Toward Inclusive Fieldwork and Communities of Practice in Physical Geography and Environmental Science: experiences from the CULTIVATE team in the UK.

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How to Foster Diversity, Equity, Inclusion, and Justice in Geography.

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1. Toward Inclusive Fieldwork and Communities of Practice in Physical Geography and Environmental Science: experiences from the CULTIVATE team in the UK

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ABSTRACT

CULTIVATE was a UK-based research project, with the aim of 'growing an inclusive teaching environment'. Field-based teaching has been viewed as neither inclusive nor accessible to all participants (e.g. people with disabilities or neurodiversity) and educators and institutions (higher education providers) acknowledged this. CULTIVATE engaged with academics and stakeholders via focus groups, and a workshop to explore the issues surrounding barriers to field-based teaching to address diversity, equality, inclusivity and justice (JEDI). Our Community of Practice co-developed a 10-point guide for educators to help them consider the issues and introduce actionable solutions into their everyday teaching practice. To bring about systematic change, we need co-creation and co-operation driven by grassroot actions (students and academics) and top-down (institutional and regulatory) initiatives to support and enable change, such as through the introduction of Charters awarded for Race and Equality, and via guidelines introduced from academic standards oversight bodies and learned societies.

Key words: equitable; inclusive; accessible; practical; fieldwork; community of practice

Word Count: 5,185

The CULTIVATE (not an acronym) project came about in response to a UK Research Institute (UKRI) funding call in 2021 to address diversity, equity, and inclusion (DEI) in environmental sciences. However, before we discuss our experiences a little bit of UK-context is required.

Inclusive teaching has focused on students with disabilities in class-based settings (Kendall, 2016), with limited focus on field-based learning (Gilley et al., 2015; Hughes, 2016) and not at all on diversity and equity. But over the last few years there has been a shift to focusing on JEDI in research and teaching (Tooth et al., 2021) that

has its origins in evolving higher education institutes (HEI) teachingscapes (i.e. online learning) and UKRI Research Councils (national funding bodies) agendas. Initiatives such as the Athena Swan Charter (an accreditation scheme that recognises the advancement of gender equity in HEI and research institutions, RIs) and the Race Equity Charter (helps HEIs and RIs to improve their work on representation, progression and success of Black, Asian and minority ethnic people [BAME] in HE) have been driving institutional change from a top-down perspective. At grassroots, the Royal Geographical Society with the Institute of British Geographers (RGS-IBG) have been instrumental in progressing the JEDI agenda in the UK. As an organisation they have an education remit and work closely with academics and the Council of Heads of Geography in UK HEIs. They published a set of five Fieldwork Principles for undergraduate fieldwork (2020) to guide departments planning and delivering fieldwork including Principle 3: Safe, Responsible and Ethical Fieldwork, and Principle 4: Accessible and Inclusive Fieldwork. The principles have been entrenched in the Quality Assurance Associations (QAA) Subject Benchmark Statements (SBS) for Geography (2022). The QAA is the UKs HE independent expert quality body that oversees teaching and learning, and has a responsibility to publishing subject benchmark statements that describe the nature of study and the academic standards expected of gradates in a specific subject area. JEDI, accessibility and the needs of students with disabilities are now explicitly mentioned in the SBS for Geography (QAA, 2022). Together, these documents are informing departmental practices.

We are associate professors in geography and/or environmental science at UK HEIs. We came at this from a bottom-up approach, influenced by personal experiences and teaching during the pandemic. Student cohorts in the UK vary by institution, but typically our student body comprises a mix of local (to the HEI) students and those from across the UK, with low international student numbers. Studying geography in the UK has traditionally been seen as a white, male, and middle-class pursuit (Daigle & Sundberg, 2017; Desai, 2017; Noxolo, 2017). And undergraduate entry data for geography, earth and environmental science indicate most students are white (Brace & Souch, 2020; HESA, 2022). Geography as a discipline is currently tackling its colonial, gendered and whiteness image with alacrity (Esson, 2020; Hughes, 2022; Noxolo, 2022); however, our focus was centering on field-based inequities.

