

# Education Matters

March 2012

A publication of the Association of American Educators Foundation



## Under the Microscope

State standards  
for science  
education  
jeopardize U.S.  
competitiveness

A major Thomas B. Fordham Institute report recently released finds that the K-12 science standards of most states remain mediocre to awful, placing America's national competitiveness, technological prowess, and scientific leadership in grave jeopardy.

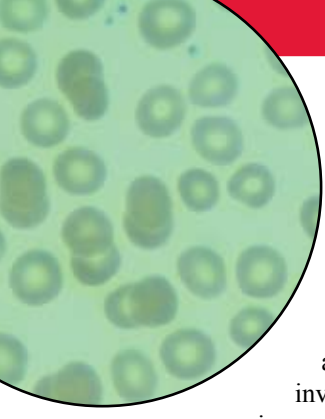
Since the Sputnik launch of 1957, Americans have regarded science education as crucial to our national security and economic competitiveness. Just recently, a National Science Board report found that the U.S. could soon be overtaken as global leader in supporting science and technology, and advocates educational improvement as crucial to America maintaining its role as the world's engine of scientific innovation. However, *The State of State Science Standards*, which reviews and analyzes the guidelines that inform K-12 science curriculum and instruction in every state and the District of Columbia, concludes that what states presently expect of their schools in this critical subject is woefully inadequate.

In this comprehensive appraisal, more than 75 percent of states

received grades of C or lower, and a majority received Ds or Fs. California and the District of Columbia earned the only straight As—while Indiana, Massachusetts, South Carolina, and Virginia received an A- for their excellent state science standards. Most states, however, lack rigorous, content-rich standards. Seven of them received B-level grades; eleven states received Cs; seventeen states received Ds; and ten states received failing F grades. (Complete state ranks are listed on page 3.)

“If America is to remain a prosperous, scientifically advanced, and economically competitive nation, then we must ensure that every school is teaching science to a very high standard,” said Chester E. Finn, Jr., Fordham's president. “In this subject, as in others reviewed by Fordham experts, the states set the bar, prescribing what schools should teach and students need to learn. They then develop assessments keyed to those standards. If our expectations are low and unclear, we're guaranteeing the failure of our students and the weakening of our nation.”

Leading science education experts authored this analysis, eval-



uating state science standards for their clarity, content completeness, and scientific correctness. Science standards are the foundation upon which a state's system of assessment, instruction, and accountability rests. Therefore, this review analyzes the standards themselves to ensure that they're clear, thorough, and academically demanding. It does not investigate whether science standards are being properly assessed with state tests, effectively implemented in the schools, or whether they are driving improvements in student achievement.

### Shortcomings

Shortcomings were many and diverse but there turned out to be a few areas, in particular, in which state science standards were flawed:

