

The Future of Geography Field Course Pedagogy in UK Higher Education

Author affiliations

Ewan Woodley, Geography, Faculty of Environment, Science and Economy, University of Exeter, Exeter, UK, E.J.Woodley@exeter.ac.uk

Stewart Barr, Geography, Faculty of Environment, Science and Economy, University of Exeter, Exeter, UK, S.W.Barr@exeter.ac.uk

Lesley Batty, School of Geography, Earth and Environmental Sciences, University of Birmingham, Birmingham, UK, l.c.batty@bham.ac.uk

Karen Bickerstaff, Geography, Faculty of Environment, Science and Economy, University of Exeter, Exeter, UK, K.Bickerstaff@exeter.ac.uk

Christopher Darvill, Geography, School of Environment, Education and Development, University of Manchester, Manchester, UK, christopher.darvill@manchester.ac.uk

Raihana Ferdous, School of Animal Rural & Environmental Science, Nottingham Trent University, Nottingham, UK, raihana.ferdous@ntu.ac.uk

Naomi Holmes, Department of Education & Department of Environment and Geography, University of York, York, UK, naomi.holmes@york.ac.uk

Ihnji Jon, School of Geography and Planning, Cardiff University, Cardiff, UK, JonI@cardiff.ac.uk

Kenny Lynch, Education and Science, University of Gloucestershire, Gloucester, UK, klynch@glos.ac.uk

Julian Martin, The Royal Geographical Society (with the Institute of British Geographers), London, UK, J.Martin@rgs.org

Alan Marvell, Business, Computing and Social Sciences, University of Gloucestershire, Gloucester, UK, amarvell@glos.ac.uk

Derek McDougall, Geography and Environment, University of Worcester, Worcester, UK, d.mcdougall@worc.ac.uk

Hannah Pitt, School of Geography and Planning, Cardiff University, Cardiff, UK, PittH2@cardiff.ac.uk

Aled Singleton, Geography, School of Biosciences, Geography and Physics, Swansea University, Swansea, UK, a.m.singleton@swansea.ac.uk

Catherine Souch, The Royal Geographical Society (with the Institute of British Geographers), London, UK, c.souch@rgs.org

Lynda Yorke, School of Environmental and Natural Sciences, Bangor University, Bangor, UK, l.yorke@bangor.ac.uk

Correspondence

Ewan Woodley, Geography, Amory Building, Rennes Drive, University of Exeter, EX4 4RJ.
Email: e.j.woodley@exeter.ac.uk

Type of paper submitted: Commentary

Key words: Field course, pedagogy, sustainability, equality, diversity, inclusivity.

Funding information

The workshop for this project was supported by an award through the University of Exeter Strategic Development Fund to Ewan Woodley, Stewart Barr and Karen Bickerstaff.

Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Acknowledgements

Chris Perry, Nick Gill and Nicola Thomas (Department of Geography, University of Exeter) are thanked for supporting the funding bid for the workshop. David Woodley (Academic Consultant) is thanked for helpful discussions regarding EDI in practice.

Abstract

Field courses are widely regarded as integral to geography degree programmes, providing students with opportunities for experiential learning, often in unfamiliar international environments. Yet, this key area of pedagogy appears increasingly unsustainable and complex for Higher Education Institutions (HEIs) within the context of the urgent need for decarbonisation, increasing financial costs, and the institutional challenges of comprehensively embedding necessary Equality, Diversity and Inclusion (EDI) considerations into these activities. Here, we report on a national-level workshop (April 2024) that brought together a wide range of HE practitioners to discuss the future of UK field course pedagogy,

using the fieldwork principles adopted by the Royal Geographical Society (with the Institute of British Geographers) (RGS-IBG) in 2020 as a basis for framing future discourse. Using a Three Horizons approach to guide our conversations, we critically explored the (un)sustainability of current academic and institutional practices, alongside future directions and ‘disrupting’ (innovative) practices for promoting transformative change in this area of education. Here, we argue for two sector-wide discussions that require collaborative engagement with practitioners, institutions, and students. Firstly, we highlight the urgent need for transparent and critical reflection on the challenges and hypocrisy of aeromobility in academia and the need for more widespread adoption of low carbon (‘slower’) modes of travel. Secondly, we call for the immediate reconceptualization of field course pedagogy to place EDI considerations at the core of field course design and practice, aiding a transition towards Universal Design for Learning (UDL). As such, we call on the geography community in higher education to engage in critical reflection on how we take meaningful and urgent action to address the disconnect between our stated educational values around environmental sustainability and EDI, and our actual educational practices.

