

**U.S. House of Representatives
Committee on Education and Labor**

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Good Morning. Thank you to Chairman Miller, Representative McKeon, and the Committee for inviting me to testify today. I would like to especially thank Representative Hinojosa and Representative Biggert for sponsoring the Achievement through Technology and Innovation (ATTAIN) Act. I am Mary Ann Wolf with SETDA, the State Educational Technology Directors Association. Our organization represents the educational technology leaders in the SEAs in all 50 states, Washington, DC, and American Samoa. Our members tackle issues ranging from using data to inform and individualize instruction for each child, providing the technology tools necessary to modernize our schools and engage the 21st Century learner, as well as providing innovative approaches to envision a “new norm” for America’s students. Our members agree wholeheartedly with the National Mathematics Advisory Panel Report on the need to improve math education in this country.

As we consider America’s and our students’ competitiveness and the continued discouraging graduation rates, we are encouraged by the evidence we have about programs that make a difference for our students. The examples and data below address the following areas:

- Maximizing the Impact: The Pivotal Role of Technology in a 21st Century Education System
- Teaching and Learning Math: Improving Student Achievement and Increasing Student Engagement
- Professional Development: Training That Changes Practice and Instruction
- Formative Assessment: Using Real Time, On-going Data to Individualize Instruction

Maximizing the Impact: The Pivotal Role of Technology in a 21st Century Education System

As we look to America’s future, we must also reflect on the present. Only 7% of U.S. college students currently major in math or science fields, and this number decreases to 3% by the end of the first year of college. More than 57% of our post-doctoral engineering students are from outside of the U.S., and U.S. Patent applications from the Asian countries grew by 759 % from 1989 to 2001. Patent applications from the U.S. during the same period grew at 116 %. High-speed global networks enable nearly instantaneous communication, collaboration and knowledge sharing which gives our competitors more advantages than they had in the past. Any approach to our challenge of educating America’s youth must rely on technology solutions that are scalable, flexible, reliable, and have the ability to cost-effectively individualize education for all students. The opportunity cost for not addressing this challenge and improving math learning is too high, and education stakeholders must be bold and specific in efforts to improve math achievement.

As identified in the SETDA Math Toolkit, the use of technology can support the teaching and learning of mathematics by bringing a multitude of learning experiences to captivate student interest and build mathematics understanding, proficiency, application and confidence.

Mathematical understanding is increased when students and teachers use and apply technology to investigate mathematical concepts; including visualization, modeling, representation, simulation and communication. Students learn mathematics in different ways, and we need to provide technology, resources, varied instructional strategies and skills that allow them to excel, deepen their understanding and maximize their potential. Students build mathematical knowledge and understanding of mathematical concepts through problem solving. Educational technology strengthens the connection of mathematical topics in different contexts. (2007, www.setda.org)

The students in Kindergarten this year will graduate in 2020. In some schools, in some districts, in some states, students are receiving an education that can be identified as meeting the needs of the 21st Century students. It is our responsibility to ensure America is maximizing its potential, both in closing the achievement gap and addressing the needs of high achieving students who will be our nation's next innovators. NCLB provides us with accountability goals for our students, districts, and states; but as we look at the big picture around America's and our students' competitiveness, it often seems that how the majority of schools have responded to NCLB directly contradicts what we know about ensuring that our students are prepared for the 21st Century global economy. I would argue that this does not need to be the case. Technology can help address core content achievement and 21st Century Skills for children of all abilities and achievement levels.

When we talk about technology, we are not talking about putting some computers in the back of a classroom – we are talking about utilizing the power of technology to change the way teachers teach and children learn. While many of you cannot imagine your workday without technology to access resources or communicate, this is still not the case for many students and teachers on a typical school day.

Unfortunately, we cannot assume that technology has been maximized in most schools – a Department of Commerce study shared that education was actually 55th out of 55 industries studied in use of technology. The education community needs to invest in technology and embrace its uses just as the business community transformed its practices throughout the last 20 years. Again, technology will only be maximized when it is used for practical and contextual solutions such as individualizing instruction, engaging students, and providing access to rigorous and dynamic content for teachers, students and parents. When technology is used only for supplemental instruction, it cannot act as the transformational force helping us ready our children for the 21st century workforce.

SETDA recently worked with the Partnership for 21st Century Skills, the International Society for Technology in Education (ISTE), and a broad cross-section of business and philanthropic stakeholders in education, including Apple, Cisco, ENA, the Oracle Foundation, and the Pearson Foundation, to address the important question: “How will we create the schools America needs to remain competitive?” *Maximizing the Impact: the Pivotal Role of Technology in a 21st Century Education System* provides a blueprint and examples on how technology makes a difference in teaching and learning.

