



# The GE Foundation Developing Futures™ in Education Grant

## Fewer, Clearer, Higher: Stamford Embraces Common Core State Standards

“It’s an exciting time for our nation,” says Mona Hanna, Chief Academic Officer of Stamford’s Public Schools. “It’s an exciting shift in K-12 instruction, designed to make sure that each and every student in the U.S. is ready for the 21st century and the new global economy.”

Hanna is referring to the creation of the **Common Core State Standards (CCSS)**, which were adopted by Connecticut in mid-2010 and by 44 other states to date. The five-year effort to implement the CCSS in Stamford Public Schools, which will conclude in 2014, is being supported by the two-phase, \$25.8 million GE Foundation Developing Futures in Education grant.

This is not a federal government initiative. The Common Core State Standards are a state-led effort coordinated by the National Governors Association Center for Best Practices and the Council of Chief State School Officers. Adoption by each state is voluntary and the federal government will not play a role in implementation. The CCSS were developed through a multi-year process that involved input from teachers, school administrators, and experts from multiple disciplines; extensive research and international benchmarking; and ongoing feedback from various stakeholders.

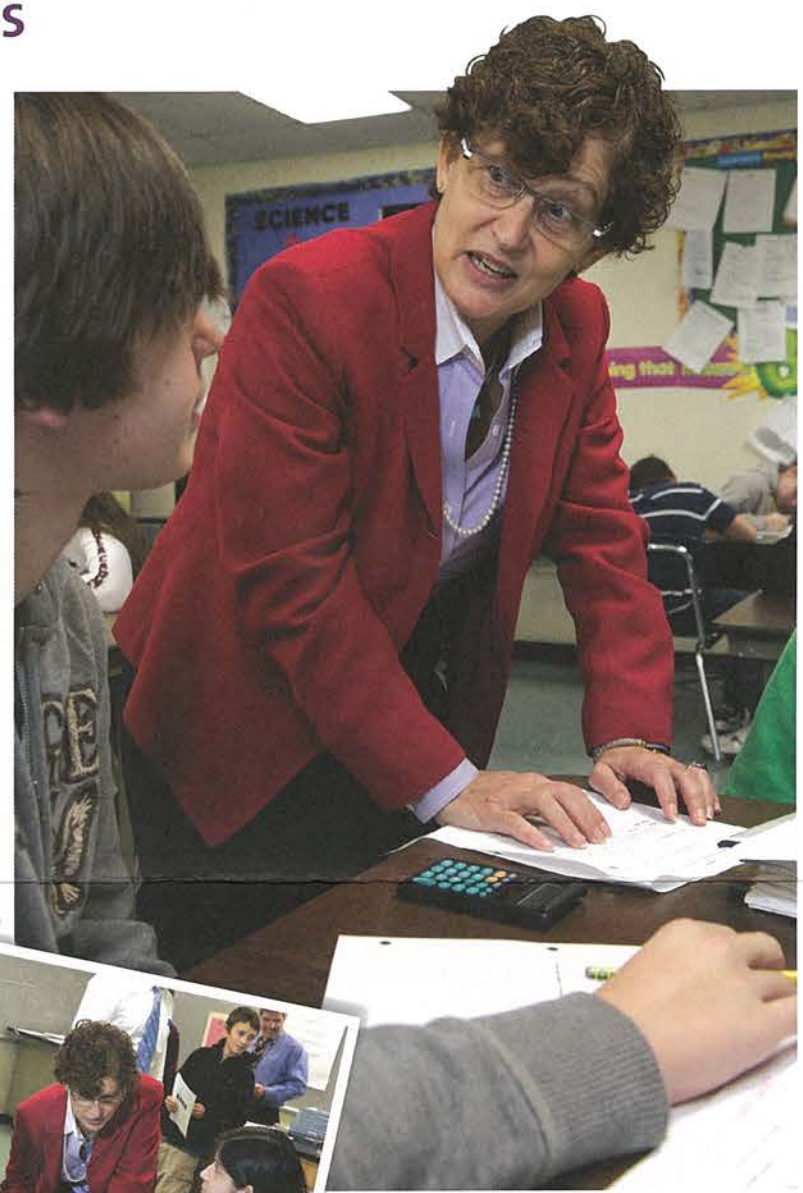
CCSS developers have raised the bar considerably on what defines college and career readiness, and the new standards reflect these higher aspirations.

A phrase often associated with the CCSS is “fewer, clearer, higher.” CCSS developers responded to a large and growing body of research revealing that depth is more important than breadth, particularly when it comes to math, English language arts, and literacy in history/social studies, science, and technical subjects.