Key words: Field course, pedagogy, sustainability, equality, diversity, inclusivity.

1. Introduction

Fieldwork has a long history in geographical education and has been described as a ‘signature pedagogy’ (Komoto, 2009) and an integral component of disciplinary learning (Spronken-Smith, 2013). Consequently, a wealth of literature has explored the role and significance of field course pedagogy within the context of geographical identities and epistemologies (Herrick, 2010; Hill *et al.*, 2018; McEwen, 1996). This work has examined the pedagogic role and value of fieldwork in engaging students with immersive learning opportunities, alongside the transitions in fieldwork practice over recent decades (France and Haigh, 2018; Kent *et al.*, 1997; Stokes *et al.*, 2011). Given this breadth of scholarship, we focus our attention on two key aspects of pedagogy in UK higher education that have garnered attention over the past decade. The first is that of the field course as a modular or unit-based component that may be a core or optional learning activity for students on Geography undergraduate or

postgraduate degree programmes. Here, we distinguish between fieldwork undertaken by students to meet a set of field course intended learning outcomes, and those of independent undergraduate research (e.g. dissertations) that are not the focus of this paper. The second relates to a specific focus on the practical implementation of field courses within university degree programmes as opposed to pedagogy alone. As such, we examine three converging and urgent agendas in higher education and their implications for transforming field course pedagogy.

Firstly, environmental sustainability has risen in prominence through academic and societal debates, increasing sector-wide discourses on pedagogy, and Higher Education Institution (HEI) strategic development (Gormally, 2019; Žalėnienė and Pereira, 2021). This can be seen through recent widespread institutional declarations of an Environment and Climate Emergency (E&CE) (Bookbinder *et al.*, 2024; Fazey *et al.*, 2021; Latter and Capstick, 2021) and a ubiquitous emphasis on embedding UN Sustainable Development Goals into higher education design and education practice (Chankseliani and McCowan, 2021). Importantly, this brings into sharp relief the problem of high carbon, 'exotic' international field courses that have become a core, expected, and highly marketable component of many UK Geography degree programmes over the past two decades. As such, we explore the extent to which Geography departments are focusing on decarbonisation of this area of pedagogy and the associated implications for how environmental values align with educational design.

Secondly, whilst field courses may be positive and transformative experiences to some students and staff, an increasing body of literature explores the significant challenges and barriers posed by this area of pedagogy, specifically relating to discourses around Equality, Diversity and Inclusion (EDI) (Lawrence and Dowey, 2022; Mol and Atchison, 2019; Tucker *et al.*, 2022). These issues are wide-ranging in extent and the debates highly dynamic in nature, incorporating (not exclusively) debates on student financial costs, health and wellbeing, gender, neurodiversity, disability, implicit ableism and elitism, and decolonisation. Consequently, we explore the implications for students and colleagues organising field courses, focusing attention on transforming field course pedagogy to make it more inclusive and accessible, as well as promoting greater engagement from HEIs in supporting colleagues and students in this area of pedagogy. To achieve this, we call for a supportive dialogue

between institutions, staff and students, such as those recently set out in the Advance HE Framework for Inclusive Learning and Teaching, in order to realise meaningful transformative education.

Thirdly, there has been a significant shift in the balance of funding for UK higher education over the past decade (Weston, 2023) with the current, acute financial pressures across the sector resulting primarily from the decreasing value of fixed, home undergraduate fees (Wareing, 2024). The result has been an increased drive by university leaders for teaching efficiencies, a move that has brought a focus on expensive areas of pedagogy such as field courses. In this case, HEIs are forced to address myriad factors, including programme marketability and recruitment, meeting the Quality Assurance Agency for Higher Education (QAA) subject benchmarks, adhering to Competition and Markets Authority (CMA) obligations, whilst at the same time addressing environmental sustainability and EDI agendas in higher education. Therefore, we explore the extent to which universities are engaging with these debates in their advocacy and support for field course learning.