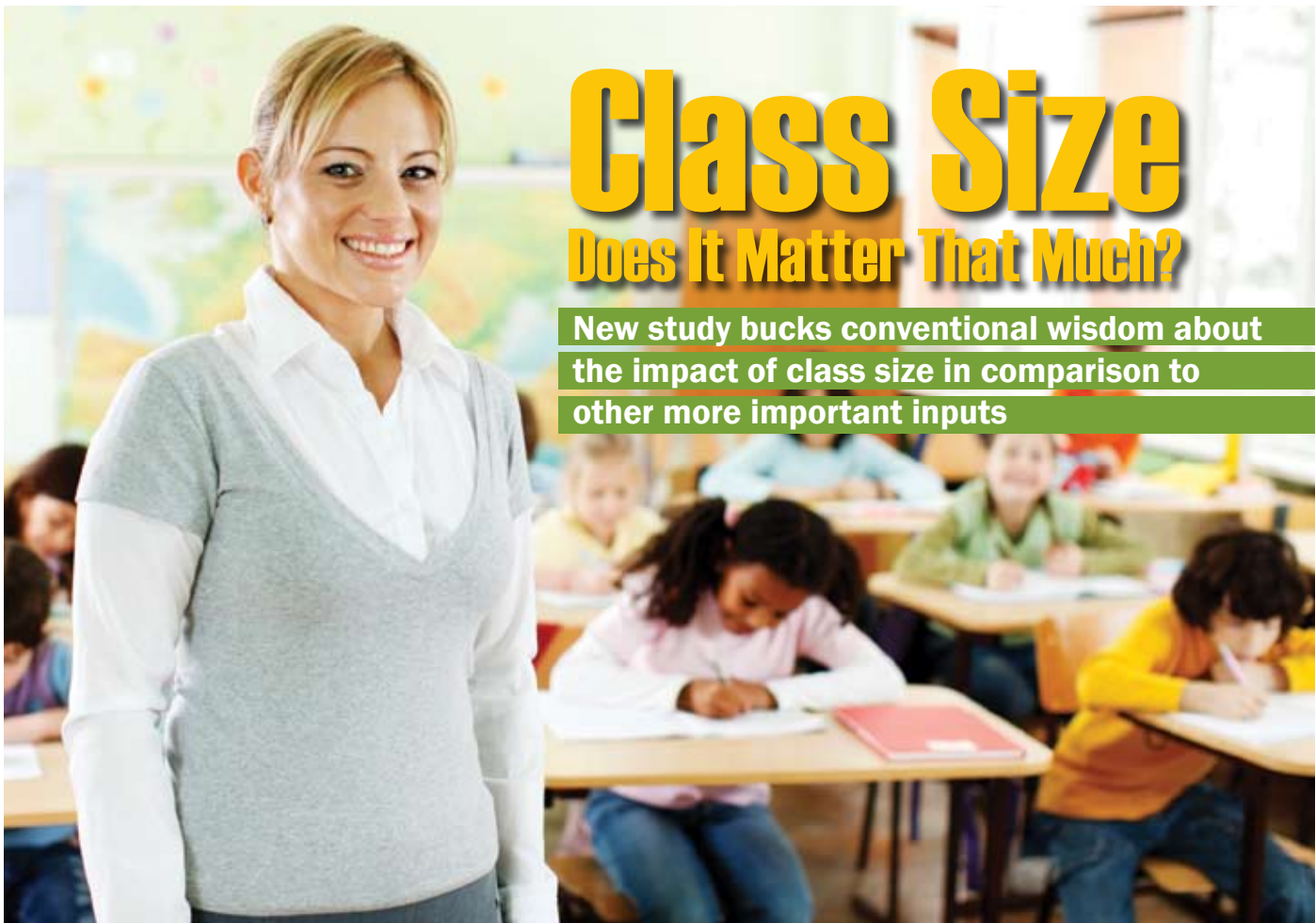
1. A great many standards are so vague for educators as to be completely meaningless. Only seven states earned full credit scores for clarity and specificity while twenty-nine earned a one or zero out of three.
2. Science educators, curriculum developers, and standards writers have focused excessive attention on “inquiry-based learning”—attempting to help students learn through “discovery” instead of direct instruction of specific content. In too many states, these inquiry standards are vague to the point of uselessness—depriving students of an education based on substantive scientific content.
3. Mathematics is essential to science, yet few states make this link between math and science clear—and many seem to go to great lengths to avoid mathematical formulae and equations altogether. Students cannot adequately learn physics and chemistry without understanding mathematical concepts and mastering quantitative operations.

“The brave souls, expert scientists and veteran educators currently struggling to develop a draft of ‘common’ science standards under the aegis of Achieve, Inc., have a weighty burden,” Finn remarked. “Can they develop a K-12 product that is suitably content-rich, rigorous, clear, and usable across America? Will such a product replace the mediocre standards that most states have in place today? However, the authors don’t have to start from scratch. Besides a commendable science education ‘framework’ from the National Research Council, they can look to the excellent standards already in use in several states as models. It’s no secret what good science standards look like. It’s a blight upon the United States, however, that such standards are guiding the schools and teachers in so few places today.” ■

*The Thomas B. Fordham Institute is committed to the renewal and reform of primary and secondary education in the United States. Generous support for this project came from the Carnegie Corporation of New York, as well as from our sister organization, the Thomas B. Fordham Foundation. For further information about this study, and the Thomas B. Fordham Institute, please visit us online at [www.edexcellence.net](http://www.edexcellence.net).*