“What the developers found in their research countered some long-held assumptions,” says math teacher Michelle Parchesky. “Over the past several years, we’ve gotten into the habit of constantly thinking we’re falling behind, thinking we have to teach more and more, and yet research shows students end up learning less as a result. It’s that old adage of ‘a mile wide and an inch deep.’” The CCSS are based more on mastering priority skills and subjects, not memorizing large amounts of information.

Stamford Public Schools have already conducted a gap analysis between the current state standards and the Common Core State Standards that will officially take effect in 2014-2015. The degree of change will vary by grade level. According to Hanna, the biggest change will be felt in math in grades four, five, and six, which had the largest gap between the current Connecticut Standards and the CCSS. Training for teachers in grade six will begin in the spring of 2012 and will inform curriculum design and teaching for the following school year.

Says Hanna, “Many of our principals and teachers at all levels have been introduced to the CCSS, and we have already identified curriculum areas where we could make changes right away, because 2014-15 is right around the corner and we want to be ready.”



Stamford Public Schools have gotten some guidance from their peers in neighboring New York City, which has also received a grant to implement the new standards. Recently,

high school math teachers from New York gave a series of presentations to their counterparts in Stamford on what to expect and how to approach CCSS-related changes effectively. A similar exchange took place among teachers in the area of literacy. One of the key changes in the literacy curriculum will be increasing the amount of informational text given to students to complement traditional literature on which reading and writing has been focused. Because college and career readiness focuses overwhelmingly on complex tasks outside of literature, the CCSS will ensure that students are being prepared to read, write, and research across multiple subjects, including history and science.

How will schools look different in 2014-15? According to Hanna, “There will be greater emphasis on reading and writing related to informational text, more computer-based assessment, and more access to real-time performance data so that teachers can make adjustments to improve learning for individual students or classes more quickly. Students will also be doing more complex tasks that involve more skillful problem-solving in core subject areas.”



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# GE Foundation Conference

## Provides Forum for Educators to Gain Deeper Understanding of Common Core State Standards.



**E**ach summer, the GE Foundation hosts a week-long conference in Orlando for teachers, administrators, business leaders, and community members from school districts that are recipients of GE Foundation Developing Futures grants. (In addition to Stamford, those districts are: Atlanta; Cincinnati; Erie, Pennsylvania; Jefferson County, Kentucky; Milwaukee; and New York City.)

In 2011, the conference focused on the Common Core State Standards (CCSS) and their implementation. Michelle Parchesky, a math teacher from Stamford High School, had attended the GE conference four years ago and was eager to see how organizers would address the complex topic of the CCSS.

Says Parchesky, "What really awed me was the caliber of presenters they had, including the ac-

tual authors of the Common Core State Standards. I was blown away by the amount of research that has gone into developing the CCSS and the authors' deep respect for academics and learning—particularly their attention to how people learn in various conditions and what they should learn to succeed in today's world."

Parchesky says the conference organizers left plenty of time for discussing the challenges that lay ahead with implementing the CCSS. They arranged for attendees to break into groups by subject, profession, grade, and district to talk openly about how to address these challenges in the "real world."

"One of the biggest difficulties we're going to have as an education body at large," says Parchesky, "is changing cultural perspectives about learning.

For example, students often think that the teacher is not teaching if he or she doesn't simply lay all the information before them. CCSS will challenge teachers to be more like facilitators and focus on laying a path for students to discover things on their own, ask the right questions, and solve complex problems. We're moving away from spoon-feeding information and just asking for regurgitation from students."

Parchesky and others who attended the GE conference say they could see the transformative power of CCSS, and they came away with a sense of hope for the future of education. Now, educators throughout the Stamford Public Schools increasingly will be exposed to the CCSS, as they continue preparing district-wide to meet the new standards coming in 2014.

## Mix It Up: Teachers Embrace STEM Learning

**F**or Matt Lisy, it's "a no-brainer" to teach science, technology, engineering, and math (STEM) in the same lesson. "There's so much of all four in agriculture, I think it's the perfect place to teach them," says Lisy, who is the Agriscience Program Coordinator at Westhill High School.

For Lisy and his wife, Emily, who is a science and agriscience teacher at Westhill, their subject comes alive when they teach it in an integrated

fashion. "If the problem doesn't come from the real world, the kids just think they're doing it because you're making them do it," says Matt. "But if you can present them with what's going on in the world and why, and get them caught up in that, they get curious and want to know the answers, know how stuff works."