In recognition of these three contemporary challenges facing fieldwork in geography and their pedagogic implications, the Royal Geographical Society (with the Institute of British Geographers) (RGS-IBG) adopted and published Principles for Undergraduate Field Courses in 2020, developed through the Council of Heads of Geography in UK Higher Education Institutions (CHGHEI). Crucially, through recognising fieldwork and experiential learning as essential aspects of Geography, the principles are embedded and formalised in the QAA Subject Benchmark Statements (QAA, 2022), as well as underpinning RGS-IBG programme accreditation. However, without diminishing the value of this resource in supporting departmental planning and provision of learning activities, the dynamic nature and urgency of the challenges outlined above call for renewed attention to field course pedagogy in UK HEIs. In addressing this sector-wide need, we (the co-authors of this commentary) convened a national-level workshop (London, April 2024) of field course educators from a diverse range of ten UK universities, alongside two representatives from the RGS-IBG. Workshop participants brought a wide range of explicit and tacit knowledges surrounding field course pedagogy, from experience of designing and delivering field-based learning activities across physical and human geography, to involvement in national-level debates and scholarship in

this area of teaching and learning. All of those present were motivated by advancing understanding of the practical aspects of field course pedagogy within the context of the dynamic debates in higher education outlined above. As such, the workshop provided a space for critical reflection on field course research agendas, pedagogy and institutional change within the context of The Climate Emergency and transformative education (e.g. Universal Design for Learning). To meet this aim, the workshop had the following objectives: 1) to enable a space for a) sharing and collectively reflecting on our experiences as researchers and educators in field course pedagogy, and b) critical examination of the latest academic debates in this area, 2) to acknowledge developing aspects of field course pedagogy that advance on the existing RGS-IBG Fieldwork Principles, 3) to facilitate a better collective understanding of UK HEI processes surrounding field course pedagogy, including opportunities and constraints for field course teaching and learning, and 4) to map out the key intellectual agendas and academic debates that this paper presents as a call for wider discourse.

To structure our conversations, we used the *Three Horizons* approach, a conceptual tool that enables participants to engage with complex and often intractable challenges with uncertain futures (Sharpe, 2015; Sharpe *et al.*, 2016). Employing this approach, future transformations in practice are viewed through three overlapping horizons (Stewart *et al.*, 2023). Horizon one (H1) represents dominant behaviours and practices surrounding the design and delivery of field course pedagogy in higher education; a 'Business-as-Usual' (BAU) analysis of practices that may become increasingly unviable due to wider sector and societal changes. Horizon two (H2) outlines responses to the challenges of H1, exploring emergent, often 'disruptive' innovations that may either temporarily allow continuation of BAU practices, or enable more radical and sustainable transformations to be realised. Horizon three (H3) illustrates a radical vision for transforming field course pedagogy that represents a significant departure from H1/BAU.

The paper is structured in the following way. First, we outline the reflections of participants to identify key themes relating to existing behaviours and practices surrounding field course pedagogy (H1/BAU). Second, we explore two main themes relating to radical transformative change (H3) identified by participants: environmental sustainability and Universal Design for Learning. Thirdly, we identify current emerging practices that we would like to see expanded

(H2), using these as a basis for recommendations in the final section of the paper. The discussion of each horizon involved separating participants into three groups to share their knowledges and experiences of field course practices, with group participants changing between discussions. The findings represent the outcome of a whole group discussion to reflect and summarise key findings.

2. Exploring challenging and unsustainable field course practices

The initial workshop discussion focused on H1, providing an analysis of current behaviours and practices associated with field courses (BAU) that are problematic, and that are likely to become increasingly unsustainable in future. This activity enabled participants to reflect critically on their own experiential knowledges, alongside their engagement with scholarly debates, sector-wide discourses, and reflections on the RGS-IBG Principles for Undergraduate Field Courses (2020). Table 1 illustrates the key behaviours and practices identified throughout this discussion.

Table 1 – INSERT HERE

3. Envisioning transformative field course pedagogies

The second workshop discussion focused on H3 to envision transformative field course pedagogies. In so doing, participants reflected on the systemic challenges presented through a BAU approach, drawing on their own experiences in this area of teaching and learning as well as critically examining contemporary discourses on field course pedagogy. Below, we focus attention on the two key areas of field course design and practice that require urgent attention: environmental sustainability, with a specific focus on divesting from aeromobility in pedagogic practice, and EDI, with a call for meaningful action to transition towards Universal Design for Learning.