The CULTIVATE project was initially conceptualised through our personal lens/experiences of running field courses. We envisaged fieldwork as that which enabled students to be physically present in the field and to feel comfortable being in the field, or to provide comparable field-based learning and skills development through a virtual medium. The project vision was about trying to create an equitable field experience through capturing best practices. The project aim was to explore issues through focus groups with key stakeholders (academics, students, RIs, regulatory bodies) and resulted in a 10-point guide for educators planning future fieldwork (Yorke et al., 2022a,b,c) developed by the community for the community. Our work has fed into JEDI fieldwork policies at universities and is beginning to reach high school and outdoor learning educators. In terms of a fieldwork practice guide, our approach was relatively novel, focusing on undergraduate students rather than researchers. However, there is a growing body of JEDI research within the UK (curated by the RGS-IBG) developing approaches on how we ‘do’ fieldwork in the 21st Century.

Our community-led outputs are about every-day actions that you can take to ensure your field-based teaching trips are inclusive and accessible for all. We will walk you through your assumptions (and biases), locations and plans, field-kit poverty, virtual optionality, building a community of practice, and conclude with future directions.

1. Things to consider

Geo- and environmental sciences are heavily focused on field-based delivery and undertaking independent field-based inquiry (Das and Chatterjea, 2018). But, how do we address the issues of inclusion and accessibility in subjects that have often been represented with images of athletic, white professors (Rose, 1993) striding up mountains imparting knowledge to undergrads?

Your starting point should be to consider your own experiences and positionality in relation to fieldwork. We attended university through the 80s, 90s and noughties, fieldwork was often compulsory, field kit ownership assumed, and you carried on regardless of weather, tiredness or ability. For most academics, prior experiences inform their teaching practices and approaches to designing field courses. How many of us have been told 'field trips are a rite of passage'? Field trips have a mythical narrative surrounding them, they are seen as the pinnacle of university experience, they are the best time you can have whilst doing work, and they add value to students' learning. However, for some students they can be negative experiences because it rained all week, they did not get on with their roommate, or they just missed home.

We need to reflect on our experiences, critically analyse them, and be reflexive in our approaches. We need to think afresh about fieldwork design, the barriers to fieldwork and how we ensure fieldwork is inclusive and accessible. This is not about adjustments; it is a paradigm shift in our approach. Inclusive fieldwork and team building places staff and students at the centre of its design.

1.1 Throw out your assumptions

Students come to university with a range of experiences and expectations. Current students may not have spent time walking around the UK countryside or learnt to map read in their high school geography class; in fact many have little or no experience of fieldwork prior to arriving at university (Brace, 2023). Students' prior exposure to field environments may be limited due to a wide range of factors including: the school they attended, financial situation, or caring responsibilities. We should not assume students are comfortable with peeing outdoors, or know that jeans are unsuitable to wear in the field. In addition, through widening participation initiatives (Connell-Smith & Hubble, 2018) many UK students are now 'non-traditional' (Macguire, 2001), mature-age students (over 21 years of age) and/or have caring responsibilities (Kettell, 2020). Globalization of universities means we cannot assume that the cohort have an intimate knowledge of UK terrain and weather conditions. Thus, approaches to fieldwork design cannot be predicated on assumptions that undergraduates are in the 18 - 21 year age group, they can hike for hours, make copious notes in the rain, or work 9am - 9pm every day!

So, where do we start? Well like every good course, it is about the learning outcomes. When we include fieldwork in our teaching, be that as a daytrip to support a module or a stand-alone field course, we should be thinking about the purpose of the activity. What is it that we are trying to get our students to learn, demonstrate, understand through the fieldwork activities? Does taking students to a certain location enable the students to meet that learning outcome? If we are teaching skills, does that location enhance the learning or could the skill be taught on campus? These seem like relatively easy questions to pose but can get easily forgotten among the conflicting priorities and pressures of academic workloads.