For more than a generation, the nation has engaged in a monumental effort to improve student achievement. We've made progress, but we're not even close to where we need to be. It's time to focus on *what* students need to learn—and on *how* to create a 21st century education system that delivers results. In a digital world, no organization can achieve

results without incorporating technology into every aspect of its everyday practices. It's time for schools to maximize the impact of technology as well. (Maximizing the Impact, 2007 found at <http://www.setda.org/web/guest/maximizingimpactreport>.)

This is especially true for mathematics. Students should have a strong understanding of mathematical knowledge and skills, and the ability to apply it in relevant problem solving situations using inquiry and investigation, collaboration, and critical thinking skills. STEM education should be for ALL students – not just the cream of the crop who has access to the magnet option. STEM education is interdisciplinary providing context around math, science and engineering to engage students who will thrive and become competitive leaders in the global economy.

Educators should have a deep understanding of mathematical concepts and their applications to relevant problem solving situations, and should continue to gain insight and understanding of strategies and methods to encourage their students to learn, use and be intrigued by mathematics. Math teachers should work in cadres inside the school or utilize technology to collaborate with like-subject teachers in other schools for peer-to-peer professional development and collaboration to hone pedagogical approaches as well as specific content knowledge in the subject. STEM teams can also collaborate using this method to provide powerful learning opportunities for teachers and students. Technology helps accomplish these goals.

It is our responsibility to ensure that our children are prepared to lead our country in the 21st century, which includes a deep understanding and usage of math and its core concepts. The role of technology to transform education into a system that can achieve this goal must be at the forefront. We must rely on technology solutions that are scalable, flexible, reliable, and have the ability to cost-effectively individualize education for ALL students.

Teaching and Learning Math: Improving Student Achievement and Increasing Student Engagement

We are beginning to know what makes a difference in teaching and learning math. The same practices and instructional methods that affect student engagement and achievement in math increase student achievement in other areas as well. The development of programs that include key tools, rigorous and dynamic resources, leadership, and professional development are proving to have real, significant impact as evidenced through research funded by the US Department of Education. The systemic reform models shared below lead to increases in mathematics achievement and have many commonalities. In all cases teachers had the technology tools and resources to utilize in planning and in instruction, and teachers received extensive on-going and sustainable professional development. In math instruction, these strategies included collaborative learning, relevant projects and content, using tools and resources to address various learning styles, and problem solving, in addition to learning facts. Professional development to change instructional strategies was critical to the transformation of teaching and learning.

- **California:** In the 6th and 7th grades in Franklin Middle, Solano Middle, Springtowne Middle, and Vallejo Middle Schools, math teachers are trained to integrate technology into the classroom, they saw how the technology could be used to hit key points, engage students, use modern tools in ways they had never tried. When teachers learned new strategies, it

strengthened their teaching with technology, but it also energized their overall teaching as they applied the strategies to other areas. Teachers, who have taught math for many years, learned and used new models for teaching the content in a more effective way. These teachers would not have shifted without the impetus of this program. Results include:

- *Formative Assessment, Gaming & Accountability:* Vallejo focused on the lowest performing students in 6th and 7th grade. Typically, these students don't engage in the learning environment. Since the program uses different types of technology in the classroom, there are multiple opportunities to engage the students. Students loved using technology in a game show/class quiz format for content review. What they didn't realize was that the instant feedback strengthened the teaching and provided data to individualize instruction.
 - *Differentiated Instruction & Just in Timing Learning:* PowerPoint presentations were used in many classes. Because of the high absentee rate at the schools, students could review the presentations that they missed to get caught up with the class. The math program uses technology to explore and develop concepts and then reinforce skills. Most importantly, this transition from concepts to skills was on pace with the learners abilities. By differentiating the instruction with technology, teachers are able to reach previously unsuccessful students.
 - *Increased Student Achievement:* The district saw large gains on CST scores for the target students, the 50 lowest-performing students in each middle school. Approximately 40% moved up one performance band in the first year. The two-year objective was met in the first year.
- **North Carolina:** In North Carolina, several high poverty elementary and middle schools implemented the IMPACT systemic reform program. The model involves using technology in the teaching of core curricular areas to improve student achievement, utilizing technology coaches and school library media specialists for on-going professional development, as well as learning 21st Century Skills. In these schools, teachers use technology to differentiate instruction based on formative assessment, utilize technology to engage students with various learning styles, and provide curricular options for students based on achievement. Students collaborate, apply knowledge to real-world problems, and receive repetition and enrichment as needed. For more information, go to: <http://www.ncwiseowl.org/Impact/>. Findings include:
 - In a four year study, students in the high need schools with the IMPACT program have demonstrated that they are 33% more likely to improve one full grade level each year than the control/comparison schools.
 - Teacher retention is 65% higher with this program.
 - In Math specifically, the odds that IMPACT students would go from non-passing to passing status over the three years were 42% higher than that for comparison students.
 - In the fourth year, the odds of IMPACT students passing the Math end of grade tests were 24% higher than that of comparison students. This effect was stronger in earlier grades.
 - **Texas:** In Texas, the Technology Immersion Pilot (TIP) provides a school with the technology resources it needs to change teaching and learning (for teachers and students), on-going and sustainable professional development for teachers and leaders, the ability to utilize data in an on-going and sustainable manner, and the involvement of parents, leaders, and other stakeholders. This program focuses primarily on middle schools, and provides the environment and support to maximize the potential of technology to transform teaching and