3.1. Aeromobility: the ‘elephant in the room’

For a quarter of a century, aeromobility has been a hallmark of many UK Geography undergraduate field courses, with 'exotic', often long-haul destinations a ubiquitous component of university marketing (McGuinness and Simm, 2005; Nairn *et al.*, 2000). Despite the long-known relationship between air travel emissions and anthropogenic climate change (Cohen *et al.*, 2011; Hares *et al.*, 2010), these travel practices have been justified through a variety of mechanisms, including student demand, the benefits of internationalisation (Glass, 2015), the value of immersive environments for cultural learning, and development of practical and professional skills (Braungardt and Ingram, 2012). Reassuringly, recent evidence suggests that an increasing number of UK Geography departments are starting to divest from aeromobility for field course travel (RGS-IBG survey, 2024) in favour of low-carbon, shorter-distance destinations via rail or coach transport. Acknowledging the positivity of such initial transformations, we present two significant challenges for Geography departments, both related to aeromobility practices.

Firstly, the global demand for air travel is predicted to double by 2040 (IATA, 2023). Evidence in the UK suggests that 18-34 year olds are leading a post-Covid aviation revival, with 65% of this age group taking at least one flight in 2023 (CAA, 2024). Alongside this, tourism providers are creating carefully choreographed packages that 'entwine leisure with aeromobility' (Barr and Shaw, 2022; Barr and Shaw, 2024) in an environment where there are limited prospects for policy or technology-based reductions in carbon emissions (Cohen and Kantanbacher, 2020). Whilst some students do not fly for a variety of reasons (financial cost, environmental consciousness, health conditions or disability), we suggest that increased personal aeromobility as a societal norm and expectation presents a challenge for promoting and justifying potentially transformative low-carbon travel options to students in higher education. Secondly, we argue that this challenge is enhanced significantly by the continued prevalence of flying as an embedded academic practice (Bjørkdahl *et al.*, 2022; Hölbling *et al.*, 2023), for which a myriad of rationales are mobilised, including job-related structural pressures (Nevins *et al.*, 2022; Nursey-Bray *et al.*, 2019). Nevertheless, this issue is 'the elephant in the room'; we cannot expect students to engage in sustainable travel practices unless we (academics) can transparently demonstrate that carbon impacts are being minimised across HE activities, primarily those of research (without resorting to carbon offsetting). As such, we agree with Higham and Font (2020) on the imperative of confronting

climate hypocrisy through meaningful academic and institutional leadership. For example, whilst most HEIs have issued declarations of an E&CE, most academics continue to adopt high carbon 'business-as-usual' travel practices (Thierry *et al.*, 2023), whilst the entrenched neoliberal ideologies of universities present challenges for how institutions tangibly operationalise these declarations (O'Neill and Sinden, 2021). In this respect, universities must raise the ambition of their emissions reduction targets and interventions and identify opportunities to disrupt and reshape professional practices to reduce emissions (Hoolohan *et al.*, 2021). Importantly, this may be achieved through wider academic and student engagement with mobility discourses (Tseng *et al.*, 2022), shifting expectations of mobility for conferences and meetings (Gifford, 2022; Glover *et al.*, 2018; Klöwer *et al.*, 2020) as well as educational travel, and via stricter institutional enforcement of 'slow' (sustainable) travel for destinations reachable within 24 hours.

We suggest that these urgent transformations are necessary in order to address the paradox of sustainability in higher education. A study of carbon emissions across a large UK Geography department (2017-2020) demonstrated a high level of student support for decarbonisation, coupled with an enthusiasm for removing long-haul destinations and adopting overland travel for field courses (Williams and Love, 2022). Yet crucially, the highest level of respondent agreement was for the possibility of offsetting flight carbon emissions. From the authors [of this commentary] experiences, we suggest that this situation is far from unique. Therefore, we argue that alongside institutional leadership, participatory and collective dialogue between academics and students is crucial in navigating the environmental implications of these debates (Telford *et al.*, 2024). If we are to move from a dominance of education 'about' the E&CE, to education 'for' positive societal transformation, there must be alignment between the environmental values promoted in teaching and learning and associated educational travel practices.

