

My Earth science educator story – Mary E. Dowse What I did, why I did it and what happened



Training students in the field. (*J. Hemphill, Western New Mexico University*).

Early Volunteer Work

In many ways geology and volunteer work are simply part of my heritage. My mother earned a degree in chemistry with a minor in geology. When I was in school she did extensive volunteer work in the schools including leading a field trip for grade 8 students to show them the geology of my home town.

My first experience as a volunteer was when I was in college and my brother arranged with his teacher for me to visit his grade 2 classroom to talk about rocks and minerals. My ‘teaching’ career began as a teaching assistant while completing my bachelor’s degree and continued into graduate school. Teaching and working with all kinds of students was what I most enjoyed while I was a student.

I earned a PhD from West Virginia University in 1980 and knew that I wanted to teach, despite the discouragement of some professors. Alas, when I finished my degree I felt woefully underprepared to teach and took a job in the oil industry instead. At that time a former student sent

me a note saying that I really belonged in a classroom not on an oil rig. His words were always in the back of my head. As a geologist for Gulf Oil Company in the early 1980s I volunteered to teach geology merit badges at the Buffalo Trail Boy Scout Ranch for a week every summer. That led to an invitation to sit on the Boy Scout Committee of the American Association of Petroleum Geologists which became the Youth Activities Committee (YAC), which I was asked to chair. One of the events the committee sponsored at that time was Teacher’s Day at the annual convention. Teacher-friendly geologists were invited to make presentations about geology for a group of local teachers. Teachers and friendly geologists willing to mentor teachers were treated to lunch. Teachers then were free to spend the afternoon at the convention listening to talks and visiting the exhibits.

As chair of the YAC I was invited to participate in several conferences organized by the American Geological Institute organized to examine geoscience curriculum and the proposed National Science Education Standards. At those conferences I learned about educational policy and curriculum development. More important were the people I met who exposed me to new ideas and new ways of thinking about teaching.

When I attended the second International Conference on Geoscience Education in Hilo, Hawaii in 1997 I expanded my circle of contacts and friends to a global network. At the meeting in Hilo, I was invited to sit in on the steering committee meeting that was considering how to move formation of IGEO forward. At that meeting Laure Wallace and I agreed to edit an electronically distributed newsletter for the organization.

Teaching

I began teaching as a substitute teacher in math and science in grades 7 – 12 in 1987 and on the basis of that experience realized that I did not want to teach at the secondary level. I also began teaching at the university level as an adjunct/visiting professor while working full-time. Part-time university teaching reinforced my desire to teach.

In 1991 I took a full-time teaching job at Fort Valley State College (now University), a historically black college, in the Cooperative Developmental Energy Program (CDEP). CDEP was an innovative program to recruit talented black college students to pursue careers in the energy industry in cooperation with Oklahoma University and University of Nevada Las Vegas.

Having helped to get CDEP established and moved the first group of students from Fort Valley to the University of Oklahoma, I also chose to move on. In 1995 I began teaching at Western New Mexico University (WNMU). WNMU began as a teacher's college and is now a small regional university. As the only geologist in the department of Natural Science where the emphasis is on students and field work, it has been a good fit for me. I have taught a broad range of courses and became more involved with science education.

Much of my work at WNMU is with under-prepared students, many of who read poorly and don't like math. This has encouraged me to think deeply about how I teach and how to actively engage students in learning about science and geology. I borrow ideas from many sources, modify them for my classes and carefully monitor the results. With a heavy teaching load and small class sizes it is rarely possible to formally assess the interventions, but frequent informal feedback suggests that what I am doing works. Students tell me that even though

they hate science, they enjoyed my class. They often come back for a second course and recommend it to their friends. It gives me great pleasure to see the growth of students through their academic career at Western and to see them move out into the world using the education and skills acquired in our classrooms to be successful.

My two words of advice for a successful career are to volunteer in professional societies and take advantage of professional development opportunities whenever possibilities. Volunteer work led to an incredible list of contacts, job offers and opportunities. More importantly I met many interesting and dynamic people and had fun. My learning, particularly about teaching, did not end when I left school. Through the years I have participated in many workshops and other events and always gleaned ideas that I can use in my classroom.

I will retire in 2016 and have not decided what I will do but expect it will include volunteer work, sharing geosciences with children, teachers and anyone who is interested.



Working with students in lab. (*J. Hemphill, Western New Mexico University*).

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