learning. A recent article succinctly highlights the results in two districts:
http://www.thejournal.com/articles/20931_1. The program site can be found at:
<http://www.txtip.info/>. Findings include:

- Overall, discipline referrals went down dramatically with the changes in instruction and engagement, which provided additional opportunities for teaching and learning.
- In one school, 6th grade standardized math scores increased by 5%, 7th grade by 42%, and 8th grade by 24%.
- In Brady ISD, 7th grade math scores increased by 13 points.
- In Floydada ISD, 6th grade standardized math scores increased by 29 points, and 10th grade standardized math scores increased by 36 points.

- **Utah, Missouri, and Maine:** In Utah, Missouri, and Maine, the eMINTS program provides schools and teachers with educational technology tools, curriculum, and over 200 hours of professional development to change how teachers teach and students learn. Utilizing 21st Century skills, relevant content, and collaboration are all key to the instructional strategies used in eMINTS classrooms. eMINTS changes how teachers teach and how students learn. Students in eMINTS classrooms no longer have to “power down,” disconnect or disengage from the excitement and motivation the technology brings to their world. Teachers in eMINTS classrooms at all grade levels (3-12) report significant increases in student attendance and significant decreases in student behavior disruptions. Students in eMINTS classrooms are fully engaged in authentic projects that utilize technology and provide opportunities for students to hone the skills they will need to compete in the 21st Century, Missouri has evaluated this program for 8 years, and other states are conducting evaluations, as well. The following link provides a strong overview of the program: <http://www.emints.org/> and findings are found at <http://www.emints.org/evaluation/reports/>. Findings include:
 - In Utah, classrooms in the same school (one with eMINTS and one without), the student achievement of students in the eMINTS classroom was repeatedly over 10% higher than the control classroom. In Title I buildings participating in the eMINTS-4-Utah initiative, a greater percentage of 4th – 6th grade students enrolled in eMINTS classrooms scored at proficient levels on the UPASS CRT tests for language arts, mathematics, and science than did 4th-6th grade students in non-eMINTS classrooms.
 - After 6 years of data in Grade 4 Mathematics, eMINTS students in subgroups (special education, low income, and Title I) have reduced the gap in test scores between their performance and their peers by up to ½ of the difference attributable to subgroup classification.
 - In another district that had not met AYP goals, teachers began implementing the eMINTS program. After using the eMINTS approach with extensive professional development, the 3rd grade math scores increased by more than the 15% goal and made AYP in every subgroup.

In addition to the systemic reform approaches mentioned above, states and districts are experiencing success in key areas for improving math achievement for more students, including:

- ***Access to Rigor and Remediation (Alabama):*** Alabama’s ACCESS (Alabama Connecting Classrooms, Educators, and Students Statewide) has redesigned the model for distance learning, by tailoring rigorous online courses and interactive videoconferencing services to the needs of individual students. The program is currently offering 10 AP courses – many of the enrollments are from rural schools that had never offered an AP course before. Dr. Major-

McKenzie, superintendent of the rural Dallas County School System, states that, “ACCESS has helped the Dallas County School System maintain and expand course offerings when we were either unable to recruit or fund a highly qualified teacher. Without ACCESS, students at my high schools would not have been able to participate in courses such as Advanced Placement Calculus, Latin, or Shakespeare. Additionally, almost 5,000 students have received remediation and supplemental resources and more than 14,000 half-credits have been awarded. With high-quality courses that are engaging students through the utilization of 21st Century skills, Alabama is addressing its immediate need to decrease school dropout rates, increase high school graduation rates, and prepare its students to be competitive on a global scale.”