1.2 Students know themselves best

There are key sites we want our students to experience, perhaps because they help consolidate theory into practice, or the scale of the feature needs to be seen to be appreciated. However, field environments can be overwhelming and pose many challenges to student learning. Fieldwork is not just for the most physically able students. Whist most universities produce personal student learning support plans (for dyslexia, neurodiversity, anxiety), with adjustments focused on classroom-based delivery, field-based activities often exacerbate issues for students. In addition, there will be occasions when, for whatever reason, a student does not disclose a pre-existing condition and staff can end up in responsive mode on a field trip. Therefore, creating a supportive environment where students are open and honest about their concerns is key. Training in both physical and mental-health first aid can help ensure staff feel prepared to respond. Adapting field trip medical forms to include information on mental health and learning disabilities can also help, especially when support plans are often not tailored to field-trip situations. A student may disclose complex requirements whereby you, as a member of staff, feel out of your depth. Do not be afraid to seek advice from an expert or colleagues (first gaining permission from the student). Finally, some UK institutions are going a step further to create inclusive impact assessments in addition to risk assessment to ensure aspects of inclusivity are also addressed.

[Insert Figure 1.1]

Source: CULTIVATE Project; drawn by MorethanMinutes Artists Becky and Claire.

Figure 1.1 Issues and barriers associated with field-based teaching.

2. Delivering your content

2.1 Chose your location wisely

Selecting destinations for field-based courses has probably always been driven by site, i.e. the best example of a relic glacial landscape, an exceptional geological outcrop, the first transition town or inner city deprivation. However, we need to reflect on the purpose and appropriateness of visiting, and how we can sensitively

engage with those environments, particularly in the context of social science research. We may look at a field area objectively, but also consider it from the position of the local community. This might seem trivial, but it can create tensions and we need to carefully consider how we engage with these places and the communities in a sensitive and non-intrusive way. We sometimes make assumptions about our learners and their backgrounds, but student populations are as diverse as are the places we chose to visit. Consider whether it is appropriate to take predominantly middle-class students to observe the misfortunes of deprived areas, What are the cultural sensitives that we need to respect when visiting a site such as a church or a mosque? How might our students be interacting with a particular location when a student may have grown up in a similar location and will not want judgement from their peers? We need to see locations as living places and not just a study example. We should be mindful of our own positionality because our lived experiences may be very different to those of our colleagues and student body.

There has been considerable debate about the choice of international field course locations, particularly around countries where Governments are introducing increasingly hostile laws and/or criminalising LGBTQIA+ people, and some locations are unsafe or particularly hostile to women or minoritized groups (e.g. BAME). Many academics and institutions are now debating whether or not they should not run trips to those countries; does a great field site(s) outweigh safety concerns? Several high-profile UK institutions have discontinued trips to such destinations. However, staff and student communities are diverse, and individuals have their own approach to risk and risk-taking. Considerations need to balance the destination against what and who might be at risk. This is, of course, a discussion that should be undertaken by faculty and students, whilst remembering there is still a power relationship operating over students. To be inclusive, decision making should be transparent. Consult widely and respect differing viewpoints.

2.2 Share your plan at the outset

Often the biggest concern about fieldwork is the practical side of it, accommodation, activities, free-time, meal times, etc. We need to allay fears early on, and manage everyone’s expectations. Providing a working timetable for each day, that includes meal and break times, and an indication of the activity can really help, as well as travel times, with roadside stops or lay-overs. We cannot be exact with our timings, but timetables help diabetic students manage their glucose levels, or neurodiverse students cope with unfamiliar situations.

Accommodation particularly sharing rooms or dorms, or type of hotel, hostel or bunkhouse worries students. But increasingly we hear concerns about single-sex or gender-neutral toilets. We should acknowledge, and discuss with our students, those issues we cannot control/resolve (i.e., requires societal change), however, accommodation providers should be regularly reviewed to ensure they continue to meet requirements. Students want 360 tours or weblinks to accommodation as part of the course introduction, but you should also include information about quiet or pray spaces too. Share a detailed fieldwork plan, including all the key information at the outset.

