Solid Earth Discussions

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Comment on se-2021-69

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Community comment on "Teaching Uncertainty: A new framework for communicating unknowns in traditional and virtual field experiences" by Cristina G. Wilson et al., Solid Earth Discuss., https://doi.org/10.5194/se-2021-69-CC1, 2021

I just reacted bluntly and quickly on Twitter but was asked to leave my comments here. So, without pretending to have an elaborate statement, here we go:

Including uncertainty is key to field courses in our teaching at Vrije Universiteit Amsterdam. We tried to incorporate some of these aspects in our hybrid online/VU fieldwork: we sampled a lot (100s!) of rocks in the area and students were given random samples from different levels in the formations and members. In thia way they saw parr of the variety within sequences. In the field we often pay a lot of attention at chosing boundaries wisely. Sometimes literally waljing back an forth through a (partial) section and narrow down the location of a boundary between units (' here I am sure I am in unit1, here the doubts comes in, but another 10ms and for sure in unit2).

Normally we start with measuring in a seemingly constant dip section with all of the students at different locations in the section. Then we gather and tell our measurements.. and see the variation. Another thing: we grade certainty of measurements in the field (rank 1-5). Later in interpretation the sure ones cannot be altered or neglected, while rank 5: if it fits, it is fine. If not, the model might still hold. Or just stroll around a bit to search for a better outcrop showing bedding. And if not.. Rank 5 is all you have.

Yhe most prominent point however is that students in the field can show their skills and understanding by determining themselves where to go and look for that one outcrop that supports (or not!) their hypothesis. Being very flexibel with hypotheses that sometimes can change from one outcrop to the other.

Many of these things can imo not be reached in a virtual fieldwork, however we all pushed quite some limits in creating the best possible alternatives with a lot of efforts. We even included quite some doubts in our explanatory videos accompanying the fieldwork.

My main point: sure, it is very good to pay more explicitly attention to uncertainty, if you did not already do that in your teaching. Exactly this aspect is somewhat related to experience in the field.

Sorry for this rather unstructured 'thinking out loud'. I hope it may help you a bit further.