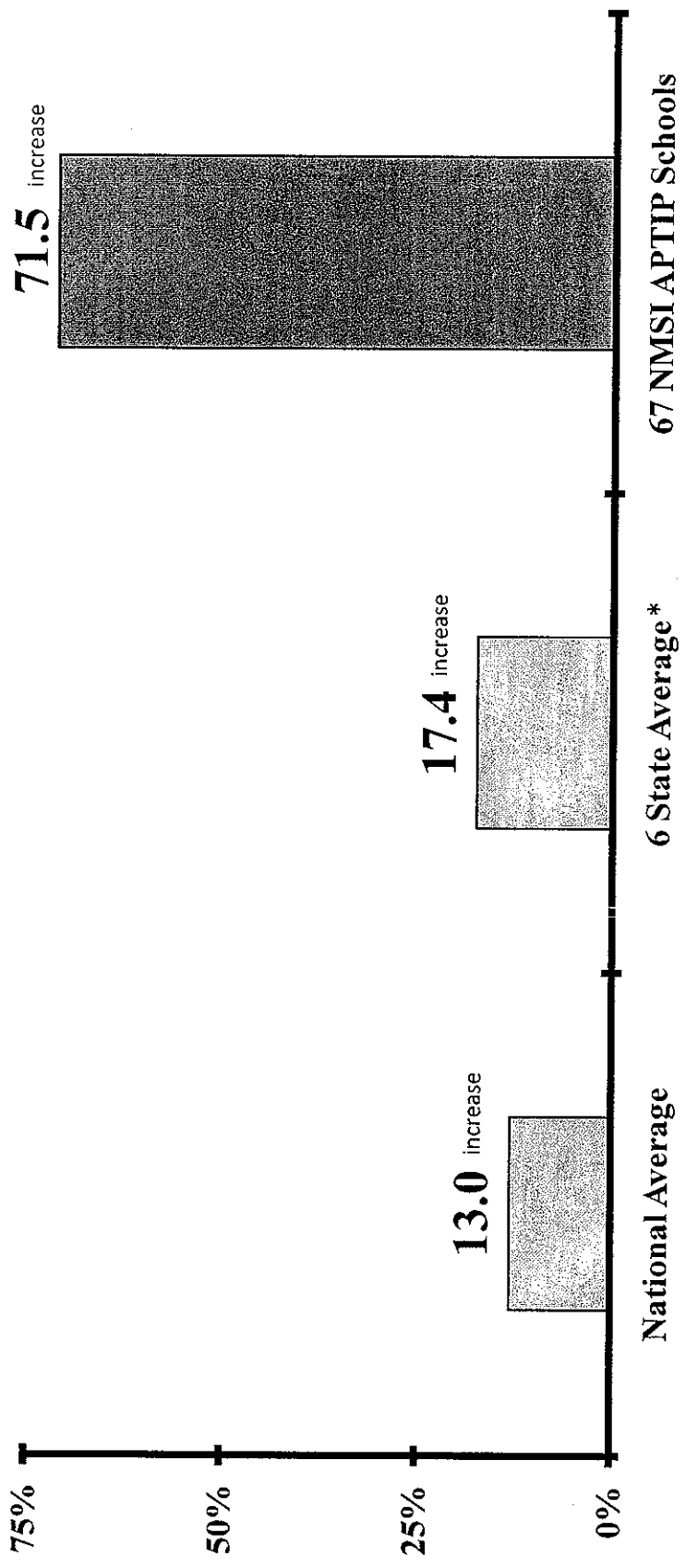
Source: College Board. National average is for public schools only.

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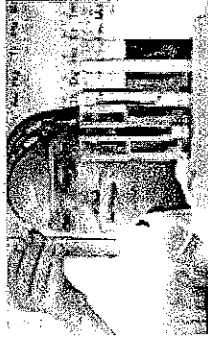
APTIP is closing the achievement gap in math and science for African American and Hispanic students.

Percent increase in AP exams passed in math, science, and English for African American and Hispanic students for 2008-09 school year



Source: College Board. National average is for public schools only.

*NMSI is funding replication of the APTIP program in 6 states: AL, AR, CT, KY, MA, and VA.



This proven program has the potential to impact even greater numbers of American students.

Next Steps: Goals for the 2009 – 2010 School Year

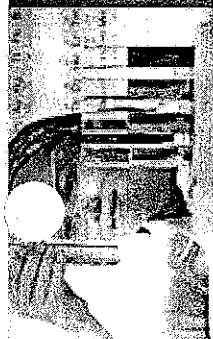
- 1,000 NMSI-trained teachers.
- Over 27,000 AP exams taken by students in AP math, science, and English courses.
- Over 10,000 AP exams passed in math, science, and English.

"I feel like I have truly grown into such a better AP chemistry teacher... You have helped me so much, so that I can help my kids even more."