- ***Student Engagement: Building Conceptual Understanding, Collaborating with Others, and Motivating Students (Oregon):*** In Oregon, students built collaboration skills, confidence, and critical thinking. Teachers shared that there is nothing more amazing than watching a young, shy child stride up to the front of the classroom, place their math work under the document camera and confidently explain to their classmates the way and the why of how they solved the problem. Technology offers this student the opportunity to share his/her work in this way, gives student opportunities to share their learning, speak publicly and to defend their thought processes. Oregon Department of Education has realized how interactive whiteboards and tablets in their classrooms enhance student learning. One of the teachers using these tools in her classroom is a middle school math teacher. She enthusiastically reports that the level of engagement amongst her students has risen dramatically and that she has the ability to move around her room for better classroom management.
- ***Building 21st Century Skills & International Awareness in Math (Illinois):*** A small school in Villa Park, Illinois participates in World Math Day. This amazing event allows the whole school, including teachers to participate in around the world math competition. This child-centered educational website selects 4 users out of 160 participating countries to compete in simple addition, subtraction, multiplication, and division facts in 60 seconds. During the game users can see the flag and map of the countries they are competing against, as well as the progress of the other users in the game. At the end of the 60 seconds, the user is given a progress summary with correct answers to missed problems. Upon breaking record scores, users achieve credit. The Villa Park school had a record of approximately 70,000 correct questions answered on March 7, 2008. A new world record was set, with over 182,450,000 math problems solved in one day.
- ***Student Engagement: Building Conceptual Understanding, Collaborating with Others, and Motivating Students (New Jersey):*** Wharton Borough Public School District in New Jersey developed a program focused on integrating technology into the math curriculum in grades 6-8. In the Bridge Project, students plan for the construction of a new bridge over the Hudson River to meet the needs of the expected increase in future traffic. Teachers report that students are highly engaged, spend more time on task, and are reluctant to leave/miss Math class for other activities. Overall, last year the percentage of students scoring in the GEPA Mathematics (state standardized test) proficient ranges increased to the highest percentage in the district's history (69.8%). The bridge project was one part of New Jersey's Math Achievement to Realize Individual eXcellence (MATRIX) grant program (2004-2007) designed to increase student achievement in mathematics in grades 6 through 8 by providing classroom teachers with ongoing professional development and in-class support that focuses on integrating technology into the curriculum and instruction. In Gloucester City Public Schools, a low-socioeconomic area “in need of improvement” interactive white boards were introduced into middle school math classrooms. Multimodal lessons addressing visual learners

were posted to the district's servers making them available to all teachers. Math scores in this middle school have increased by 16 percentage points since the program was implemented.

- ***Blended Approaches to Address Varied Learning Styles (Texas):*** Brownsville in Cameron County, La Joya ISD, and Pharr San Juan Alamo ISD in Texas utilize enVisionMath which utilizes a blend of print, digital and active paths to engage and challenge students and support teachers as they address different learning styles and differentiate instruction.

Professional Development: Training That Changes Practice and Instruction

Professional development must change teacher practice and instruction to effectively increase math achievement. Joyce and Showers (2002, 1995) found that the isolated, workshop approach has less than a 5% chance of influencing instruction, but on-going and sustainable professional development involving modeling, mentoring, and/or coaching increases the likelihood for teachers to change instructional practices to almost 90%. States, districts, and schools can utilize technology to get beyond the traditional two hour workshop and provide meaningful professional development and resources to teachers. Teachers can engage in on-going and job embedded professional development through access to on-line courses, professional learning communities, and education portals with resources and lesson plans. This is particularly critical in rural and inner-city areas where these opportunities are often limited. Instructional technology coaches or mentors in schools provide opportunities for collaboration on planning and co-teaching to help teachers utilize new practices and resources. The systemic reform approaches identified above in the Texas TIP, Missouri eMINTS, and North Carolina IMPACT programs each utilize high quality professional development with these important qualities.