3.2. Universal Design for Learning (UDL) for field courses: breaking the echo chamber

There exists a long and extensive literature on wide-ranging issues surrounding learning accessibility and inclusivity for geography field courses, from gendered attitudes and ableism

(Maguire 1998; Maguire *et al.*, 2003; Nairn, 1999) to proposed anticipatory auditing frameworks for students with disabilities (Clark and Jones, 2011). Indeed, in a landmark paper, Hall *et al.* (2002:213) considered ‘the various ways in which the images, spaces, practices and cultures of fieldwork may exclude or marginalise disabled students’. Yet over twenty years on, the academy faces multiple questions and challenges relating to systemic barriers to field course learning from the perspective of students and staff (Tucker and Horton, 2019). At the same time, universities are placing increasing emphasis on transitioning to Universal Design for Learning, based on the principles of multiple means of engagement, representation, action and expression (Behling and Tobin, 2018; Bracken and Novak, 2019). Devised initially to focus on equal access for students with disabilities, UDL now operates on the assumption that flexibility in educational materials and methods may benefit all learners (Boysen, 2024). To this end, authors have sought to bridge the gap between UDL theory and practice as a means of supporting educational transformation (Quirke *et al.*, 2023). However, since a UDL approach is grounded at the scale of the individual’s learning priorities, it is natural that barriers may exist in an educational environment (Galkiene and Monkeviciene, 2021: 14), particularly those as complex as field courses. With this in mind, we set out three challenges for the discipline.

There is increasing recognition that individuals with ‘protected characteristics’ (UK Equality Act, 2010) may face exclusion from field courses in a range of ways and settings (Tucker *et al.*, 2022). Yet, a 2024 examination of university webpages shows that some UK Geography departments (especially for BSc programmes) continue marketing adventurous and highly ablest field-based learning experiences (Mol and Atchison, 2019), with a small number of universities offering field courses to countries that discriminate against or criminalise specific sexual orientations and gender identities (Jackson, 2021; Murphy, 2020). For a discipline well documented for its lack of diversity (Dowey *et al.*, 2021; Dutt, 2020; Lawrence and Dowey, 2022), we suggest that these ongoing practices are deeply concerning, whether borne out of deeply entrenched academic viewpoints regarding field-based learning, lack of understanding of EDI, or institutional pressure for student recruitment. Crucially, there exist many additional debates in the literature about the challenges faced by individuals with ‘protected characteristics’ when engaging in fieldwork, including disability (Carabajal *et al.*, 2017; Chiarella and Vurro, 2020), pregnancy and maternity (Lininger *et al.*, 2021), race, religion and gender (Lawrence and Dowey, 2022). To compound these issues, there are a raft of personal

characteristics or circumstances not included within the Equality Act (2010), but that are nonetheless widely recognised as having a significant influence on learning opportunity. For example, many students have caring responsibilities or care leaver experience that can impact significantly on learning opportunities (Sanderson and Zile, 2023). The rise in student numbers has also increased field course costs for many students (Telford *et al.*, 2024); therefore, student socio-economic status can be an important determinant of learning opportunity. For some international students, there may be significant challenges and costs in obtaining visas for EU field courses. Finally, there are multiple instances where students choose not to, or cannot, receive a diagnosis for a condition that may have a significant impact on their ability to engage with aspects of a field course. Cumulatively, these challenges point to a field course pedagogy in desperate need of renewal (Giles *et al.*, 2020). As such, we call for a disciplinary debate on the reconceptualization of field course pedagogy – one that critically explores pedagogic need, but that explicitly places ‘protected characteristics’, and personal characteristics and circumstances, at the core of field course design.

3.3. UDL and reasonable adjustments

Universal Design for Learning should enable inclusive education, removing the need for some students to actively seek support and disclose their disability or need (Cumming and Rose, 2022). This illustrates an important tension when discussing the future of field course practice: the distinction between inclusive practices successfully embedded in field course design to benefit all learners, and the inevitability of specific individual circumstances that will legitimately require consideration of reasonable adjustment. Firstly, research and scholarship illustrate that there are important but easily implementable practices that can be transformational for all individuals on field courses. Three examples include critical examination of environments, daily schedules and breaks as a means of supporting autistic participants (Kingsbury *et al.*, 2021), information on toilet stops in the field (Greene *et al.*, 2020) and comprehensive accessibility statements at the point of student module selection. Furthermore, sets of design principles and recommendations exist to foster the creation of inclusive learning communities (Atchison *et al.*, 2019; Dowey *et al.*, 2021; Stokes *et al.*, 2019; Yorke *et al.*, 2022c). Yet, whilst we should strive to create socially just pedagogic practices, we must accept the need to openly address the sensitive matter of self-disclosure (Madriaga and