### The State of State Science Standards: Grades in Rank Order

Jurisdiction	Grade	Total Score	Content and Rigor Score (out of 7)	Clarity and Specificity (out of 3)
California	A	10	7	3
District of Columbia	A	10	7	3
Indiana	A-	9	6	3
Massachusetts	A-	9	6	3
NAEP framework	A-	9	7	2
South Carolina	A-	9	6	3
Virginia	A-	9	6	3
New York	B+	8	6	2
Arkansas	B	7	5	2
Kansas	B	7	5	2
Louisiana	B	7	5	2
Maryland	B	7	5	2
Ohio	B	7	5	2
Utah	B	7	5	2
Connecticut	C	6	4	2
Georgia	C	6	4	2
Michigan	C	6	4	2
Missouri	C	6	4	2
New Mexico	C	6	4	2
Texas	C	6	5	1
Washington	C	6	3	3
Delaware	C	5	3	2
Minnesota	C	5	4	1
Mississippi	C	5	4	1
Vermont	C	5	3	2
Alabama	D	4	3	1
Arizona	D	4	3	1
Florida	D	4	3	1
Hawaii	D	4	3	1
Illinois	D	4	3	1
Maine	D	4	3	1
New Hampshire	D	4	3	1
North Carolina	D	4	3	1
Rhode Island	D	4	2	2
Tennessee	D	4	3	1
West Virginia	D	4	3	1
Colorado	D	3	2	1
Iowa	D	3	2	1
Kentucky	D	3	2	1
Nevada	D	3	2	1
New Jersey	D	3	2	1
Pennsylvania	D	3	2	1
Alaska	F	2	1	1
Idaho	F	2	2	0
Nebraska	F	2	1	1
Oklahoma	F	2	1	1
Oregon	F	2	1	1
South Dakota	F	2	1	1
Wyoming	F	2	2	0
Montana	F	1	1	0
North Dakota	F	1	1	0
Wisconsin	F	0	0	0



# Class Size

## Does It Matter That Much?

**New study bucks conventional wisdom about the impact of class size in comparison to other more important inputs**

Class size has for years been an important subject for teachers. Many are convinced that with fewer students, teachers are able to provide individualized attention and student learning increases as a result. While a number of organizations have championed this argument for generations, a new study released by the National Bureau of Economics debunks the age-old myths that policies like lower class size and per pupil spending are the determining factors in receiving a quality education.

Two Harvard researchers looked at the factors that actually improve student achievement and those that have little influence on student gains in an effort to examine what really works in the classroom. In a new paper, economists Will Dobbie and Roland Freyer analyzed thirty-five charter schools from across the country, schools that generally have greater flexibility in terms of school structure and policy implementation. They found that a traditionally emphasized factor such as class size made minimal difference, compared with some “less popular” criteria including teacher feedback and greater accountability.

“We find that traditionally collected input measures—class size, per pupil expenditure, the fraction of teachers with no certification, and the fraction of teachers with an advanced degree—are not correlated with school effectiveness,” said the researchers.

In stark contrast when comparing the data, the authors form new innovative conclusions relating to effective policies. “We

show that an index of five policies suggested by over forty years of qualitative research—frequent teacher feedback, the use of data to guide instruction, high-dosage tutoring, increased instructional time, and high expectations—explains approximately 50 percent of the variation in school effectiveness.”

The study delivers a tremendous blow to the status-quo education establishment who claim that more money, more teachers, and a fixation on certification and advanced degrees will close achievement gaps, despite record-level spending year after year.

What the findings do promote are policies that reform communities have been fighting for, with particular regard to high expectations for students and teachers, and increased instructional time. According to insiders, this study will certainly be pointed to in advocating for reforms in the years ahead.

Still, despite the clear evidence that supports recent reform efforts, the jury is still out on how this information will influence states and localities. In the wake of harsh budget realities, education spending has taken a hit in many schools, leaving many to wonder whether class size will be forced to go up exponentially in the years ahead regardless of data. ■



Let us know what you think. Visit at [www.aateachers.org](http://www.aateachers.org) and write a comment in response to the Feb. 1 blog.



# Teacher's Choice

**AAE tells the stories of four teachers who chose different paths**

**A**fter another successful National School Choice Week celebration, AAE is pleased to present our new full-length video showcasing teacher choice in action!

*Teacher's Choice* presents portraits of four American educators who've selected nonstandard paths. Teachers at a charter school, an online school, and a parochial school are all featured, as well as a teacher at a traditional district school who all declined membership in the local union. Their journeys have only one thing in common—the options less traveled. Kids aren't all the same. Neither are teachers. It's time they all had a choice.

*Education Matters* recently interviewed the stars of the video: Crystal Van Ausdal, Ronnie Flowers, Debbie Gleeson, and JuDonne Hemingway.

## **EDUCATION MATTERS: How do you benefit from school and teacher choice?**

**CRYSTAL:** I always loved teaching but had a great desire to be a mom. I wanted to be able to stay home with my children while they were young. School choice allowed me to find a school setting where I was able to have the best of both worlds. I am able to stay at home and raise my son as well as continue the profession that I love. I can now work from home while my son is sleeping or playing next to me. It provides me flexible hours so I am able to complete most of my work during times that are most convenient to me, which often includes late nights after my son is in bed.