2.3 Don’t overdo it

Fieldwork and field-based teaching should not be assumed as part of normal duties. Inclusive fieldwork should consider the impact on staff, i.e., from residential trips (either home-country or international). Thus, considerations for staff are similar to student concerns, i.e., caring responsibilities. Look at the timing of trips during the planning stage, and try not scheduling on-campus teaching for the day(s) after the return from residential trips.

Once in the field, there has been the tendency for it to be fully immersive due to the nature of day-time data collection and evening's spent data processing. However, that is not a sustainable approach for staff or students, who both need down time, time away from each other. Consideration should be given to the type and amount of evening working, which may vary by year of study and learning outcomes, or whether it is necessary at all.

2.4 Don't forget the additional costs

Increasingly students are struggling financially and even additional 'extras' whilst on a trip such as takeaway coffee is not feasible. Although universities highlight additional study costs related to field clothing and footwear, field kit can be expensive and may not get used very often. In the UK, a waterproof jacket and study footwear are essential, but can be picked up relatively cheaply. Rather than provide students with a kit list, do 'show and tell'. Let them know about simple hacks, such as lining a rucksack with a recycled plastic bag instead of buying an expensive liner. Encourage students from earlier cohorts to share their advice and experiences, helping the student community to learn from one another.

Where fieldwork is compulsory, the focus should be on provision of field kit. Several UK departments have set up 'field kit libraries', either through purchase of new clothing and/or via donations. Schemes need to be administered sensitively and fairly, such as by financial hardship. Ensuring there is a range of sizes available is important to avoid students being unable to access the kit. It is important that the kit is not branded with university logos to draw attention to it, and that loans ensure parity and do not stigmatise students. Loans are also useful for exchange students unprepared for UK weather.

3. Go boldly into the virtual field

So far, we have tackled inclusive fieldwork through the lens of being physically present in the field. Virtual field trips (VFTs) offer the opportunity to collect data remotely when it is not possible for students to undertake in-person fieldwork. Aim for inclusive VFTs that challenge the learner and produce outcomes whereby students can undertake data collection, gain a skill or learn a technique. There must be opportunities to build communities and collaborative working within the VFTs that is comparable to in-person trips. Since the pandemic, the adoption and development of VFTs has grown in interest and capabilities (e.g., Whitmeyer and Dordevic, 2020; Barth et al., 2021; Bosch, 2021; Mercer et al., 2022; Pugsley et al, 2022). Virtual approaches to fieldwork delivery and participation can be transformative allowing students to access places that were once inaccessible (e.g. through drone footage and high resolution imagery; see for example Bonali et al., 2022). Using VFTs as a

preparatory or supplementary tool to in-person trips can help to introduce field sites in a way that: (i) alleviates anxiety (Jolley et al., 2018), (ii) opens up discussions with field leaders, (iii) allows educators to cater for a diverse range of learner's needs and interests (Friess et al., 2016), (iv) helps to reinforce learning as learners can visit the sites multiple time (Whitmeyer and Dordevis, 2020), and (v) offers the integration of multiple datasets providing a more holistic overview of the site (Qiu and Hubble, 2002). Finally, for those students who genuinely cannot attend a trip, VFTs have been shown to enable students to meet learning outcomes and be an authentic mode of assessment (Mead et al., 2019; Gregory et al., 2022; Pugley et al., 2022). As such VFTs, whether used a supplementary or optional to in-person trips, could play an increasing role in addressing JEDI agendas in the future.

Developing VFTs is as time-consuming as an in-person trip. However, in many institutions, support and resources come from newly formed 'digital ed' teams, but something that has been emerging is collaborative pan-institution approaches. In the UK, there are many field sites that several university departments utilise for teaching. There has been a push for co-development and/or sharing of resources, and there are several examples of freely accessible VFTs. Examples have included live field broadcasts (where cell coverage allows) to enable co-working between the learner and the staff (e.g. The Open University; Collins et al., 2018), or between learners on- and off-site working together.