- ***Instructional Coaches or Mentors (North Carolina):*** IMPACT schools is largely a result of the role the school library media coordinator or technology learning facilitator plays in working with small groups and individual teachers to provide professional development and modeling as more and more technology is used to engage students in instructional units. Teachers work together to develop new lesson plans, consider how to facilitate learning, and utilize data to individualize instruction. As ideas are shared, new technology tools are incorporated to enhance the unit. Often the new tool is demonstrated or even taught during the meeting, or a special training date is determined for additional professional development. This type of planning and collaboration among teachers results in a transformation of learning, and the results are significant.
- ***Improving Content and Pedagogy (Louisiana):*** Louisiana is offering online professional development courses to help teachers engage students in Math. They are providing online courses so that they have the capacity to reach more teachers, in more districts and schools, and better prepare them for their roles in the ever-changing classroom setting. 12 modules were developed covering topics from Concept of a Variable to Measures of Central Tendency. Each module focuses on a specific algebraic content topic and includes elements of instructional strategies and lesson planning. Furthermore, modules include online readings and resources, interactive activities, online discussion prompts and optional enrichment activities.
- ***Online Courseware & Use of Data (Delaware):*** Delaware provides access to online courses through eLearning Delaware. Teachers have access to several clusters of courses, including the Secondary Math cluster focused on the skills and knowledge necessary to use virtual manipulatives with algebra lessons; applying meaningful data to apply in the math classroom; and developing strategies to encourage and promote the formation of algebraic thought

processes in students. Teachers take three online courses developed by EDC (Education Resource Center): (1) *Getting Ready for Algebra with Virtual Manipulatives*; (2) *Using Real Data in the Math Classroom*; and (3) *Using Patterns to Develop Algebraic Thinking*. Each course takes place entirely online over a six-week period, and the culminating activity is the piloting of three lessons developed throughout the three courses. Teachers connect with other teachers in the on-line environment to ensure on-going and sustainable professional development.

- **Professional Learning Communities and Education Portals:** As our education system strives to ensure that our students are competitive in a 21st Century global economy, it is critical that educators have access to high quality resources, data, and tools to guide teaching and learning. An Education Portal is a one-stop resource for educators to support teaching, learning, and leading. Portals include access to resources and an entry point to other information or services, including subscriptions or data systems, content standards, lesson plans, courses of study, Web resources, listservs, and other educational resources. This includes technology-based curriculum resources and tools that promote 21st Century teaching and learning. A portal allows educators to quickly search for lesson plans or other resources by content standard, grade level, and/or topic. Ideally, a portal also provides an on-line community for educators to collaborate and discuss teaching and learning and experiences as an educator. State-wide portals provide equity of access to teachers regardless of district, high quality resources that address teaching and learning needs to ensure students are prepared for the 21st Century global economy, on-line communities of learning to support the improvement of teaching and learning, and access to formative assessments and other resources to address various learning styles, needs, and achievement levels. Alabama, Arizona, Massachusetts, and other states have implemented portals as an essential part of professional development and resources for teaching math. The Ohio example from Garfield Heights includes achievement data:
 - **Ohio:** eTech Ohio and the Ohio Department of Education (ODE) helped schools develop and implement lessons aligned to the academic content standards for math and English/language arts. This set of web-based curriculum management and instructional design tools allow for online content/course development and management, or an “off-the-shelf” course/learning management system. Maple Leaf Intermediate School in Garfield Heights, Ohio serves approximately 600 students. Maple Leaf is considered a Title I school and 50% of the students are eligible for free or reduced lunch. Maple Leaf has a very diverse ethnic population: 33% of the students are African American, 63% are Caucasian, 2% are Asian, 2% are Hispanic, and less than 1% are Filipino. Student achievement in mathematics dramatically increased as the school increased the use of technology in daily classroom instruction. Of two classes taught by the same teacher, the class that utilized the CompassLearning online tool has a 14% higher passage rate on the Ohio Math Proficiency Test than that of the class that did not use this technology tool.

Formative Assessment: Using Real Time, On-going Data to Individualize Instruction

Timely information about individual students is a critical component in changing the way that teachers teach and students learn math. Statewide longitudinal data systems are very important for accountability and reviewing overall curriculum and instruction. Additionally, teachers need access to data to assess the progress of their students on a regular basis in order to individualize instruction, allowing for the remediation or enrichment as needed, for each and every student.

