



## **Learning by Doing: How Individual Fieldwork Projects Enhance Engagement, Ownership and Learning in Geoscience Education**

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Geoscience teaching deals with processes happening outside the classroom, which calls for active-learning methods to complement lectures. In a geography undergraduate course, new teaching methods and assessment were designed, in which students were asked to investigate the hydrological processes of a river of their choice by completing homework tasks in between lectures and presenting their results with a poster presentation. During a 3-year implementation process, the changes in teaching methods and assessment were evaluated using a combination of formal and informal student and lecturer feedback. Students mentioned that they enjoyed doing the individual homework-based project and that it helped their understanding of the theory, their research skills, and their ability to select, organise and present information. Questionnaire results showed that, over the implementation period, students' perceived value of practical homework between lectures increased strongly, while their perceived value of lectures remained high. In informal feedback, students noted that they enjoyed learning about where they live, preferred doing the projects individually and seeing each other's projects, and spent more time on the coursework when assessed. When looking back at the course in interviews, students commented that the individual fieldwork projects had prepared them well for their dissertation and summer job. The advantage of using homework-based fieldwork projects complementing lectures is the strong link between theory and practice, which is enhanced even further if homework tasks are discussed in the lectures. In my presentation I will discuss these results and show examples of active-learning methods that could also be implemented in other geoscience education programmes.