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INSPIRING the Next Generation of Citizen Scientists

WRITTEN BY Kara Hawking

As a graduate of SUNY Maritime College with a Bachelor of Science in Oceanography and Meteorology, Deborah Kravchuk didn't follow a traditional path to the head of the classroom. In fact, after her graduation in 1978, as part of the first graduating class to accept female cadets in the school's history, Kravchuk accepted a position as a Systems Field Engineer with Sperry Corporation. "I worked in the field as a civilian contractor in support of the navigation subsystem for Trident submarine program," she explains.

Deborah Kravchuk

(Ed.D., Curriculum and Teaching, candidate)



Although she excelled in her chosen field, Kravchuk found herself wanting more out of her career. "My first thought after graduation was to work in the field, and I was lucky to have been able to do that for eight years," she reflects. "[But] there was one thing that was missing during that time – I did not feel as though what I was doing made a difference."

After participating in a local school's career day for learning disabled students, she decided to use her experience in the engineering field by embarking upon a new career as a STEM (science, technology, engineering and mathematics) teacher in

a private school.

"I found teaching to be a natural progression from engineering," says Kravchuk. "Engineering and teaching science requires observation, gathering data and making informed decisions. Both require the individual to be pro-active, organized and flexible."

"I do not feel as though I am teaching them, but rather, introducing them to new ways of thinking about the how the world around them works."

—Deborah Kravchuk

In 1990, Kravchuk began teaching at the Kildonian School in Amenia, N.Y., teaching Earth science, engineering and Orton-Gillingham language training. "The school requires its entire teaching staff to train in the Orton-Gillingham method, which is a phonics-based multisensory approach to reading and writing instruction," explains Kravchuk. "[This] allowed me to become not only a teacher of science, but one of reading and writing, as well."

It was at the Kildonian School that Kravchuk met her education mentor, Diana Hanbury King. "Diana helped me to understand how my brain works and that my personal struggles as a learner stemmed from my dyslexia," she reflects. "Through her I learned that the gift I had been given allowed me to be creative, flexible and to think five steps ahead of those not lucky enough to be dyslexic."

Kravchuk has transformed her personal struggle with dyslexia into an asset. In fact, her understanding of different learning styles has helped her become a more effective educator.

"I [have] learned that not everyone learns in the same way, at the same time, and that it is [important that] a teacher keeps trying until the student experiences success," explains Kravchuk. "It has allowed me to create a safe and respectful learning environment where all learners are celebrated."

Following ten years in the private school sector, Kravchuk decided to move to the public school system in 2000. "I saw

this as an opportunity to continue my life-long love of learning and an opportunity to share my love of science with the next generation of learners," shares Kravchuk. Now teaching in the Hyde Park School District in Hyde Park, N.Y., she continues to draw upon her experiences at Kildonian to impact the students in her classroom.

Recently, her work in education was recognized when she was named one of the inaugural New York State Master Teachers. Kravchuk plans to use this honor as an opportunity to give back to her field by mentoring the next generation of STEM teachers and continuing her personal and professional development through education.

"I am able to discuss the importance of... their future as citizen scientists (that's what I call them, not students) and to create experiences for them that require them to think beyond the textbook."

—Deborah Kravchuk

She completed her M.A.Ed. in Teacher Leadership and Curriculum online at Ashford University in 2011, and after excelling in the online environment at the master's level, found herself eager to keep learning. Kravchuk enrolled in NCU's Ed.D. with a specialization in Curriculum and Teaching later that year.

"The decision to continue my [education] with Northcentral came from a desire to gain a greater understanding [of] how to best serve the learning needs of my students," reflects Kravchuk.

