



Hands-on Atmospheric Education: Learning Transferable Skills at a Research Oriented Intensive Course

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A shift from discipline-tied fundamental education towards multidisciplinary is needed for a successful career in climate and global change science (Nordic Climate Change Research, 2009). Master and doctoral degree programs can give course that foster multidisciplinary and learning of transferrable skills that are essential for experts working in atmospheric sciences that combines knowledge and collaboration in the fields of chemistry, physics, meteorology, mathematics, biology, agricultural and forest sciences, technology, and geosciences. While organizing more than 50 research-intensive short courses over the past 20 years the Division of Atmospheric Science at University of Helsinki has developed a practice supporting multidimensional learning outcomes in multidisciplinary atmospheric science courses (Lauri et al., 2016).

We studied learning of transferable skills during a multidisciplinary two-week research oriented intensive course in atmospheric sciences, students answered to a survey in the beginning and in the end of the course. Students learned data analysis, writing reports and articles, oral presentation, learning and teaching, as well as project and time management skills during the course. The methods of teaching were group work, data analysis of real scientific questions and real scientific data, a few expert lectures, discussions with experts and peer-support, and the course evaluation that was based on the groups' oral presentations and a written report. According to the feedback the learning outcomes were constructively aligned with the teaching methods at the course. We conclude that studying real scientific questions and data in multidisciplinary group of students in different stages of their studies supports learning of transferable skills and recommend that others pursue use of research oriented teaching methods in higher education courses.

References:

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