Isabel Young: A Surprising Vision of #ILookLikeAnEngineer

2015-09-04 by **ISABEL YOUNG**

Pink satin pointe shoes. Not the first thing you think of when you think engineer? My older sister, Grace Young, graduated last year from MIT as a mechanical and ocean engineer. She is now a Marshall Scholar studying to get her PhD at Oxford University. To me, she epitomizes the idea of being an engineer. For years, my sister was planning to be a professional ballerina, and dance was a huge part of her life. When she reached high school, she found another love: engineering.

To me, engineering relates directly to ballet. Grace talks about how similar the two are all the time. Both engineering and ballet are art forms requiring creativity, perseverance, discipline, teamwork, technical expertise, observation and passion. In fact, after years of observing similarities between the two art forms, she wrote her college entrance essay on the intersection between art and engineering. She was even given an MIT Institute Award upon graduation for combining the arts and sciences.

This is how I envision an engineer.
#ILookLikeAnEngineer

Engineering is creative: Trying to design new pointe shoe technology in high school.

The connection between engineering and art is hardly ever discussed; both subjects are segregated throughout grade school and are rarely mentioned in the same sentence. I realize now that I'm really lucky to have a role model like my sister who connected the two and made engineering seem so much more accessible for people with many interests. Everything concerning this topic was highlighted when the **#ILookLikeAnEngineer** hashtag exploded this summer. Images were circulating throughout Twitter, Facebook, Instagram, and other social media sites that showed pictures of women who were engineers, but didn't conform to the stereotypical image of an engineer. This movement, in addition to the example my sister gave, really opened my eyes for what engineering truly is, and how it is related to so many other professions and interests.

My sister just stopped home on her way back to England from fieldwork in Honduras (where she and a team from Oxford are researching mesophotic coral ecosystems). For anyone considering engineering, I asked her a few questions.

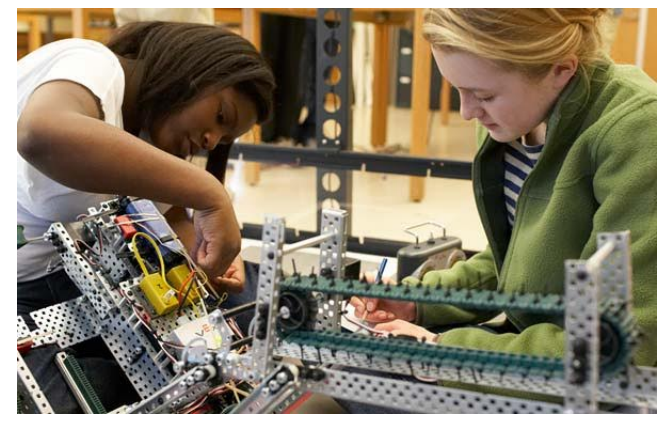
My sister's engineering fieldwork in Utila, Honduras.

1. *How did you know you wanted to become an engineer?*

I didn't know until late in high school. Until then, I thought I wanted to be a professional ballet dancer. My freshman year in high school, however, stumbled into a new robotics program and was hooked almost immediately. Both pursuits were very time-consuming, and eventually I found myself more and more in the robotics lab rather than the dance studio and decided to become an engineer. I have friends who did not decide until college to study engineering.

2. *How did it feel to be the only girl in our school's robotics program for the first year?*

Honestly, everyone in the robotics program was so nice. But I wanted to find other girls to work with and so I tried for a long time to recruit anyone. It took almost a full year before finding a friend to join (and she decided to study engineering in college!). That was eight years ago; now dozens of girls are involved in robotics at my old high school. Back then it was a struggle to change perceptions, but thankfully times are changing.



My sister's first robotics recruit, who went on to study engineering in college.