One of Emily's favorite STEM-based lessons involves genetically modified foods. Students bring foods like strawberries to class, run electropho-

resis gels to acquire the DNA, and analyze it to see if it's been genetically modified. Matt points to an aquaculture class he has taught: "How are you going to engineer a recirculation system to house the maximum number of fish and still keep the best water quality?" he asks. "Regardless of the agricultural topic, there is math involved, there is science involved."

The benefits of STEM education are more apparent at higher grades, where traditionally segregated subjects are now being taught in integrated ways that connect students to real-world problems and solutions. But those benefits are evident even in elementary school.

"We're integrating science into other parts of the curriculum," says Denise Scott, a second grade teacher at Springdale Elementary School. "We're using science texts as part of our nonfiction reading curriculum. That reinforces the science I'm teaching them, and also the Reader's



Workshop unit. And I have to say, my students love science."

STEM learning teaches students critical thinking skills, says Emily. "It helps them learn how to solve problems. Those skills can be applied to anything they're going to do in life."

That ability, says Matt, is key to being a productive member of society. "These STEM initiatives use real world problems and the application of our technology to solve those problems," he explains with a contagious delight. "It's almost like humans are wired to think, 'how are you going to solve that?' That's how humans evolved, and it seems to be working out rather well."



## Local Businesses Come Together to Support CCSS



The Common Core State Standards are new for students and parents—and for businesses in Stamford, too. This year, representatives from many Stamford-area businesses attended a GE Foundation Developing Futures Summer Conference in Orlando, where they learned about the CCSS—one of the largest changes to the school system's philosophy and approach to learning in its history.

Kathleen Ryan Mufson, Director of Corporate Citizenship at Pitney Bowes, has been leading a range of programs to support Stamford Public Schools over the years. So Ryan Mufson was eager to learn more about the CCSS and how they might provide new opportunities for Pitney Bowes employee volunteers to add value to the schools' long-term goals.

After the conference, Ryan Mufson said, "There's no such thing as a silver bullet solution, but I came away from the conference feeling confident that we have a much more well thought out goal line. The CCSS have redefined what it means to be ready for college and career, and we know it will take many participants, including members of the business community, as well as educators, to get students across that goal line."

Duane Hill, Principal of TSG Capital, was equally impressed with what he saw at the conference. "I think the CCSS is one of the most exciting things to come along in education in many years," says Hill enthusiastically, but cautiously. "The challenge will be in the implementation, but the content is outstanding. It's going to take a herculean effort to marshal the education and business communities, and the community at large, to rally around making this happen, but I think we have a chance to make a significant impact on the future of education in Stamford and in our country."

Both Ryan Mufson and Hill admit that the key will be establishing regular channels for businesses to communicate with one another about how they plan to support education, rather than engaging in what Hill calls "one-offs." Both are committed to getting more businesses involved in both the dialogue and volunteering. "Once Pitney Bowes employees get the chance to volunteer with reading or mentoring programs, they are often hooked and eager to do more," says Ryan Mufson. "So identifying and promoting volunteer opportunities will help employees of various businesses here in Stamford contribute to schools in ways that are practical, manageable, and rewarding. After they have that first experience, their commitment will only grow."



## NASA + NSTA = Engagement



Dave Edelson, who teaches eighth grade math at Turn of River Middle School, loves math history. One day a student noticed a biography of Isaac Newton on Edelson's desk. "Hey," the student said. "That's the same guy from science." For Edelson, it was a sweet moment: a chance to talk about how math and science are connected.

**"Our mission is to inspire creativity, not only in students but in teachers."**

- Wendy Binder, director of NSTA's Professional Development department

"Student engagement is what it comes down to," says Edelson. "One of the things we learned at the NASA/NSTA conference is that small things start to connect and build with what the students know to bring them to the next level." In both 2010 and 2011, Edelson was part of a group of Stamford teachers who attended the GE Foundation's summer education conference in Orlando, Florida. Co-sponsored by NASA and the National Science Teachers Association (NSTA), the 2011 conference gave teachers from GE Foundation-supported school districts a chance to collaborate around the integration of teaching science, technology, engineering, and math (STEM). "Our mission," says

Wendy Binder, director of NSTA's Professional Development department, "is to inspire creativity, not only in students but in teachers."

That mission struck a chord with Joe Lennon, an eighth grade science teacher at Turn of River Middle School. Working with math teacher Evan Green, Lennon developed a co-taught class around the scientific equation "force equals mass times acceleration." For one two-hour class session, the teachers worked together, getting students up and moving as they experimented with the theory. "If they hear 'force equals mass times acceleration' in math class, it's not going to stick," says Lennon. "But if they work on the numbers in math and then come into science and can physically see that something that's traveling at a faster rate will knock a block farther, they can put two and two together."