Finally, digital fieldwork (tools/apps) can aid in-person data collection, supporting inclusion and accessibility for students with a range of health/learning related difficulties. A lot of digital fieldwork simply utilises iPhones (to record personal audio notes or professor instructions) and iPads (for note taking, recording measurements, photographing, and sketching; Welsh et al., 2015; Lundmark et al., 2020), but there are many specialist apps too, such as the Color Blind Pal, ArcGIS Survey123, GeoExplore, TreeID, etc. However, a key point raised during our community-led workshops was that whilst digital fieldwork can play a role it should be appropriate and strongly linked to pedagogy and learning outcomes. Therefore, consideration should be given to whether digital technologies will appropriately support or detract from the learning activity.

3. Support each other

It should not be underestimated how much additional stress and strain is applied to staff and students when away from their usual place of work. Support networks may not be present in the field. Whilst staff may return to a field area year-on-year, each visit is unique, and for the students they are not at all familiar with the environment. Preparation can begin with building community cohesion in the run up to the trip. Pre-trip lectures prepare students for content, but as we have already alluded to, trips are more than just academic exercises. From the outset, we need to treat the preparatory sessions as opportunities to build a community, to break down the barriers between staff and students. Creating a supportive environment can start with transparency about fieldwork and the fact that it is hard work. Ice-breaker events can be used as not all staff and students know each other. Asking students to co-design social or downtime activities can be a way to ensure the trip represents students and their needs. However, not all students or staff want to participate in extra-curricular

activities, and asking students to co-design activities is asking them to take on unpaid work.

4. Where do we go from here?

4.1 Creating a Community of Practice

One of the main drivers of the CULTIVATE project was the desire to create a community of practice. That can be within your own department or outside your home institution, but finding collaborators with the same outlook – to create more inclusive and accessible fieldwork for everyone – is an important first step. In addition, our student community are keen to address the same issues and should not be overlooked when field courses are being reviewed or developed. They can provide critical insights and act as a critical friend to the process; invite them in!

There are many examples of good practice out there, and many academics are working to develop solutions to the challenges we all face. Whether you set up working groups, virtual meetups, or simply have a mailing list, it is key that you connect with others. Sharing concerns and good practice will only enhance what you are trying to deliver. If there is resistance in your own department, it can be the support of others that reassures and helps you make the changes required to create an inclusive and accessible field course for all concerned.

4.2 Reaching the Wider Community

A key question for us has been "how do we achieve a wider 'buy-in'?" Aside from hoping that all staff would want to 'do the right thing', we need to demonstrate that a more inclusive and accessible learning environment will lead to better student engagement and outputs. Our experience throughout the project illustrated that expanding our networks and working together has provided critical insights into best practice approaches (or approaches that have not worked) and ultimately helps everyone as we strive to make things more inclusive. However, our project participants were drawn from UK HEIs, a self-selecting group of actors, and we have yet to engage with those academics for whom JEDI is not on their agenda – this is whom we need to engage with to enact widespread cultural change to fieldwork delivery. Creating inclusive and accessible fieldwork needs to be seen as easy to implement by those who are least willing to adopt JEDI policies. Beyond HEIs, we have begun to engage with high school and further education teachers because fieldwork is part of the secondary geography curriculum. Enabling equitable fieldwork prior to university is a must, but may not be as easy to implement in high school-based settings due to budgets, locations, and resources.

We are still at the start of this journey but hope our experiences, drawn from our UK community, will help other practitioners to develop fieldtrips with JEDI considerations in mind and to create a paradigm shift from JEDI and fieldwork being rather reactive to JEDI being considered more proactively during the design phase. The points raised here are not a checklist and do not cover everything as we recognise that every situation and student is unique, so please do not view our suggestions as a prescriptive list of dos and don'ts. Our strategy throughout the project was to collate

ideas and experiences of JEDI approaches to disseminate and share best practice, we continue to co-create solutions with our students and the wider community.

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