Goodley, 2010) in which students make a decision on divulging information relevant to their participation on a field course. Individuals may require a wide range of adjustments that may not be accommodated within a broad, inclusive field course design, including religious observance and places for worship, specific dietary requirements (Lawrence and Dowey, 2022) and room allocation and facility use in relation to gender. In addressing these needs, close collaboration and good communication between all stakeholders (educators, university disability offices, and prospective and current students) has illustrated the enabling and awareness-raising potential that can result from small adjustments for individuals (Mol and Atchison, 2019). Furthermore, we agree in principle with calls to embed inclusion in field course risk assessments as a formal means of considering hazards and mitigations concerning those with protected characteristics (Prior-Jones *et al.*, 2020). Indeed, Equality Impact Assessments are increasingly being adopted as a component of field course review by UK Geography departments (RGS-IBG survey, 2024). Nevertheless, we suggest an absence of resource is the most significant barrier to realising these ambitions. Therefore, we call upon universities to recognise and act on the need to create efficient and effective structures that facilitate and support academic staff in field course planning, including appropriate staff workload allocation, professional services support, realistic field course budgets, and the contracting of competent travel and accommodation procurement providers.

3.4. UDL: Transforming dialogue and decision-making for field course design and practice

Notwithstanding the often-significant efforts of some academic and professional services staff in enhancing learning accessibility and inclusion, 'traditional' attitudes and behaviours regarding field courses remain. Consequently, given common representational and power imbalances in decision making on curriculum design, we suggest that urgent, tangible transformations in field course pedagogy face significant barriers if left solely in the hands of academics. At the same time, we note the rising interest and prominence of work to engage students as partners or change agents in higher education (Bovill, 2020; Cook-Sather, 2018; Healey *et al.*, 2023), with many initiatives providing innovative pedagogic transformations. Yet, we urge caution and critical engagement when employing student-centred approaches for field course design since cohort demographics have the potential to reinforce, as well as

confront, some existing norms and prejudices. So, how do we remove the potential for ‘echo chamber’ situations and take EDI from the periphery to the core of field course design? We argue that truly transformational field course design and practices will most likely be achieved through a co-productive process (Vincent, 2022) involving key field course stakeholders, including academic and professional services staff and students. Principally, we advocate for a central role for university transformative education teams, disability, wellbeing and access to education offices as a means of broadening EDI understanding and ensuring engagement with EDI obligations and best practices in higher education. Whilst co-production seeks to remove epistemic hegemonies and develop shared understandings and negotiated solutions to challenges, we recommend that care is afforded in facilitation of discussions to create safe spaces for participants. Furthermore, we suggest that the output (transformed field course design) must be audited at the institutional level as an essential governance and compliance mechanism. To achieve this transition, we suggest three actions are required. Firstly, neoliberalist structures in universities have been widely criticised for perpetuating inequitable practices and processes in higher education (Joseph-Salisbury and Connelly, 2021; Rai and Champion, 2022) with common disconnects existing between policy and the resources necessary to realise meaningful changes in practice. Therefore, we call on universities to increase investment in transformative education teams as crucial interlocutors in supporting the transition towards UDL in higher education. Secondly, whilst EDI is a key component of staff mandatory training, we recognise that colleagues may lack more specific understanding, confidence, and support in engaging with debates on EDI and developing UDL (Yorke *et al.*, 2022b). As such, we suggest that wider, structured opportunities for dialogue between colleagues in departments and transformative education teams is likely to be highly valuable in moving educational practice towards compliance, commitment, and a shift in culture. Thirdly, whilst most Geography degree programmes provide students with field course learning opportunities, few require critical engagement with research and scholarship on field course pedagogy. We suggest that Geography programmes should transparently engage students with the EDI debates set out above, as a means of enabling them to engage critically with this complex area of pedagogy, and with broader societal challenges surrounding accessibility and inclusion.