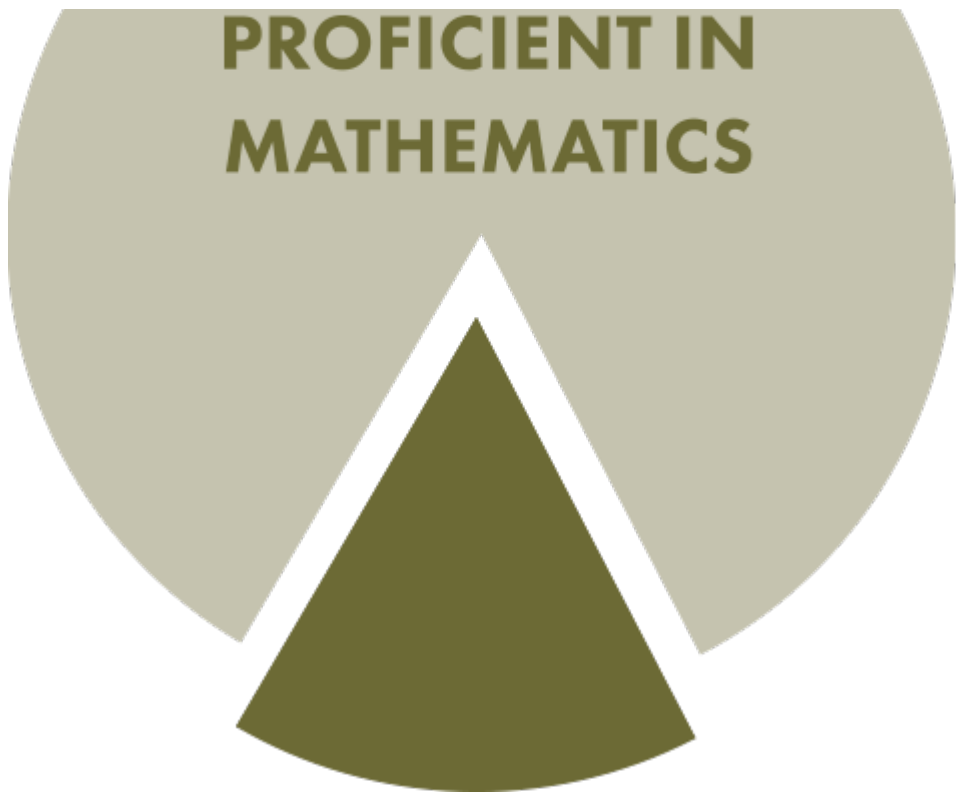
Serving the needs of her students not only inspires her personal and professional development, but it also motivates her to use her passion for the natural world to continue to inspire students in her science classroom.

"I do not feel as though I am teaching them, but rather, introducing them to new ways of thinking about the how the world around them works," explains Kravchuk. "As someone who had a previous career in the STEM field, I am able to discuss the importance of... their future as citizen scientists (that's what I call them, not students) and to create experiences for them that require them to think beyond the textbook."

U.S. STEM Education Highlights

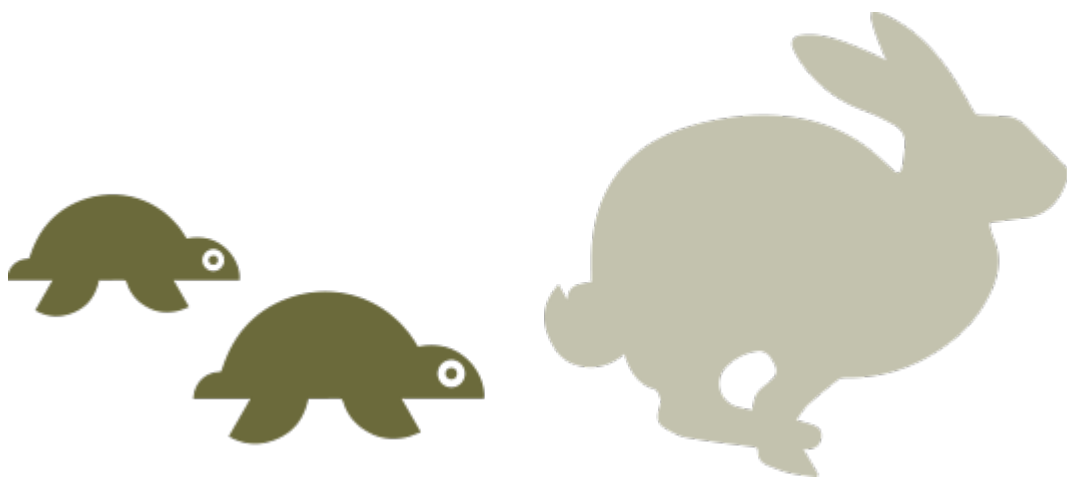


84% ARE NOT



16% PROFICIENCY

Only 16 percent of American high school seniors are proficient in mathematics and interested in a STEM career.



