

How do Hungarian students perceive our climate? A comparative analysis of climate-related misconceptions

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Elements of climate and climate change education are already present in the curriculum of Grade 1 students according to the Hungarian National Curriculum. Students become familiar with the basics at an early age, and their knowledge is gradually expanded throughout their primary and secondary studies. However, for years the instructors of the University of Szeged have been alerted by the faulty reasoning of Geography undergraduates when climate- and climate-change-related topics are discussed at different courses. As the same phenomenon can also be experienced in primary and secondary schools despite a thorough formal education on the topic, we decided to investigate the students' knowledge in detail. Our present study is a comparative, cross-sectional analysis of primary and high school students' as well as university undergraduates' (Ntotal = 577) climate- and climate-change-related misconceptions. The main objectives of our analysis were 1) to identify misconceptions concerning climate and climate change; 2) to reveal age-specific differences; 3) to find the sources of geographical misconceptions and their role in forming misconceptions. We collected multiple kinds of data, and we employed both qualitative and quantitative methods to analyze them. The results indicate that the number and nature of geographical misconceptions are different in the specific age groups, and they usually appear isolated, similarly to international research findings. Most of the found misconceptions originate in language use, media, preconceptions, and school textbooks. Also, there seems to be a gap between the formal knowledge of the students and everyday life as if they were unable to apply the information they learnt to what they actually observe. We argue that teacher training and (the tools of) education need to be fundamentally reformed in Hungary so that teachers could successfully facilitate their pupils to develop a climate-and climate-change-sensitive awareness helping them to act and live more responsibly in everyday life.