Lennon is planning to develop another integrated lesson around calculating the mass of the planets in the solar system. But these big lessons take a lot of coordination and planning. "What I took out of the NASA/NSTA conference was that I want to see math and science talked about together as often as possible," he says. "If I have an opportunity even to mention in a science lesson, 'Hey, look, we had to calculate to get the answer, I'll do it.'"

Edelson says he's grateful that the conference showed him how to co-teach lessons. And the professional connections he has made have given him something else: "Being able to push harder and see what I could do in my classroom has been wonderful, but also feeling like you're working at the national level has been tremendous, thanks to the help of GE Foundation."



# Transforming Elementary School

Q&A with Sarah Santasiero, Literacy Coach,  
Julia A. Stark Elementary School



**Q What does a literacy coach's day look like?**

There are ten elementary literacy coaches in Stamford Public Schools. Our job is to provide support for the teachers through modeling, planning, and implementing standards-based core curriculum. We are flexible and available to the teachers in our building. There are two "lab" classes; one in the primary grades and one in the intermediate grades. In these classes we work closely with the teachers. In the morning, I'm in the first grade class, in the afternoon in fourth grade. These classes help support all teachers, because teachers can best observe instructional practices in literacy in the lab classrooms. As coaches, we also provide continuing professional development on best practices for the teachers, and I provide workshops in literacy for parents.

**Q Teachers are using the Reader's and Writer's Workshop in their classes. Can you explain how that works?**

The Reader's and Writer's Workshop model is divided into three sections; the opening, the work period, and the

closing. In the *opening*, teachers model the standard and explain exactly what they want the students to do. During the *work period* the students practice the skills the teacher has taught. The *closing* is the time when the students reflect and share their metacognition—their thinking about their learning. Our school is focusing on the work period. We are delving deeper with one-to-one conferences and guided reading. The students know exactly what to focus on as readers, and the teachers are keeping track of the students' progress.

**Q What is your definition of literacy at the early elementary level?**

Literacy is reading, writing, speaking, and listening. The big goal is for children to really enjoy reading. We want children from kindergarten to third grade reading on or above grade level to develop into proficient readers by the time they reach the upper grades. One thing we have now that we did not have a few years ago is an opportunity for children to get books on their reading level that they can read independently. The younger children are reading for about fifteen to twenty minutes per class, and the older children are reading for thirty to forty minutes during the literacy block. I am fortunate enough to have opportunities to observe students in deep conversation about books. I am pleased to see students talking about books at school with their friends as well as at home with their families.

**Q How does your work intersect with STEM learning?**

Whatever the teachers can do to tie STEM in, they'll do that. Within literacy we have nonfiction informational texts, and that's where we've interwoven the science curriculum and used it as reading samples for the students. We also do that with social studies.

**Q What are the challenges you face?**

Time! It's so hard to fit everything into the school day. Our teachers are so busy, not only with literacy but also with math, science, and social studies. There's a big push for literacy, which I think is extremely important, but it's not just happening with literacy, there's the larger curriculum, too.

**Q You were a teacher for 23 years before you became a literacy coach. Is there anything in this job that has surprised you?**

What surprises me is how much we learn every day. I don't say, "I'm a veteran teacher, and this is the way that it is." There are different ways of thinking to meet the needs of the student, and there are different ways for us as teachers to practice our approach as well. I believe we're constant students.

## National PTA Creates Parent Guides on CCSS

Research shows that when parents are involved in their children's education, students do better. Because the CCSS provide a clearer understanding about what is expected of students, parents will have a clearer vision of what their children need to learn and how to support them in their studies.

The Parents' Guide to Student Success is a set of grade-by-grade guides developed by the National PTA that explain the CCSS. Individual guides are available for grades K-8 and two are available for grades 9-12 (one for English language arts/literacy and one for mathematics). Each Guide includes:

- Key items that children should be learning in English language arts and math in each grade, once the standards are fully implemented.
- Activities that parents can do with their child at home to support learning.
- Strategies for building relationships among parents and their children's teachers.
- Information on how to prepare for college and career (high school only).

For more information [www.pta.org/4446.htm](http://www.pta.org/4446.htm)



Developing Futures™ is a GE Foundation program created to raise student achievement through improved math and science curricula and management capacity at the schools. For questions or comments please contact Jim Forde, Grant Manager, at 203.977.4423 or [jforde@ci.stamford.ct.us](mailto:jforde@ci.stamford.ct.us)