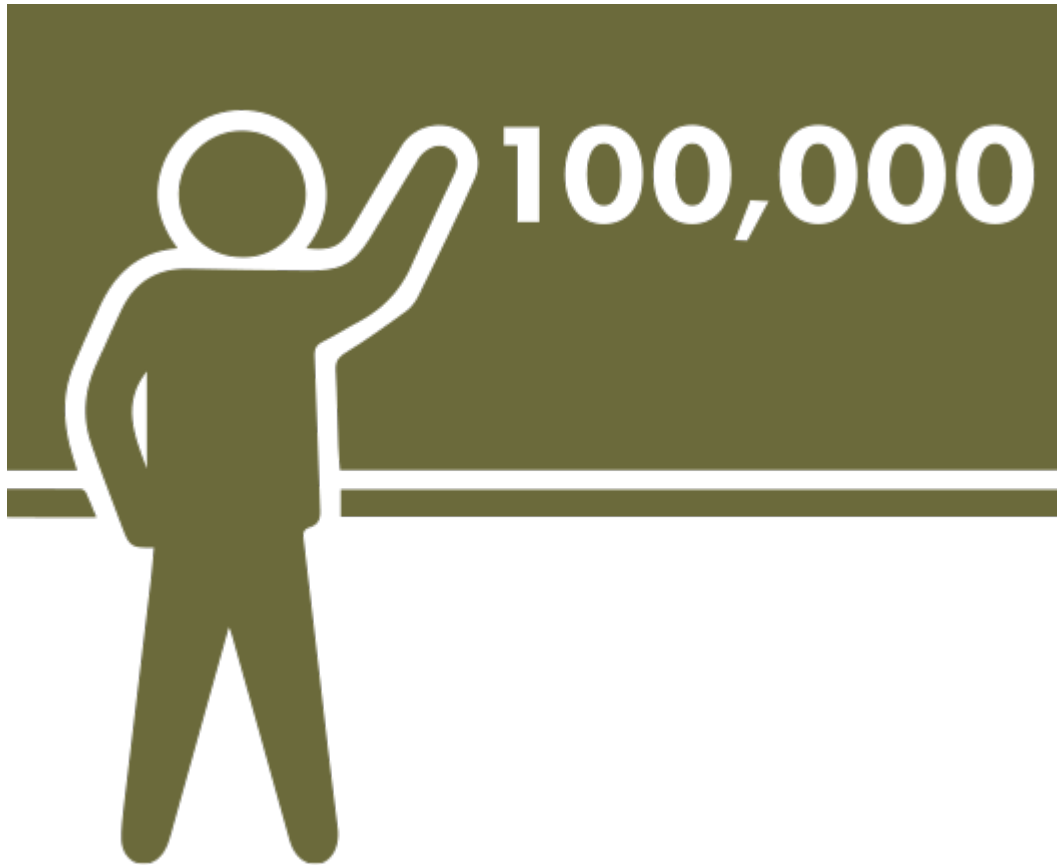
25th

IN MATHEMATICS

17th

IN SCIENCE

The United States is falling behind internationally, ranking 25th in mathematics and 17th in science among industrialized nations.



TEACHERS IN 10 YEARS

President Obama called on the nation to develop, recruit and retain 100,000 excellent STEM teachers over the next 10 years. He has also asked colleges and universities to graduate an additional 1 million students with STEM majors.

PROJECTED INCREASE IN STEM JOBS: 2010-2020

62% **Biomedical Engineers**

36% **Medical Scientists**

32% **System Software Developers**

22% Computer System Analysts

16% Mathematics

14% All Occupations

Source: www.ed.gov/stem (<http://www.ed.gov/stem>)

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