



Flight Instructor Puts in Hours on Special Education

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Students at the Long Island Whole Child Academy are now learning about aviation in the most fun way possible – thanks in large part to the FAA’s Joseph Foresto, a 40-year flight instructor who works part time at the private school, using a project-based and problem-based syllabus to better educate and engage children with autism spectrum disorders.

The FAA’s Flight Standards liaison to the Office of Runway Safety, Foresto teaches aviation science, technology, engineering and math to groups of fourth-, fifth- and sixth-grade students in a hands-on environment, where students partake in interactive aviation-related experiments and even get behind the

controls of an airplane on a flight simulator.

“If you do more than 45 minutes of instruction with these kids, they go off into another world,” Foresto said. “But they are so smart. We’re doing a weight and balance program and these kids are solving complex calculations in just a few seconds.”

For children with autism spectrum disorders, a traditional classroom environment can be intimidating, frustrating and not conducive to their learning. Many students on the spectrum struggle in this setting, finding it difficult to focus, process instructions and, therefore, fully digest the material being taught to them. They thrive, though, in applied learning. A curriculum focused on interaction allows them to learn about subjects they might otherwise find uninteresting or difficult.



Foresto helps students make paper airplanes.

“We call this ‘embedded learning,’” said Dr. Ellen Richer, the school’s founder and educational psychologist who specializes in underachieving and learning-challenged, high-potential youth. “The material to be taught is presented in authentic and relevant ways. We don’t emphasize that students are learning calculus or physics. They are solving problems. Now this kind of problem-based learning becomes fun.”

After opening the school, Richer looked for a pilot to spearhead an aviation STEM program that would offer fun activities for her students. She didn’t have to look far, as Foresto is an adjunct professor in the aviation department of the State University of Farmingdale – located just six miles south of the academy on Long Island, N.Y.

Foresto begins his courses by teaching the vocabulary, science and math of aviation for less than 45 minutes. Then it’s time for the lab or the auditorium, where students apply what they learned in various ways. In one experiment, using a mobile phone app, students flew paper airplanes, each equipped with a tiny electric motor and a rudder.

“They learned about flight and center of gravity and how lift is generated,” Foresto said. “Their parents were all watching in awe. It’s these kinds of activities that keep them interested and help them learn.”

The recent addition of the flight simulator, donated by Jay LeBoff, CEO of the flight simulation equipment company HotSeat, has further advanced the STEM program, allowing students to fly planes with less instruction time.



“Our kids need incredible stimulation and the opportunity to learn in other ways, and Joe is helping us achieve our mission,” Richer said. “These kids can be the innovators and inventors of the future if they have the space to do it, and that’s what we provide. That is who we are.”

Top photo: Joe Foresto guides students through a flight simulator in his STEM class at Whole Child Academy in Long Island, N.Y.

Foresto engages students in a flight simulator demonstration.

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