3. *Do you remember all those workshops etc. that you made for my class in middle school?*

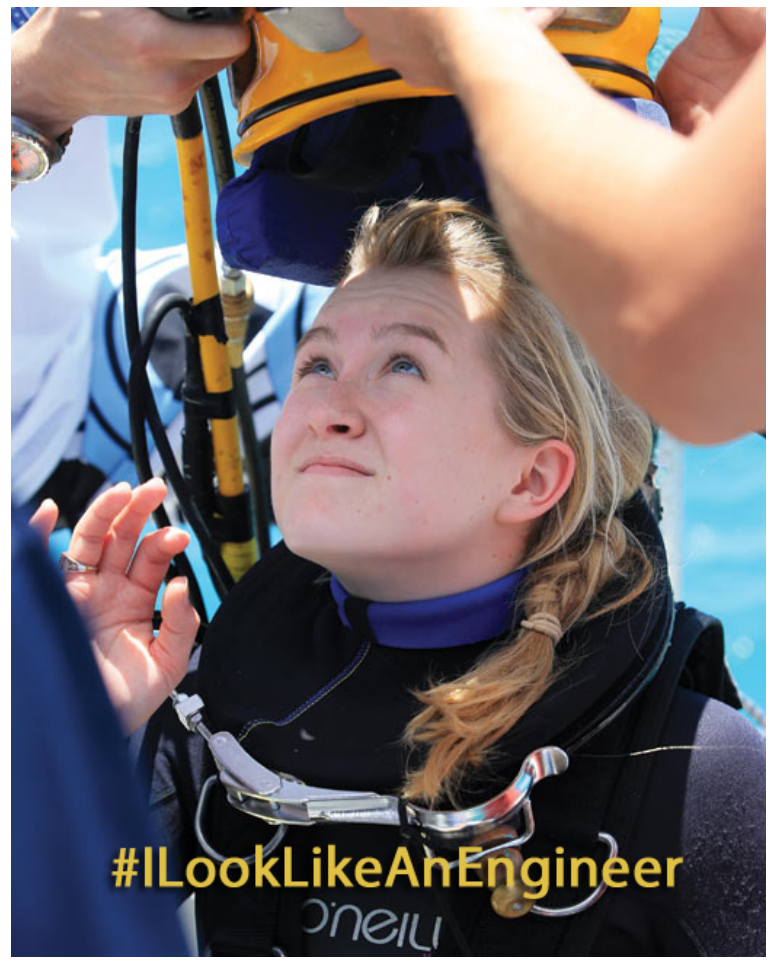
Mentoring our school's first middle school robotics team. Five of eight have gone onto pursue STEM paths in high school.

I developed those workshops specifically for middle school girls because I knew there was a problem when I couldn't find girls in our high school willing to even try robotics for almost a full year. I did a bit of research and read that the most effective way to get girls interested in STEM, even in later years, is to give them an empowering positive middle school experience. I remember when we were trying to design a robotics workshop that would appeal to 4th grade girls and I ran all the ideas past you to see what would appeal most. We ended up mixing a cute stuffed animal with a non-competitive challenge that was a great success! Almost 30 girls participated in that robotics workshop and many went on to stellar STEM careers in high school.

4. *Any advice for students who are interested in trying engineering?*

If you want to do well in your classes, there really isn't a secret. Just do the homework, pay attention in class, and study. There is this misconception of an engineer being some lone genius working in a basement. At MIT, engineering is very collaborative. You should reach out for help when you need it and aim to learn from your teachers and peers. There will still be room to be creative!

You can read more about her adventures as an engineer on her blog, Grace Under Pressure.



The adventures of an ocean engineer at blog:
graceunderthesea.com.

Now, I'll let my sister get back to doing engineering things, like helping save the planet!

About ISABEL YOUNG

Growing up in Ohio, Isabel says that she became hooked on STEM subjects from a young age, spending time in her family's chocolate factory surrounded by lots of whirling machinery and scientific recipes. Now homeschooled in Bethesda, Md., she plans to create ethanol, a biofuel that typically depends on common crops such as corn, potatoes, and sugar cane, which can be expensive because of the space needed to grow them. Isabel will attempt to create this biofuel in a less expensive, more environmentally friendly way by implanting a photosynthetic system into yeast to yield ethanol using energy from the sun.

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Alaguchamy *says:*

2015-09-06 at 4:16 pm

Very good article and also inspiring to High school kids. Keep up the good work..!

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