



Engineering Has Become a More Humane, Just, and Accessible Profession, But the Struggle Is Far From Over

From the Associate Editor

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It was the day of the semester I have come to dread in my service-learning class, the day in which my college students visit the public elementary school students with whom they will collaborate to design a playground at the school. This day is usually the favorite of my students—it's the day that class comes alive for them, when all the playground safety standards they've learned coalesce into meaning when they realize how the standards can be used to create a safe, fun, accessible playground. My students meet the children and catch the sparks of energy and imagination they share so freely, and leave the school with excitement to forge ahead with the creative process of playground design.

I dread this day because without ever coming out and saying so, if a group of people walks into an elementary school classroom and asks the children inside to share their worlds of play, and their dreams for a better play space, they in essence promise that some day, the playground will be completed.

I have been at this slow work, of collaborating with local public schools to update and modernize playgrounds, for almost 20 years, long enough to have many successes, and to see that my dream of a satisfactory play space for every child in this community is nearing fruition. But also long enough to have experienced many failures, and to know that despite my best efforts, sometimes, delivering a new playground is a slow process—slow enough that many children who shared their hopes and dreams of play have either left the school or graduated before we were able to deliver one.

On this simultaneously exciting and dreaded day, my students and I were brought into a third-grade classroom to talk play—and we did for awhile. We were getting ready to leave when one of the boys in the class said, “Wait—do we get to hear all y'all's names?”

“I'm not sure we have enough time for that,” I said, as there were 35 of us in all, and the school buses signaling the end of the day were beginning to stage in the parking lot.

“How about just five of them?” the teacher helpfully suggested.

“Okay,” the boy said, and he pointed at one of my female students and said, “What's your name?” When she answered, he gave her a thousand-watt smile and said, “Oh, that's a pretty name.”

My students laughed a low rumble in response—my female student was beautiful and this third-grade boy (we'll call him Jim) was obviously flirting.

“What's your name?” he asked another pretty woman enrolled in my class.

As she answered, I thought to myself, I can see where this is going—five of the women in my class are going to be asked this question—and Jim had many women to pick from among my students. Unlike engineering courses in which I was enrolled as a student, the biological engineering course I teach today has 55% women enrolled. So much of the sexism and discrimination I observed and endured has erased itself in the 30-year period in which I have transitioned from engineering student to the most senior member of my faculty. And erased isn't the right word—I am one person in a tribe of people, men and women, who have fought to make engineering a more humane, just, and accessible profession.

Jim surprised me, though—he next asked the tallest student in my class, an African-American man standing in the back, what his name was. Trey laughed in his typical self-deprecating way and told Jim his name. Trey was an instant superhero in that class—which in a way, is so unfair, being instantly thrust into a role model position when you didn't ask for it. But for Jim and the rest of the third graders in this class, Trey was LSU—Trey was a student who looked just like them. Trey turned the university less than 10 miles from this school from an abstract idea into a possibility.

I have come to the uncomfortable belief that the African-American men in my classroom represent miracles—and I know that my feeling, in a way, is so unfair. But the mountain that an

African-American man has to climb to get into college in Louisiana is formidable, because at every step of the way, so many situations and ideas and laws and institutions scream that black lives don't matter. Louisiana boasts the highest incarceration rate in the world, and African-American men are at ground zero of this ongoing travesty.

Meanwhile, Jim had asked a fourth student, a male, his name, and was coming up on his last query. He turned to a student almost behind him and innocently asked,

"What's your name?"

At these words, every adult in the room took a nervous breath and held it. Jim had chosen the one member of my class of obvious Middle Eastern descent, a student who is Muslim. We were 19 days into Trump's presidency and in the midst of the president's attempts to bar people from seven majority Muslim countries from entering the United States—and all the adults knew it.

"My name is Abdullah," my student answered.

"What is it?" Jim asked, and the adults continued to hold their breath as Abdullah repeated his name.

"Hi-i-i," Jim responded, drawing out his greeting and shining his thousand-watt smile on

Abdullah. Abdullah smiled back while the rest of us relaxed and emitted half-relieved, half-honest laughter. We turned to go, and as we filed out of the room, Jim jumped up, ran over to Abdullah, and grabbed him in a bear hug. Abdullah smiled widely and hugged Jim back.

During this two-minute span, I felt hope for the first time since election night 2016. Because meeting and greeting and conversing and learning to understand people different from us *is* America. Because Black Lives Matter. Because even as we have to continually fight for people to gain access to professions, or college, or playgrounds, the concepts of access and equality are the backbone of America. Because even though these battles are long and slow, and will continue to be for the foreseeable future, those of us who toil in the trenches of our communities—and we are many—will continue to act with gritty, relentless resilience.

The articles in this issue represent stories of our communities and work being done throughout the world to lift all voices and all lives. I hope that you enjoy them and find ways to put them to use in your communities.