**RONNIE:** I am not forced to only have to teach in traditional public school. It's nice to know that there are other options available to me if I choose a different path down the line.

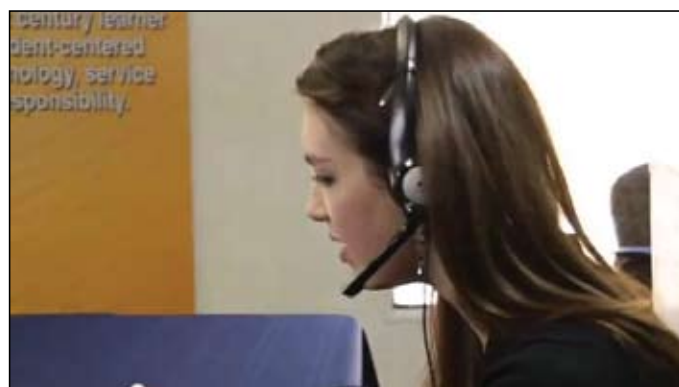
**DEBBIE:** I feel I benefit from school choice because it gives me the opportunity to teach wherever I want, whether it be Catholic, public, or private. I have the right to decide where I teach and what I want to teach, and one school may be a better fit than another for many different reasons, (location, commute, environment, class size, or ability to teach religion).

**JUDONNE:** As a teacher I benefit from school choice by having the ability to work in a school environment where the achievement gap is most prominent. I have the autonomy as a teacher to join a school community that is entirely focused on

student achievement through innovation and teacher effectiveness. I am able to go where students need me most and to join a leadership team that shares my own values about education.

## **EM: Do you think you are a better teacher because of your setting choice?**

**CRYSTAL:** I definitely feel that my change in school setting has made me a better teacher. I feel that my experiences in both the public and online settings have provided me with different skill sets that have made me a better overall teacher. The online



Crystal Van Ausdal teaches at a virtual charter school in Utah.

setting has helped me become much better in communicating. I spend much more of my time contacting parents and students and have had to learn how to effectively communicate through email. My current school setting has also made me a better teacher because I can teach without being worried about my son. Knowing that I am still able to be there for my son each day allows me to enjoy my teaching much more. Whenever a teacher enjoys teaching, the students definitely reap the benefits.

**RONNIE:** Yes. I have been able to specialize in algebra and geometry for about ten years. If I chose a different option, I would have been probably teaching many different math courses. Also, I think the opportunities for professional development aligned with my goals.

**DEBBIE:** To me, being a teacher isn't about where you teach, it's about teaching and making an impact on students.

**JUDONNE:** I think an effective teacher can teach anywhere. However, I do believe that teachers are more invested and relentless when they are in an environment where they can truly make an impact. Often, good teachers are discouraged when they don't see their hard work making an immediate impact on students' lives. Through school choice, teachers are able to invest themselves in schools where their commitment and impact are recognized and valued.



Ronnie Flowers teaches at a traditional public school in Arkansas.

### EM: What is your educational philosophy?

**CRYSTAL:** My educational philosophy is that the student always comes first. As an educator it is crucial for you to have a goal in mind as you are making the numerous decisions that arise each day. My goal is to make my students responsible, educated citizens. That goal helps me decide when to be flexible and when to stick to my guns and be a little more strict. I feel that teaching the students to be responsible for their actions and to work hard for their goals is just as important as teaching them mathematics. I know that my students all have amazing amounts of potential. I strive each year to help each student realize that potential by holding high standards for each and every student and being there to help them achieve those high standards.

**RONNIE:** A good education is the key to success in any venue a person decides to take. I believe that all students can learn. Some students will have to have more support than others, but with the right teacher, the right tools, and the right school, I believe that even the most belligerent student, nicest student, lowest IQ student, or highest IQ student can have success in school but it will not be without hard work by the teacher and the students.

**DEBBIE:** My philosophy on education is to provide a comprehensive education for students where they develop to become independent, successful learners. I believe that students should be taught in a safe, inviting, supportive environment. I hope to also foster relationships for students so that they feel they are becoming confident learners. I am a firm believer in meeting the needs of all my students. Not all students develop or learn at the same pace, or through the same style. It is my job to find the best learning style for a student so he can succeed. Teaching is my passion and I want only the best for my students.