4. Emerging practices for field course transformations

An analysis of horizon two (H2) discussions revealed a range of emerging practices that are supporting a transition towards more environmentally sustainable and EDI-focused field course pedagogies. Whilst these innovations alone will not address the systemic challenges outlined above, they are illustrative of specific bottom-up and top-down commitments to enable positive transformations. We note that the examples listed below are not exhaustive and other innovations will exist across institutions.

4.1. Environmental sustainability

The move by many UK Geography departments to remove long-haul field courses in favour of closer (mostly European) destinations is welcome; however, short-haul aviation (which is more polluting per kilometre) remains a common mode of travel. Nonetheless, there are examples of sustainable, reasonably priced, high-speed rail connections being adopted for group-based field course travel. We suggest that embedding these 'slow travel' practices (Anderson and Anderson, 2014; Barr and Shaw, 2022) not only provides students with experiences that may be personally transformational, but it can also serve to facilitate critical engagement with discourses on mobilities in future low carbon societies. At an institutional level, low carbon travel presents an opportunity to move closer towards alignment of stated environmental values and goals with actual practices and carbon impact. At the same time, we recognise that events such as the Covid-19 pandemic have extended scholarship (Barton, 2020) on the ways in which virtual field course environments may provide effective opportunities for all learners to achieve intended learning outcomes without the carbon impact of travel, or potential EDI challenges. Whilst we are not advocating for a wholesale shift to virtual field-based learning, we argue that departments should be more critically reflective of the pedagogic rationale for visiting specific destinations and explore the possibilities of using increasingly sophisticated virtual environments to meet specific pedagogic aims (Bos *et al.*, 2022; Larsen *et al.*, 2020; McDougall, 2019; Yorke *et al.*, 2022a; Zhao *et al.*, 2020).

4.2. EDI and transitioning towards UDL

Despite the systemic challenges surrounding embedding EDI considerations in field course pedagogy, there are examples of best practices that are, albeit heterogeneously, being adopted across the sector. Firstly, in recognising that a student's socio-economic circumstances can be a significant barrier to equality of learning opportunity, many Geography departments now ensure that travel and accommodation costs for compulsory field courses are included in course fees, alongside supporting students with supply of specialist equipment and clothing for fieldwork (RGS-IBG survey, 2024). We suggest that this practice must be normalised across the sector as a basic acknowledgement of equity in learning. Secondly, we note that critical reflection on EDI debates has prompted discussion within departments regarding which field course modules or activities should be core, versus optional, components of learning. These programme-level decisions can have significant impacts on a current student's learning experience. As such, we urge careful consideration of these decisions, alongside reflection by the QAA in updating subject benchmark statements. Thirdly, we reflect on an increasing number of cases in which students with complex learning adjustments (for example, travel involving carers) have been enabled to attend field courses. Whilst we note that a transition towards more inclusive field course design would potentially remove many barriers to engagement, these cases are illustrative of the time and care that academic and professional services staff have committed in ensuring that learning can be accessible and inclusive. Fourthly, we note that multiple institutions are proactively using self-disclosure mechanisms to engage students prior to field courses to co-produce reasonable adjustments to field course practices. Common examples include supporting students with severe allergies or food intolerances, and specific physical or mental health requirements.

4.3. University-level staff training and governance processes

Whilst we acknowledge the urgent need for enhanced resourcing for field course pedagogy, we welcome a recent shift across the sector in HEIs facilitating staff training opportunities to support academics in First Aid, Mental Health First Aid, and Suicide Awareness training (R World, 2024). With increasingly complex situations for staff in managing EDI requirements for students attending field courses, coupled with a student crisis in mental health (Campbell *et al.*, 2022; Pandey, 2022) these staff development opportunities are essential. In addition, we acknowledge that many institutions have, over recent years, enhanced their compliance

frameworks regarding risk assessments, critical incident response plans, and the ethics approval processes. However, we note that there remain large disparities between institutions in terms of level of staff training and support with essential requirements for safe, off-campus teaching. Moreover, we recognise that transforming field course practice will involve critical review to ensure that external partner organisations ascribe to the values, understandings, and compliance mechanisms surrounding environmental sustainability and EDI.

