

## **Nation needs more STEM program graduates**

Dr. Dustin Swanger

Leader-Herald, Gloversville, N.Y.

12/5/14

I will start this article with a bit of a disclaimer. I am a liberal arts student; I graduated from college with a Bachelor's degree in Political Science. I fully support the liberal arts and the education afforded to so many of our students. However, we must address our country's need for graduates in Science, Technology, Engineering and Mathematics (STEM).

Our country is not producing enough graduates from STEM programs to fuel the innovation economy. India is far outpacing the United States in engineering graduates. Many developed countries are graduating more technology students than the U.S.; and, far too few students pursue science or mathematics as majors and career options. This is not a new problem - it is one that we have faced for years.

Why is it so difficult to attract students to these programs? I believe that there are several reasons. First, many students think of STEM programs as "hard" and liberal arts as "easy" - and we have conditioned many students to take the easy way. Second, parents often believe that students should take liberal arts programs so that they will be prepared for a variety of careers. This may be true, but studies will show that education in STEM programs will also prepare students for many careers. Third, a large number of students fear math. We seem to teach students early that math is difficult. Colleges, like FM, have put numerous support mechanisms to help students conquer math - there is no reason to fear it.

So what can we do to attract more students to STEM programs? As I don't have all of those answers, I do have ideas of some things we can do. First, when a child is interested in science, technology, engineering and math, we should always encourage it, regardless of their gender. If he/she likes to take things apart to see how they work, provide him/her with toys and tools that foster that sense of discovery. Second, appeal to what students like. For example, when approaching a topic in science, why not base it on questions like "do you know how your cell phone works?" or "how can we run a car with sunlight?" Third, we should expose students to technology in new ways. When we bring young students to FM and they see all of the technology in the labs and experience it hands-on, they are very intrigued.

There is a role for our area companies as well. We should work together to develop media that highlights today's technology jobs and share them with students. Media has a tremendous influence on students' choice of study. When "Hotel" and "The Love Boat" were popular shows, enrollments in tourism programs increased. When "L.A. Law" was popular, applications to law school increased.

Employers need to tell students what it takes to work in these high tech careers - education in STEM fields. If employers tell students, they listen. If there is a job attached at the end, they will understand. We need to share the excitement of designing new products, developing new drugs, creating new technologies, etc. I know that local employers and employers across the state need employees. It will take a lot of work, but the reward will be great.

---

*Dr. Swanger is President of Fulton-Montgomery (N.Y.) Community College.*