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Analysis of individual learning outcomes of students and teachers in the citizen science project TeaTime4Schools

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Only a few of the increasing number of citizen science projects set out to determine the projects impact on diverse learning outcomes of citizen scientists. However, besides pure completion of project activities and data collection, measurable benefits as individual learning outcomes (ILOs) (Phillips et al. 2014) should reward voluntary work.

Within the citizen science project „TeaTime4Schools“, Austrian students in the range of 13 to 18 years collected data as a group activity in a teacher guided school context; tea bags were buried into soil to investigate litter decomposition. In an online questionnaire a set of selected scales of ILOs (Phillips et al. 2014, Keleman-Finan et al. 2018, Wilde et al. 2009) were applied to test those ILOs of students who participated in TeaTime4Schools. Several indicators (scales for project-related response, interest in science, interest in soil, environmental activism, and self-efficacy) were specifically tailored from these evaluation frameworks to measure four main learning outcomes: interest, motivation, behavior, self-efficacy. In total, 106 valid replies of students were analyzed. In addition, 21 teachers who participated in TeaTime4Schools, answered a separate online questionnaire that directly asked about quality and liking of methods used in the project based on suggested scales about learning tasks of University College for Agricultural and Environmental Education (2015), which were modified for the purpose of this study. Findings of our research will be presented.