**JUDONNE:** Education is the great differentiator in this country. It is the one thing that sets apart people who are successful from those who spend their entire lives trying to stay above water. Education is also the civil rights issue of this century. Too many minority students and students from underprivileged backgrounds never get a quality education. The only way to turn this around is by having strong school leaders and effective classroom teachers in these school environments. This is also why school choice is so essential.

### EM: What do you think is the biggest misconception about school choice?

**CRYSTAL:** I feel that there is a misconception that charter schools are started by noneducators who do not know what they are doing. I think that there is a misconception that virtual schools have lower academic standards and do not adequately teach and prepare students. Sadly, a few virtual schools have lived up to this misconception and have given the rigorous, high-achieving virtual schools a bad name.

**RONNIE:** They don't have good teachers and/or that they don't provide as good of an education as a traditional public school. This is simply not the case.

**DEBBIE:** I think one of the biggest misconceptions of charter/Catholic/virtual schools is that their teachers are not as qualified to teach as "public" school teachers or that we teach "different" curriculum.

**JUDONNE:** People see these schools as a threat to the traditional way of educating and to the existence of public/township schools. The misconception suggests that if the charters, virtual, and Catholic schools are working to close the gap for students than there is no need for the traditional schools. That couldn't be any further from the truth. Choice is an important part in every aspect of life. If the idea of choice isn't threatening in any other capacity, then why is it so threatening for education?

### EM: If you are a parent, do your children benefit from choice?

**CRYSTAL:** While I am a parent, my son is still years away from school. I do feel comforted, however, that when my son is of age to attend school, I will be able to choose the school that is best for him. Not every school fits every student and I want to



Debbie Gleeson teaches at a private Catholic elementary school in New Jersey.



JuDonne Hemingway teaches at a charter school in Indiana.

make sure that whatever school my son attends fits him.

**RONNIE:** Yes. They definitely do. One of my children is homeschooled, the other has been in a private Christian school, homeschooled, and in a traditional public school that is a year-round school.

**DEBBIE:** I am the parent of two amazing children. I have a 12-year-old son who is in seventh grade and a 10-year-old daughter who is in fifth grade. My children benefit from choice in a sense as my husband and I chose to send our children to our local public school even though I teach in our Catholic school. They are getting an excellent education and the school they are in is a great fit for my children.

**JUDONNE:** My children attend a charter school. As a parent I am most interested in a school environment where teachers have the autonomy to meet the specific needs of my children; where the structure is firm yet flexible enough; where quick decisions can be made in the best interest of the students.

## EM: Would you encourage young people to consider a career in teaching?

**CRYSTAL:** I definitely would encourage young people to consider teaching as a career, as long as they love working with the students. It is the most rewarding career if you are willing to give it your all and work hard to help your students succeed. Seeing students' eyes light up as they finally understand a concept is one of the best things in the world.

**RONNIE:** I would encourage young people to consider a career in teaching, with mixed feelings. Teaching is not the profession for everyone. I truly believe that people are called to be teachers just like people are called to be pastors. Teachers shape the minds of today's generation; and that charge should not be taken lightly. There are many things about teaching that are not easy and not glamorous. So, if someone wants to go into teaching, then they need to do it because they like kids and they want to give them an excellent education.

**DEBBIE:** I absolutely would encourage young people to consider a career in teaching. It is such a rewarding profession. Where else do you get to see your successes daily? Seeing your students succeed or have an "aha" moment when they "get" something is unlike anything else! Teaching is my life and I wouldn't know what I would do if I couldn't be in a classroom!

**JUDONNE:** Absolutely! Our next generation of teachers and educators must be a group of young leaders with fresh perspectives and the willingness to try new things. ■

The Heritage Foundation offers a state-by-state look at choice options across America. Visit their website to see the choices in your state.



Participants at a School Choice Week Rally

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## School Choice in America

How each state gives parents the ability to choose a safe and effective school for their children.

Welcome to Choices in Education! This site provides an interactive look at school choice programs in America. Choice in Education is the best source on the web to learn about school choice programs in each state across the country and the different types of school choice, including public school choice, private school choice, charter schools and online learning. Scroll over the map to find out more information about school choice in each individual state or click on the state for additional information.

### Glossary

Private School Choice	Private school choice policies like vouchers, scholarships, or education tax credits help parents to enroll their children in a private school of choice.
Public School Choice	Public School Choice allows parents more opportunity to choose the best public school for their children by offering open enrollment within the public education system.
Charter Schools	Charter Schools are publicly funded schools that meet certain performance standards set by the government but are otherwise free from the traditional public school system.
Online Learning	Online Learning allows students to learn on the computer instead of in a classroom. Nine percent of all public schools nationwide offer some distance learning.

