My Earth science educator story – Mike Passow
What I did, why I did it and what happened

Mike Passow.

When I was born, my grandmother looked at her first grandchild and made two predictions: “He will become a Supreme Court Justice. Don’t worry, they all look better after a few days.” I don’t know whether I got better looking, but I do know that I spent my first fifteen years preparing to become a Supreme Court Justice so I did not disappoint my grandmother. Then I had my first career-changing moment.

My parents took me to see a movie called “World Without Sun.” I thought it would be a horror film, but it turned out to describe Jacques Cousteau’s underwater living experiments. So I walked out planning to be a marine biologist. That’s how I began college. I took a basic geology class in my sophomore year to learn about what lies beneath the ocean. That was my second career-changing moment.

During a field trip around my local area, I discovered that rocks told stories of Deep Time, dynamic events that created my landscape, and much more I had never imagined. I switched to Geology, and have enjoyed expanding my understanding of my home planet for more than fifty years now.

What soon became clear, however, is that my strength lay in explaining what I learned to others, rather than developing questions to guide new discoveries. I chose a Master of Arts in Teaching program with an Internship at a school facing Central Park in Manhattan. Early in the year when the weather was nice and the outcrops beckoned, I took my 9th grade class out for a walk. My eyes were caught by a piece of the schist with several nice red garnets. I explained what they were, passed it to a student, and resumed our walk. Suddenly I heard, “Splash!” When I asked where the sample was, a student proudly told me she had skipped it three times. I asked her if she had thought I might have placed value on it, and her eyes widened. She was a “City Kid” and had never thought rocks could be anything but ‘background.’ But the next morning, I found a hand-written apology, and several years later when she was a senior, she made a point to take my elective.

Recently, I had the privilege of partnering with a Columbia University Post-Doc investigator to present a workshop for teachers and students about hurricanes. Before she came to Columbia, she earned her Doctorate at MIT, her BA at Cornell, her diploma at White Plains High School, and took her first Earth Science course with me when she was in 8th grade. Moments like that make any teacher very proud!

Teaching Earth Science to middle and high schoolers (13-18 year olds) allows me to learn about a wide range of topics. My students and I have studied what causes weather, including severe storms that shut down our community. We learn about earthquakes and volcanoes, including some in the home countries of some of my students. We learn about floods that devastate regions, again including locations in the Andes near where some of my students were born.

We study about such grand and distant ideas as Earth's neighbors in space, meteors and comets, the life cycle of stars, and evidence for the origin of the Universe. We find out how minerals and rocks provide the economic basis for communities' wealth. We examine fossils found in local and more distant rocks, and begin to grasp the enormity of Geologic Time and the slow processes of change that have created the world around us.

In short, studying Earth Science allows us to look at, in the words of Douglas Adams, "Life, The Universe, and Everything"!

Over the course of 44 years in the classroom, I have shared what I have learned with more than 4,000 students. While only a few have gone into careers in the geosciences, each has obtained the basis for making everyday decisions influenced by this or her personal understanding of weather, a media story about an earthquake, new fossil discovery, or other Earth Science-related event. They are in a better position to comprehend their world, and by doing so, have become empowered to handle its challenges.

I have had opportunities to teach middle and high school students, college and graduate courses, present programs in museums and other informal science settings such as museums. I have tried to answer questions or point out interesting things they might otherwise overlook to casual acquaintances anywhere from city streets to beaches to a mountain overlook filled with tourists. People always have questions about what they are seeing, hear, or read, and are appreciative when someone with a geoscience background can explain them.

Teaching Earth Science is not confined to a classroom or laboratory. Opportunities abound well beyond the 'usual' locations for field experiences. I have taught about the regional geology and history as the Circle Line tour boat navigated around Manhattan in New York City. I have explained the geologic history of the area while paddling in kayaks in rivers and lakes. Vacationing with friends across the United States, in Brazil, and elsewhere, I can bring background knowledge that helps us expand our enjoyment of being in different places because we can understand why they look different.

One of my most precious memories of being an Earth Science Educator goes back over forty years. It is a brief encounter with one of the 14 year-olds on my first soccer game who had another teacher for science. He stopped me in the hallway of the school a couple of weeks into the school year and said, "Have you ever done anything important in your Life?" "I helped someone learn something once," I replied. He made it a point to come with me anytime I offered opportunities to learn, including screening for fossils in a stream, seining at a beach, hiking local trails, and going to museums.

Now it is your turn to helpful someone learn something.

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