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Virtual field trips: Equitable, sustainable, develops the learner?

By Lynda Yorke, *Bangor University*, Des McDougall, *University of Worcester* and Simon M. Hutchinson, *University of Salford*

It is fair to state that in the last few years there has been an explosion of interest in, and development of, **virtual field trips** (VFTs). The pivot to online teaching, that was borne out of necessity due to the covid-19 pandemic, also expedited the uptake, development and deployment of VFTs in our programmes. Geography, after all, is seen as a field-based subject and, thus, the need to provide alternatives to in-person field trips became a rapid imperative for many involved in teaching field courses.

However, whilst virtual field trips have been around for some time, most departments teaching geography, and aligned subject areas, have not incorporated them into their teaching to address issues of inclusion and accessibility. In fact, alternatives to in-person field trips have often involved setting students essays or providing them with dummy datasets to work on. These alternatives do not necessarily ensure that students can develop their field skills and meet the learning outcomes of the module and/or course.

VFTs have been developed using different approaches but are generally aiming for the same output: a tour around a field site that enables the learner to virtually view the study area. Virtual tours have been created using Google Earth Tours, ArcGIS **StoryMaps**, RoundMe.com **Tours**, to name some examples, and have used existing or newly collected 360, aerial or static photographs/imagery. Depending upon the developer, these virtual tours may be more virtual guide than interactive and thought-provoking skills developing, or data collection vehicles. At a time when universities needed to be agile in their responses to the pandemic and, typically, staff were working with limited resources (let us not forget working from home edicts), an impressive array of alternatives were developed. In theory (though we cannot ignore digital poverty), all students finally had an equal (not equitable) opportunity to virtually participate.

These developments have gone some way in addressing issues of accessibility and inclusion that have been raised by **students** and academics over the years. However, virtual guides deployed as a live, online event where students can all participate simultaneously alongside the lecturer is one thing, but what happens when students cannot access the field site in-person?

Should these virtual guides be deployed asynchronously as an alternative for students unable to attend the in-person trip? What we need to consider is that VFTs do have the power to address field trip anxiety, provide pre-learning and post-visit opportunities, and address the sustainability around field trips. However, to create an equitable field experience and data gathering/observation opportunity that allows students to address learning outcomes and develop subject and employability skills, we need to develop VFTs 2.0.

As we've already outlined above, VFTs need to provide a comparable experience that ensures the learner who participates virtually can develop the same skills as those that participate in-person. VFTs cannot be the lesser option. Thus, a considerable amount of thought needs to go into the design

of the VFT and storyboarding, skills acquisition, how the learning outcomes will be met, how the trip will be deployed, i.e. synchronously should all be considered. An equitable experience can only be assured when a VFT is developed in the same vein as module design.

In terms of sustainability, it's fair to say that many higher education institutions (HEIs) will have seen the deployment of VFTs during the pandemic as a route to achieving sustainability and addressing net zero agendas. However, whilst that is part of the attraction of VFTs at the institutional level, within departments it is often more about viability and sustainability in terms of staff and resources to continue to develop and revise their VFTs. This support varies between institutions, with some institutions having dedicated digital education learning support teams and others comprising of one 'keen' academic trying their best. The ability of different institutions to develop a range of VFTs may create an unwanted digital race amongst institutions already competing on other key performance indicators. VFTs should become a standard teaching tools and approach, but it remains to be seen whether, in the short-term, they are sustainable with the pivot back to in-person teaching and approaches.

Finally, by developing the learner we mean that VFTs should incorporate a challenge aspect. This can be seen in 'gamification' or game-based learning that has popped up in lecture theatres, such as kahoot quizzes, padlet, digital badges, and serious geogames. However, can that approach be successfully embedded into VFTs? Again, this comes back to design of the VFT at the outset. It is not simply a case of collecting drone footage and/or 360 imagery. VFTs could be developed to include pieces to camera (PTCs) from staff such as demonstrating a technique or exploring a section or place that is then deployed as a data collection or analysis task in a virtual session. Equally, VFTs should not be seen as an option for students unable to participate in in-person field-based trips, rather they need to perform as both a credible alternative to field-based trips and as a tool to support the learning journey of all students on a course.

As part of our NERC-funded More Inclusive Fieldwork project, we developed a [web-based resource](#) to guide you through VFTs and share some 'we made earlier'. However, if you're starting out anew, here are our top tips for developing VFTs:

- There is no right way to create them, it's up to you.
- Think about pedagogy and learning outcomes before technology.
- Consider carefully how much time and expertise you have, don't be overambitious.
- Find out what free resources exist before splashing the cash on the latest bit of technology – you can achieve a lot with a phone and some freeware!
- Do produce a storyboard and a script if you're including PTCs.
- Talk to the community, there is a lot of help and expertise out there.

The question of whether VFTs perform better in terms of developing the learner and providing an equitable and sustainable future for both students and HEIs remains to be seen. However, we are hopeful that this is the start of a fruitful journey for all concerned in ensuring that fieldwork is more inclusive and accessible.

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Suggested Further Reading

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