Many districts and states are utilizing programs and systems that provide teachers with formal and informal assessments to track student progress weekly or even daily. This keeps students on-track with achievement, but also provides opportunities for students to participate in engaging activities based upon abilities and needs. The examples below provide two approaches to tying formative assessment to the curriculum to individualize instruction:

- **Michigan:** Several districts in Michigan utilize Carnegie Learning's Cognitive Tutor for Algebra I, a software program that assesses students' individual needs, creates an easy-to-follow regimen, allows students to work at their own pace, provides instant feedback, and can be used on any computer in any location. Wayne Regional Education Service Area is just completing its first year of a partnership with Carnegie Learning originally designed to address mathematics deficiencies in High Priority schools, and was ultimately expanded to allow all districts in the county to participate. In the first year they've provided math curriculum to 10,000+ students in 16 districts, and have provided professional development to upwards of 500 teachers on how to positively impact mathematics student achievement using the Cognitive Tutor. Taylor Public Schools has effectively implemented the Carnegie pedagogy, and as a result, student achievement in mathematics has dramatically increased. Further, and perhaps more telling, is the dramatic decrease in failure rates the district saw compared to previous years. In years past, Taylor has selected those higher achieving students out of 8th grade to take Algebra 1 in 9th grade. Historically the failure rate for those "high achieving" students came in around 45%. This school year, ALL 9th graders were required to take Algebra 1, including Special Education students, and the failure rate has decreased to 15%-20%.
- **Virginia:** Virginia's Algebra Readiness Initiative (ARI) assists in preparing students for success in algebra through a computer-adaptive test (CAT). School divisions are eligible for incentive payments to provide mathematics intervention services to students in grades 6-9 who are at-risk of failing the Algebra I end-of-course test as demonstrated by their individual performance on diagnostic tests that have been approved by the Department of Education (DOE). The diagnostic test results allow teachers to individualize the content for intervention. A pilot study conducted during the 2005-2006 school year to explore the efficacy of this approach in grade 5 showed that students improved over 80 scale score points between the pre and post Algebra Diagnostic Test during the school year. Teachers reported that the ARI helped determine the learning styles of the students and ultimately modified the teaching accordingly. Some students like formulas, while others relate to examples, scenarios, and hands-on activities. The professional development associated with the ARI requires a lot of one-on-one follow-up with teachers. It was also reported that providing students with a variety of software choices helped students that needed different ways of learning.

Conclusion

The good news is that we have identified strategies and programs that make a difference for math achievement. These strategies and programs also happen to make a difference across the core subject areas, as well as 21st Century skills and other education indicators. Specifically:

- The use of technology can support the teaching and learning of mathematics by bringing a multitude of learning experiences to captivate student interest and build mathematics understanding, proficiency, application and confidence.
- Mathematical understanding is increased when students and teachers use and apply technology to investigate mathematical concepts; including visualization, modeling,

representation, simulation and communication.

- All educators and students should have access to the resources and technology to support teaching and learning of mathematics at school and home.
- Students learn mathematics in different ways, and we need to provide technology, resources, varied instructional strategies and skills that allow them to excel, deepen their understanding and maximize their potential.
- Students build mathematical knowledge and understanding of mathematical concepts through problem solving.
- Educational technology strengthens the connection of mathematical topics in different contexts.
- Using formative assessment in mathematics provides on-going data for teachers to individualize instruction based on needs. This leads to increased achievement in math.

The Committee has demonstrated its focus on the critical role that technology plays in our education system by the inclusion of the EETT Program in NCLB and the ATTAIN Act in the draft reauthorization bill of ESEA. The ATTAIN Act focuses on the need for systemic approaches to technology implementation and recognizes the critical role technology plays in the use of data systems to individualize instruction, on-line assessments, virtual AP Courses, and on-going and sustainable professional development. Many states currently use educational technology to reach these goals which have shown to improve student achievement, certify highly qualified teachers and help close the achievement gap – particularly in regard to math.

The ATTAIN Act provides an important role in helping more states, districts, and schools implement systemic reform models and on-going and sustainable professional development that have been proven to improve student achievement in core subject areas and ensure that students are competitive in the 21st Century global workforce.

Federal leadership must be bold and act as a catalyst to change how we teach, learn, and apply math for America's and our students' competitiveness and innovation. Maximizing the impact of technology's role in our education system is possible, but it will take a concerted effort by you, the states, districts, educators, and all stakeholders. We can achieve a 21st Century Education system for all students. We ask that you specifically recognize and support the role of technology in all education legislation, including throughout the Reauthorization of ESEA and the America COMPETES Act. We cannot afford to miss the opportunity that technology provides to engage students, to improve instruction and teacher quality, and to ultimately raise student achievement in math so that our students are prepared for the 21st Century.