

## **My Earth science educator story – Michael Streifinger**

### **What I did, why I did it and what happened**



#### **My book of geography education**

##### **Chapter 1: Precious years**

After having seen and experienced the many different faces of Europe on a large scale during my childhood and youth, I decided to dive into deeper waters and strengthen my geographic knowledge at Ludwig-Maximilians-Universität München University (LMU) with the aim of becoming a grammar school teacher, focusing on Bilingual Geography, Geography and English.

Surprisingly, I was offered a one-term ERASMUS scholarship for continuing my studies at King's College, Aberdeen, UK, in 1995. Concentrating on geology, coastal environments and glacial processes, many field trips and field work activities, supported by the local geographical society, intensified my drive to focus on both geography education and scientific research. After finishing my studies in 1999, I first became a full-time school teacher, regularly organizing field trips to the Bavarian Alps and to the North Sea for pupils of all different ages.

This was also the time when I started my publishing activities, first concentrating on school book chapters about glacial environments and geomorphology and articles on teaching Bilingual Geography at school.

My first crucial step into the world of science was when I participated in a congress of geography education in 2006 targeted on outdoor learning. I took part in many sessions with a number of enthusiastic researchers, and as a result, the idea was born of starting my own research in this field, too.

##### **Chapter 2: Scientific fascination**

In 2008 I started working on a PhD thesis on outdoor learning and teaching in Alpine environments, gaining my PhD at Munich University (LMU) in 2010. Triggered by the success of winning the PhD Prize of the Geographical Society Munich (GGM), I continued along the research road by through my habilitation (post-doctoral) thesis. This time I focused on outdoor learning and teaching through the eyes of a film team. This involved A-level pupils from four different Bavarian grammar schools producing explainity clips for fifth grade pupils about the Alps in the context of changing environments.



Looking for suitable film sets in the Alps in 2011.

Empirical checks showed an obvious link between learning and teaching success, the degree of personal motivation and the amount of individual activity. This study was finished in 2013, surprisingly winning the European Comenius Award in the category “Innovative explainity clips”.

### Chapter 3: Science meets education

Since 2013 I have been working as both a private lecturer and grammar school teacher. This enables me to connect scientific knowledge with earth science education, for example by organizing field research days in the Bavarian Alps for 6<sup>th</sup> grade pupils. In this Alpine context, the young researchers learn to deal with natural risks, climate change and human influence. Skimming and scanning through natural environments enables them to take an active part in explaining geographical phenomena while solving complex tasks in open field contexts.



Field research with pupils in the Bavarian Alps in 2014.

This is also true for students at higher grades and levels. Each year I take my student groups from LMU to Mittenwald in the Karwendel region, with an emphasis on geotourism and sustainable land use.

Hence, one of our most thrilling experiences frequently takes place in the Wadden Sea. Both pupils and students are amazed when confronted by this extraordinary marine environment for the first time. One of the major targets during this field trip week is not only to present to them one of the most outstanding fragile

ecosystems, but moreover to help them to feel, smell and taste the North Sea!



Outdoor Learning and Teaching with students on Helgoland in 2012.

The “traditional” 14 km-walk from Sahlenburg / Cuxhaven to the island of Neuwerk is the best experience for achieving this aim.



Field work with pupils in the Wadden Sea in 2016.

### Chapter 4: Future perspectives

At times of implementing a competence-based curriculum, changing examination culture and curricular progression on a large scale, school geography must not be weakened as a social science discipline. In contrast, it should emphasize its best-practice experience, by putting physical approaches, as described above, into action. Outdoor learning and teaching enables pupils, students and teaching staff to develop geographical perspectives both regionally and globally. In this way, the scale of innovative challenges in the future will not weaken our beloved subject, but will keep it alive as a crucial and vital contribution to earth sciences.



## Outlook

Geography has always been a pendulum between natural and social sciences. As a consequence, educating future geography teachers implies more than just transforming the geographical facts and figures needed for classroom activities. It is just as important to strengthen their enthusiasm for geosciences through expeditionary contexts, such as outdoor learning and teaching.

Or in other words:

*“Warum soll ich nicht beim Gehen – Sprach er – in die Ferne sehen? Schön ist es auch anderswo. Und hier bin ich sowieso.“ (“Why should I not look into the distance while walking? It is nice elsewhere. And here I am anyway.”)*

[Wilhelm Busch]

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