For more information about school choice, click on each state.

[www.heritage.org/applications/schoolchoice](http://www.heritage.org/applications/schoolchoice)



## News from Washington, D.C.

Reports from AAE's Office  
in the Nation's Capital

# Internal Revenue Service Proposal to Affect Charter School Pensions

By Alexandra Schroeck

The Internal Revenue Service (IRS) recently issued a proposed regulation called the “Determination of Government Plan Status,” a plan that would adversely affect charter school educators and their pensions. National charter school advocates cite that this regulation would force states to prohibit charter school teachers from participating in state retirement plans.

As it stands now, every single state that authorizes charter schools either requires or permits charter school participation in the state's retirement system, just like any other public school system. Therefore, this regulation would negatively impact nearly all charter school teachers in the country who benefit from state pension funds.

In total, the National Alliance for Public Charter Schools estimates more than 90,000 charter school teachers—more than 90 percent of the country's charter school work force—will be affected by the proposed regulations. All of these teachers will be forced to either leave their charter schools or lose their accrued pension benefits if this policy is enacted.

The National Alliance for Public Charter Schools has set up a webpage to send letters to Secretary Geithner, Secretary Duncan, and members of Congress in hopes of preserving charter school teacher benefits. ■

## Federal Education Budget Breakdown

On December 23, 2011, the President signed into law an omnibus appropriations bill (H.R. 2055) providing funding for the U.S. Department of Education.

Overall, the bill appropriates \$68.1



billion in discretionary spending for the agency's education programs, a decrease of \$233 million from Fiscal Year 2011 but an increase for certain programs. Specifically, the bill includes:

- \$14.5 billion for Title I grants to local education agencies, a \$74 million increase;
- \$11.6 billion for special education state grants, a \$112 million increase;
- \$2.47 billion to help states improve the quality of their teachers and leaders;
- \$160 million for the Striving Readers (PK-12) literacy program; and
- \$22.8 billion in discretionary funding for Pell Grants for low- and middle-income college undergraduates, which will support maintaining the maximum grant at \$5,550.

Among other key programs, the bill includes \$549 million for a new round of Race to the Top; \$149 million for the Investing in Innovation Fund; \$60 million for the Promise Neighborhood initiative, which is double its FY 2011 funding level; and \$534 million for the School Improvement Grant program. ■



*Alexandra Schroeck is AAE's Manager of Communications and Legislative Affairs. She has served in a communications capacity for a Washington, D.C.-based trade association and on Capitol Hill for the then-ranking member of the House Congressional Committee on Education and the Workforce.*



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# Celebrate Teachers. Celebrate Choice.

## AAE honors teachers during National School Choice Week

Tens of thousands of people from all backgrounds participated in over 400 School Choice Week events in all fifty states, over thirty governors, mayors, and legislators paid tribute to School Choice Week in proclamations, all to highlight the need for effective education options for every child.

AAE was pleased to once again sign onto National School Choice Week! As part of the association’s continued efforts to support educators in all education settings, AAE partnered with grassroots organizations and coalitions across the country to celebrate teachers in events throughout the week in Indiana, Arkansas, New Jersey, Utah, Colorado, and on-line. As part of the celebration, a new film entitled, *Teacher’s Choice*, presenting portraits of four American educators selecting nonstandard paths, was premiered and showcased at each event.

The events varied from small and intimate gatherings of AAE members and local leaders, to large meetings welcoming educators and community members from across the state. All events were open to educators and featured the premiere of AAE’s new film, *Teacher’s Choice*, directed by Bob Bowdon and produced by Choice Media.

“National School Choice Week was a great success for AAE and our state partners,” said AAE Executive Director Gary Beckner. “By shining a spotlight on educational options for teachers including charter, virtual, and parochial schools, we’ve been able to inform the public and engage teachers in a discussion about the benefits of school choice for not only students but also classroom educators.”

Special thanks to all of our members who made the week fantastic! ■



Indiana Superintendent of Public Instruction Dr. Tony Bennett (far right) presents AAE- Indiana members with roses to celebrate their commitment to education.



AAE-Utah Membership Director Charity Smith shares her story with the audience in Salt Lake City.



Kathy Price (ASTA member since 1994) and ASTA Membership Director Shanna Morgason



PACE Membership Director Tim Farmer unveils the new video.