-Note from an AP Chemistry teacher in Virginia to NMSI's Director of Standards and Quality

Looking Ahead: NMSI Five-Year Goals

- NMSI affiliates with sustainable operations in 350 public high schools.
- 2,500 NMSI-trained teachers.
- Over 150,000 exams taken in AP math, science, and English.



Investing in proven methods is improving math and science education in American public schools.

A special thank you to NMSI's generous financial and program partners for making these results possible and for your commitment to improving math and science education in America.

Founding Partners

Bill & Melinda Gates Foundation
ExxonMobil Corporation
Michael & Susan Dell Foundation

Supporting Partners

IBM
O'Donnell Foundation
Perot Systems
State Partners
A+ College Ready
A+ Education Foundation
Alabama Mathematics, Science, and Technology Education Coalition

Alabama Power Foundation
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AZ Technology
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Governor Bob Riley
Montgomery Education Foundation
Public FA, Inc.
RBC Bank
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System Studies and Simulation, Inc.
WILL Technology

Arkansas Advanced Initiative for Math and Science
Arkansas Advanced Placement Development Center
Arkansas Department of Education
University of Arkansas - Little Rock
Walton Family Foundation

AdvanceKentucky

Appalachian Regional Commission
Commonwealth of Kentucky
Kentucky Council on Postsecondary Education
Kentucky Department of Education
Kentucky Higher Education Assistance Authority
Kentucky Science and Technology Corporation
Partnership for Successful Schools
US Department of Education AP Incentive Program

Project Opening Doors

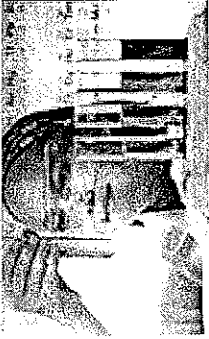
Connecticut Academy for Education in Mathematics, Science and Technology
Connecticut Business and Industry Association
Connecticut Department of Higher Education
Connecticut Science Center
Connecticut State Department of Education
Northeast Utilities
US Department of Education

Virginia Advanced Study Strategies

Altria
Dominion
Halifax Educational Foundation, Inc.
Institute for Advanced Learning & Research
Old Dominion Electric Cooperative
Virginia Tobacco Indemnification and Community Revitalization Commission
Southern Virginia Higher Education Center

Massachusetts Math and Science Initiative

Alden Trust
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Balfour Foundation
Boston Foundation
Commonwealth of Massachusetts
Davis Foundation
Fuller Foundation
Genzyme
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Noyce Foundation
State Street Foundation, Inc.
UMass Medical Center
Unum
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Colorado is a Top Performing AP State

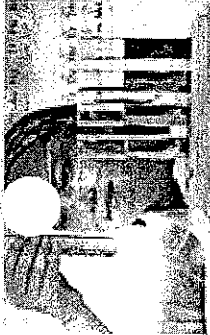
Colorado 2008 AP Rankings for math and science exams:

- 12th in the country with 68.7 exams passed per 1000 juniors and seniors
- 2nd in the country with 13.4 exams passed by African Americans per 1000 African American juniors and seniors
- 16th in the country with 13.2 exams passed by Hispanics per 1000 Hispanic juniors and seniors
- 10th in the country with 13.2 exams passed by African American and Hispanics (combined) per 1000 African American and Hispanics (combined) juniors and seniors

Colorado AP Rankings for math and science exams from 2001-2008:

- 6th in the country in increase for passing exams with a 114.2% increase
- 203.3% increase for African American passing exams would have ranked first in the country, but didn't qualify to be ranked in this category (see footnote below)
- 2nd in the country in increase for passing exams for Hispanics with a 161.9% increase
- 3rd in the country in increase for passing exams for African Americans and Hispanics (combined) with a 161.9% increase

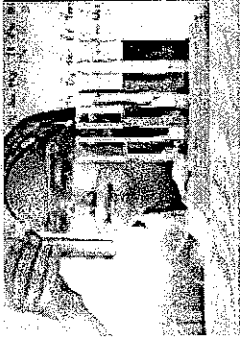
Source: College Board; NCES for enrollment (2007 and 2008 enrollments for each state was extrapolated. To be ranked for minorities, state must have at least 5000 African Americans/Hispanics or 10,000 for combined rankings. To be ranked for 7 year increases, baseline in 2001 must be at least 100 passing exams.



However There is Plenty of Room for Improvement in Colorado

- In 2009, no school in the state had more than 8 African Americans and Hispanic students combined pass ANY AP math or science exam
- In 2009, only 45 African American students passed any AP science exam; including only 6 African Americans passing AP Physics

Source: College Board



NEXT STEPS

- Planning grant year of \$300,000 is needed for 2009-10 school. NMSI has agreed to come up with \$150,000, provided the other \$150,000 can be raised
- Colorado Legacy Foundation sends selected schools RFPS
- Schools visited and selected with the caveat that program participation is contingent upon funding
- NMSI applies for i3 funds with Colorado and the Colorado Legacy Foundation



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