

My Earth science educator story – Betty Trummel

What I did, why I did it and what happened



At the edge of the Barne Glacier in November, 2006, during the ANDRILL Project.

Becoming a teacher...first choice; science educator...not so much

I always wanted to be a teacher, but my early days as a student and training to be an educator did not fill me with a love of science. Any science training I had was basic and rather uninspiring. Despite this, I entered the teaching profession in 1978...with a huge amount of enthusiasm.

A shift to focus on science in my elementary classroom began three years into my career, when I attended a weeklong, summer environmental conference. I met other educators who led field trips teaching about wildlife, plants, geology, and other aspects of the environment. I thought back to my life growing up on a small farm, and how I spent the vast majority of my time outdoors. I was hooked on science! Most critical, I found the camaraderie of educators and friends with similar science interests. That became a catalyst in both my professional and personal life.

Fast-forward about 12 years

While continuing to teach elementary school, I worked for several weeks each summer at the very conference that had inspired me. Making personal connections was a highlight and provided me with a form of professional development and mentorship. I looked outside the box, and outside my school district to enhance my science education skills. Science simply wasn't viewed as an important subject area for professional development, but I was hungry to learn more and to implement new projects to incorporate science into my classroom and expose children to hands-on, experiential learning.

I found I had the ability to expose students to careers related to science and change their perception of what a scientist actually does. Possible science careers opened up before our eyes!

Meanwhile, I earned a Master's Degree in Science/Outdoor Education in 1991. And, the stage was set for an exciting new chapter in my life when I was awarded the *Presidential Award for Excellence in Elementary Science Teaching* in 1996.

The beginning of the "Antarctic era" in my teaching...a true earth science teacher was born!

While attending the Presidential Science Award ceremony, a representative from the National Science Foundation (NSF) in the USA told me about a unique teaching opportunity. I applied and was chosen for the Teachers Experiencing Antarctica and the Arctic (TEA) program. Soon I was headed to McMurdo Station, Antarctica to work alongside geologists drilling into the sea floor to retrieve sediment cores: the Cape Roberts Project. It took my science learning and enthusiasm to a whole new level...working as part of an earth science team, following real-life scientific research in

action and sharing it with a broader educational audience through daily journals, emails, and photographs.

TEA was set up to immerse teachers in a research experience as a component of their continuing professional development, and to bring polar research into classrooms in innovative ways. It was an incredibly motivating opportunity for me, and I forever will be grateful to NSF for selecting me for this experience.

The Cape Roberts/TEA experience was key; even more important it fired me up to share the work of scientists with students, teachers, and general public long after the actual time in Antarctica. Presentations, teacher workshops, the National Science Teachers' Association annual conference, and networking with educators around the world were all now part of the fabric of my everyday life and teaching.



Helping out as a core technician in ANDRILL's drill site laboratory, 2006.

Beyond textbook science

In 2005 a new international collaboration of earth scientists planned the ANDRILL (Antarctic Drilling) Project. Following the work of the Cape Roberts Project, ANDRILL's goal was to obtain sediment cores for multi-disciplinary study. I applied for a spot to be one of six educators on the education outreach team. This collaboration of scientists and educators was several steps beyond my first geology research experience, mainly due to the fact that this time I was part of a team of educators from four countries. We would all be instrumental in sharing ANDRILL's work and developing curriculum materials. During the three-month ANDRILL project, I was totally immersed in the science. With improved technology, I was able to share our work with an even broader educational audience. This innovative type of program infused learners with excitement.



I made an important connection with Italian educator Matteo Cattadori. We continue to collaborate on projects, long after the ANDRILL experience. It's inspiring to work with an educator who shares a similar commitment to science. It makes us strive to be better teachers!



At the ANDRILL drill site with Matteo Cattadori (educator) and Tamsin Falconer (drill site logistics), 2006.

The Polar community keeps growing...

An ever-expanding community of Polar educators is a direct result of programs like TEA and ANDRILL. This network led me to a third Antarctic experience with a new geoscience project named WISSARD. Similar in scope in terms of education outreach, I spent ten weeks in Antarctica with a team of scientists. WISSARD used a hot water drilling system to penetrate through the Ross Ice Shelf into subglacial Lake Whillans for sampling of water and sediments.

With each project, I've learned more about earth science and how to transfer information to learners of all ages. My students have hosted an annual science event called the "Flexhibit" (flexible exhibit); written by ANDRILL educator, Luann Dahlman. Watching my ten-year old students teach their parents and peers has been a highlight. Knowing that I've encouraged future scientists is rewarding.



Presenting to students in 2006, just before leaving for the ANDRILL Project.

My varied experiences have provided a unique window to the world of earth science, and have shaped my teaching and how I've delivered earth science information during presentations around the world. For an elementary teacher to have an Antarctic

geoscience opportunity is incredible. Having the privilege to represent three science teams and the NSF on so many levels is monumental. I've touched thousands of lives, and they have touched me as well. What an honor to be an earth science educator!

The next chapter

After thirty-five years, I retired from classroom teaching in June, 2015. The next chapter includes starting my own small business *The Science Roadshow*, which is dedicated to promoting lifelong learning in science and technology. Goals: keep teaching, be part of new projects and adventures, and stay involved in education. I have a responsibility to keep earth science alive in classrooms; to open new doors to learning. And, professional development doesn't stop...it's a lifelong goal.

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Publications

The Delta Kappa Gamma Bulletin: International Journal for Professional Educators; "*International Partnerships for Professional Development.*" Fall 2012

Illinois Science Teachers Association Journal *Spectrum*; April 2009; "*International Cooperation and Educational Outreach Efforts During the International Polar Year (IPY)*" with Matteo Cattadori, Trento, Italy.

Praxis Geographie; January 2008; German publication; article and lesson/activity related to the ANDRILL geological drilling science.

International Earth Sciences Symposium; 2008; *The ANDRILL ARISE Educational Outreach Program: Educators Immersed in Science Research in Antarctica (paper and presentation at the symposium)*; with LuAnn Dahlman

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