

May 27, 2014

Dear Mr. Messersmith,

Thank you very much for being my 8th grade math and science teacher at John Witherspoon Middle School in 1974-5, the year I turned 12. In the years between, I've earned degrees in chemical engineering and metallurgy, and a doctoral degree in materials science from the University of Connecticut. I've been a scientist in Melbourne, Australia, and taught as Assistant and Associate Professor at Georgia Tech. Now I'm a Professor in Materials Science and Engineering and also the founding Associate Dean for the College of Engineering at Boise State University, Idaho. I've published more than 100 papers on materials science and engineering and engineering education, and even lived on campus for two years with my family in a residential hall full of freshmen engineering students. I'm a passionate "STEM" educator and feel strongly that teachers make a difference in the world.

Lately, I've become quite reflective about how I wound up a professor, in this interdisciplinary field of materials science and engineering. The research states that a lot of kids make up their mind in middle school, what they want to do -- and also what they do not want to do "when they grow up." Although I didn't choose my field until I was well into college, I believe you had a big influence on my choice of profession, Mr. Messersmith. You made me feel empowered in science and in mathematics, by your teaching, encouragement and enthusiastic teaching.

The thing I remember the most, Mr. Messersmith, was how you complimented me once on a biology report I had submitted. I still have the report somewhere -- you gave me a "+ +" (two plusses), which was the highest grade you ever, rarely gave. I had done my normal lab report, looking through an optical microscope at slides with living organisms, sketching what I saw, and then added some extra writing explaining how cilia moved. I recall you asking me how I had learned that, and I explained to you that I'd looked it up in the text. You graded it on the spot, with those two plusses -- and I remember flushing with pride, at the compliment, and then saving that report at the end of the year.

In science, I also remember you encouraging us to bring in samples of water that might contain biological organisms. I brought some stagnant water in from a marsh, where my family had gone for a vacation, using an empty Canadian Mist whiskey bottle as a vial for my murky water. You found that humorous. When I visited you several years later, that was something that you remembered about me -- (my mother was Canadian and those empty bottles were occasionally available).

I distinctly remember how you taught percentages. What you taught stands me well, to this day. Is/of = %/100 Mr. Messersmith, you explained that this would always work, and you were right. It always works. I have taught my own three children percentages using this method. 25% of 200 is what? $x/200=25/100$; then you solve and find that x is 50. Or: What% of 200 is 50?

$50/200=x/100$; then you solve for x and find that it is 25. Why aren't percentages taught like this everywhere?

Finally, I remember your playfulness and the fun we had in class. One day, you challenged Donny Johnson to a contest, "Who could jump the highest?" Donny, on the basketball team, was a lot taller than you, without counting his Afro...remember, this was the seventies. You both put chalk on the ends of your fingertips, to mark how high you could jump, and then you each leaped up high, from a crouch to your full extension, putting your yellow chalky fingers high up onto the white wall above the chalkboard at the height of your jump so it would leave a mark for us to see. We all bet Donny would win, and then cheered as you out-jumped Donny, who too, was very impressed with your springiness. He wanted a second chance to compete, and the second time, he did no better -- you jumped even higher! It was amazing to witness, and we were all so very engaged, watching this. I hope it doesn't make your bones ache to read this, but you were rather nimble and athletic in your thirties and boy, could you jump!

In closing, I am so glad that I had you as my teacher in 8th grade. Thank you for teaching thousands of middle school kids across your career. You were a change agent for my generation of young women, who were empowered by your encouragement and never once felt that they should feel limited by gender as to their choice of profession.

With great appreciation,

Janet Callahan