

My Earth science educator story – Bronte Nicholls

What I did, why I did it and what happened



Beginnings – Why teaching?

I did not intend on becoming a teacher. My great-grandfather (who brought his fossil collection from Scotland when he migrated to Australia which I have in my care), grandfather and father were Headmasters and taught Geology among other subjects and my mother, most of my aunts and great-aunts on both sides of the family were also teachers – I wanted to be different! I went on field trips with my father and his students from a very young age and developed a love of the natural world.

My love of science was further developed by my senior Biology teacher, Margaret Alexander who was the first non-family member to be a mentor to me. On leaving school, I decided I wanted to become an environmental scientist and wanted to take action to manage our Earth's resources. To achieve this, I undertook studies in Natural Resources at the University of Adelaide. Margaret's gift to me was to help me realise that teaching would enable me to influence many young people at a critical time in their lives. So I changed path and graduated with a Bachelor of Education majoring in Geology and Biology from the University of South

Australia in 1987. This is where my next significant mentors, Ian Clark, Barry Cook, Haggis Shackleton and John Cann, who helped me to develop the skills and knowledge I needed to be an effective teacher of Earth Science. The numerous field trips which were part of the Geology program gave me the confidence and knowledge to run my own. So, in 1988 I took my first group of Year 12 Geology students 'out bush' to the Far North of South Australia, visiting the newly opened Olympic Dam Mine and the Northern Flinders Ranges. This was to become my standard field trip over the next 30 years!



Field trip for the Class of 1991: Great Wall of China, Flinders Ranges.



Underground at Olympic Dam mine, observing the primary crusher.

The start of a life-long adventure

In 1992, I was awarded an Australian Science Teachers Association Fellowship which allowed me to travel to the UK and attend the International Conference on Geoscience Education and Training in

Southampton in 1993. This is where I first met Chris King and could observe him teaching geology to senior school students. I also dropped in on the last operating tin mine in Cornwall and much to my surprise, was invited to join the geologists underground in the South Crofty tin mine. I was very happy to have survived!



Bronte and Mike Hodgson, mine geologist, South Crofty tin mine, Cornwall, 1993.

I have remained in contact with many participants from that first GeoSciEd conference and look forward to reunions and meeting new people at these events. Thanks to the hard work of the conference organisers, these events have provided opportunities for me to travel to places that I thought I would only ever read about in text books and dreamed about visiting. The photos and stories from these experiences have brought life to my teaching and inspired my students to visit these places and discover for themselves the amazing planet we live on.

You may see some familiar faces in these photos when we were all much younger!



Conference field trip: GeoSciEd II, 1997, Hilo, Hawaii.



Post-conference field trip GeoSciEd IV, 2003: The Burgess Shale.

Mid-career break

After 16 years as a teacher and Principal at Muirden College, I decided it was time to try something different. I worked at the South Australian examination board and then moved into a Senior Policy role in the state Education Department. It was during this time that I finally finished my thesis and in 2003 was awarded a Doctorate in Science Education from Curtin University.

Back to teaching

I missed teaching terribly, so I returned to teaching as a Senior Leader with a teaching load at Victor Harbor High School, and then the Australian Science and Mathematics School where I have been since 2010. I have been able to resume teaching Year 12 Geology and have taken the next generation of students back to the Flinders Ranges.



Field trip for the class of 2015 – the Golden Spike, Brachina Gorge, Flinders Ranges.

With the introduction of the Australian Curriculum, Earth and Environmental Science will replace Geology in the senior curriculum and I am currently developing teaching resources and assessment tasks for this new course.

Spreading the word

Since 2004, my role as a Senior Officer with IGEO has enabled me to be involved in several international initiatives including the International Earth Science Olympiad. I was very concerned that Australia was not participating, so in 2011, with the encouragement of Ian Clark, I entered a team comprising students from my school, the Australian Science and Mathematics School. With generous sponsorship from a range of organisations and companies, we were able to send a team to Italy. I repeated the process in 2012, this time with the help of my colleague Wally Pillen who had a Geology program running at Yankalilla Area School. So, with two students from both schools, we headed off to Argentina.



The 2012 Australian IESO team, pre-departure, Adelaide airport.

Fortunately, the Australian Science Innovations (ASI), who run the Physics, Chemistry and Biology Olympiad programs in Australia, took on the Earth Science Olympiad and in 2015, the first ASI sponsored team attended the IESO in Brazil. The Australian program is now in the safe hands of Greg McNamara.

The next stage...

Who knows? What I have learnt over the past 30 years is to take opportunities as they arise – keep in contact with colleagues, search for and maintain connection with key organisations that share the same goals as you do and that persistence will get you where you want to go – it is the journey that is the most fun!

Bronte Nicholls, aged 54, Willunga, South Australia, slab@internode.on.net