

My Earth science educator story – Kholoud Mohamed Ali What I did, why I did it and what happened



Parts of my childhood were very funny; when in school we talked about our families and our father's work, my father was professor of geology in the university. The word geologist was a very mysterious word for my friends, they had never heard it before – they kept asking me, 'What is geology?' 'What does your Father do as a geologist?' When I said that my father worked with rocks and minerals (he was igneous petrologist), they finally asked me if my Father was selling rocks. I was just too young to explain geology as a science.

I grew up and studied Geology in the faculty of science at Cairo University, and became an igneous petrologist too (so people must have thought that my father and I were working to sell rocks and minerals!) The year 2008 was my first opportunity to teach geology to post graduate students in Cairo University. By the end of the year, the students were completely enthusiastic about geology. A year later, I met one of these students by accident, he was a Sudanese who told me 'Wherever I go in Sudan I try to recognize rock types, I have really begun to love geology'. These were some of the best words I have ever I heard in my life.



Fieldwork with students.

Beginning a new educational vision for any Arab country, especially Egypt, is an enormous challenge, that will consume lots of time and effort. My starting point was in 2011, when I developed a plan for geo-education while teaching my students in University. I began by asking myself a series of questions and, by the end of 2015, I had answered all these questions through four sets of research on my students. These focussed on different teaching methods and how to apply these methods.

In 2015, I and my college supervisor, Dr. Abdelouahed Lagnaoui, realised that geoeducation must be instituted all over Africa, not only in Egypt. So, we initiated the African Network for Geoeducation (ANGE) <https://sites.google.com/site/geoeducationafrica/>

Many students on first studying geology, may think that geologists are insane and say unbelievable things, like: 'This place was submerged under an ocean for three million years' or 'A regression happened here, when this area that had been covered by sea became land' or 'These

rocks were bent into folds by enormous pressures'. The students may think you are telling a pack of lies and if you don't convince them you will lose the game. The only way to convince them is to make your explanations real and understandable. For me, one of the best moments in teaching was when I took the students on a field trip. We stood in front of a series of folds and I said to them, 'What do you think guys?' 'Is this a normal feature?' 'Surely these folds must have been formed by enormous pressures.' When I saw the glint in their eyes, I saw them beginning to understand.



Real and understandable field explanations.

Another fascinating part of teaching Earth science is dealing with minerals and crystals and explaining how minerals form. When you explain that each mineral possesses a crystal form, and you see a lack of understanding in their eyes, just

get out a natural quartz crystal with its hexagonal faces, and you will see them beginning to understand. I believe that a geologist is rather like a magician, and if he/she doesn't master a trick well he/she will lose the audience.



Excited school pupils.

We are making great steps forward in earth science education in Egypt – or that what I thought. But some geologists and professors still think that geo-education is nonsense! This view has given me another challenge, of how to convince geologists of the importance of geo-education for students.

I will keep working, and maybe one day I will achieve my dream.

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