

## BROADENING HORIZONS: EMBRACING TANGENTS IN OUTDOOR EDUCATION

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Fieldwork broadens horizons. It links subjects, sparks interest, and glues theories, ideas and problems that have been the metaphorical into reality. Working outside the classroom often sparks questions that diverge from the curriculum content. By embracing these tangents a fieldtrip can have a far wider impact. This short article reflects on the impact of a fieldtrip, to Slapton Ley Field Centre, with a group of A level students.

### LOOKING TO THE SKIES ABOVE

The class files out of the room for the last time. Tomorrow they will get on a train, and 3 hours later they will be back in the centre of London, along with eight and a half million others. What they have experienced in their shared time here in Slapton, however, will not leave these students for many, many years to come.

I've invited them to write some of their Slapton experiences on the whiteboard behind me. One reads: 'you can see rain!'. As we walked along the coast, we looked out across the ocean to watch showers that had just passed over us creep towards the horizon. Their cargo of rain was clearly visible below, a dark smudge on the deep blue. This was new to this student whose London horizon is limited by the next tallest building. Her enthusiasm in learning this was infectious, and sparked a long conversation among the students as we walked the clifftops to our next sample site. The students looked to the skies, new terms were shared: 'Cumulonimbus', the classic anvil-shaped convective cloud, *virga*, when the steaks of rain evaporate before they hit the ground. These terms could not be found in any of my preparation work, nor in any of the books or revision guides on the topic of 'Crowded Coasts'. We were wonderfully off topic – and yet what we had learned about the direction of the wind was now being applied to new academic territories.

### WATCHING CHANGE HAPPEN

This year is the Year of Fieldwork – a year dedicated to one the most fundamental methods of scientific enquiry. Here in Slapton, there is a feeling that strong change in our landscapes may be afoot. As another comment on the whiteboard reads, 'the coast can change really, REALLY fast'. The rate of change at our sample sites along our small stretch of coast has become phenomenal. Between site visits, sometimes within the space of a week, we have seen as much as a metre of land be claimed by the sea. Even during the week this school joined us, small holes along the Torcross sea wall developed into a 30 m long subsidence, and, as they left, news reached us that the sea wall had collapsed and the road was closed.

Elsewhere on our walk, we come across newly exposed petrified forest deposits, where scientists from the University of Plymouth have recently found evidence of human habitation. We walk across a fossil forest that has not seen a human footprint for 7,000 years. As we climb the cliff and look back at the beach, we see a brown trail that leads off the beach, north around Tinsey Head. This is the peat itself, being eroded in front of our eyes.

The fieldwork we have undertaken allows us to understand the processes that have caused this change. Students can leave in awe of not only the rate of change, but also the processes that have created it. Not only this, but they have demonstrated through their own fieldwork that they themselves are capable of undertaking research that is both relevant and applicable to real world problems. They have the skills that are needed to start to understand and manage a world that they have witnessed changing.

### QUESTION, RESEARCH, EVALUATE

During fieldwork, questioning becomes normal. On the drive to an urban day, we discuss how rainbows are formed. Can you get moonbows? Snowbows? On patchy 3G, the students get answers, but not before new questions are asked.

Some of these questions we can answer, some we do not have time for, and some we do not know. These questions, a new thirst for knowledge, go back to school with a group. Knowledge has suddenly become something that these students can create, something that they can contribute to, rather than passively imbibe.

Recent research has found that student-led learning greatly empowers students, allowing them to experience some of the issues that academics and professionals find when conducting research (Marvell *et al*, 2013). Student-led



learning provides a much greater emotional engagement to place (Davidson *et al*, 2005), but also to a change in character. Students on fieldwork discover not only about the landscape around them, but also about themselves – how they respond to problems, to working outdoors, to working in a group (Saunders, 2011). The students are actively participating in their learning, have a stake in it, and are aware of its benefits (Hope, 2009). Marvell *et al*. (2013, p. 556) called this a “transformative learning” experience – when students suddenly understand something through the changed frame of reference that fieldwork provides, greatly improving student engagement away from passive note-taking, towards true co-contribution of learning.

As teachers, these are things that we instinctively know, but here it is, in concrete evidence. We are in a powerful position to facilitate a ‘paradigm shift’ in how students perceive learning and education, with huge benefits that last through life, including into the workplace (Yorke and Knight, 2004). It has also been shown that an increased responsibility placed on the student to lead their own learning leads to an increase in their application of safety and risk assessment (Simm and McGuinness, 2004). Marvell *et al* (2013) found that students even preferred to learn from other students – something that we, at the FSC, continue to facilitate.

The recent dramatic changes along this – and many other – stretches of coastline has underlined the importance of what we do, what we teach, and how we teach it. We are at the frontline of new academic research on how students learn best – outside, in the field. Fieldwork transcends the syllabus and the lesson plan, prompts awe and inspiration, and creates an impression that lasts long after they have left a field centre. The spirit of enquiry, of discovery, of processes and results – and sparking a lifelong change in how students view what education can be.

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