4.4. Sector-wide collaborations to enhance Geography field course practice

We acknowledge the value of the CHGHEI and the RGS-IBG in supporting helpful disciplinary dialogue and developing guiding principles for fieldwork. These contributions are wide-ranging, including events hosted by the Enhancing Fieldwork Learning (EFL) group and discourses within the GeogEd research group of the RGS-IBG (Finn *et al.*, 2022), a special collection in the journal *Area* highlighting the role of the RGS-IBG in helping to shape good practice in fieldwork (Leyland *et al.*, 2022), and links to geographers engaging in Natural Environment Research Council EDI research in environmental science. Building on these important contributions, we argue that progress will be best achieved through several mechanisms. Firstly, we suggest that there would be value in building on the resources associated with the RGS-IBG Fieldwork Principles, with a specific emphasis on sharing information regarding effective (and ineffective) practices for sustainability and EDI in field course pedagogy. In so doing, we are confident that colleagues may be able to affect small but meaningful structural changes to their teaching, whilst at the same time advocating for broader institutional transitions towards decarbonisation and UDL. Secondly, we suggest that parallel conversations in the Geographical Association present an excellent opportunity to share knowledges and resources to better understand effective ways of transforming field course pedagogy throughout the UK education system. Thirdly, we argue that a much more radical discourse on the future of field course pedagogy is necessary given the urgency of the challenges outlined herein. In this respect, we have written this commentary as a provocation – a call for the community to engage in critical reflection on how we take meaningful action to address the disconnect between our stated educational and environmental values, and our actual educational practices.

5. Conclusion

This commentary is a call to the geography community in higher education to take urgent, tangible steps towards re-thinking field course design and practice. For too long, we have witnessed insightful additions to the literature and sector-wide debates on the need for transformative field course practices, without witnessing the necessary scale of change in educational practice. This work builds on recent literature by providing valuable insight into the (un)sustainability of 'business as usual' field course practices in UK Geography HE and re-visions field course pedagogy within the context of transformative education. We highlight two important and urgent areas of attention. Firstly, whilst we have seen some positive steps towards divestment from aeromobility for field course travel, we suggest that increased popularity of personal aeromobility, particularly among young people, presents a growing challenge in promoting and justifying low carbon travel options to students in higher education. We argue that this challenge is enhanced significantly by the continued prevalence of flying as an embedded academic practice, with an urgent need to confront this climate hypocrisy through meaningful academic and institutional leadership. Secondly, we make an urgent call for reimagining field course design and practice around the principles of Universal Design for Learning. In this way, we argue that protected characteristics (UK Equality Act, 2010), and other personal characteristics and circumstances, should be placed at the centre of field course design, bringing EDI to the core of this complex and challenging area of pedagogy. To achieve this, we explore the importance of considering the relationship between inclusive design and the provision of reasonable learning adjustments, alongside advocating for a co-productive approach to field course design that places university transformative education teams at the centre of facilitation and governance. Whilst recognising the need for systemic changes to achieve these goals, we highlight emerging practices across the sector that are enabling positive transformations to take place in moving towards environmental sustainability and Universal Design for Learning in field course pedagogy. As such, we call for urgent discussion within the sector of this complex and demanding area of pedagogy to enable meaningful and transformative practices to result, engendering a much-needed cultural shift in HE.

References

Anderson, K., & Anderson, P. K. (2014). 5. Slow and low. *Beyond Flying: Rethinking air travel in a globally connected world*. London, UK: Bloomsbury Publishing.

Atchison, C. L., Marshall, A. M., & Collins, T. D. (2019). A multiple case study of inclusive learning communities enabling active participation in geoscience field courses for students with physical disabilities. *Journal of Geoscience Education*, 67(4), 472-486.

<https://doi.org/10.1080/10899995.2019.1600962>.

Barr, S., & Shaw, G. (2022). "Getting the summer you deserve": locking-in flying to the tourist experience. In *Low-Cost Aviation* (pp. 213-231). Elsevier. <https://doi.org/10.1016/B978-0-12-820131-2.00002-3>.

Barr, S. & Shaw, G. (2024, March 5). *Addicted to flying: why it's so hard to kick this carbon-intensive habit*. The Academic. <https://theacademic.com/why-its-so-hard-to-kick-this-carbon-intensive-habit/>.

Barton, D. C. (2020). Impacts of the COVID-19 pandemic on field instruction and remote teaching alternatives: Results from a survey of instructors. *Ecology and evolution*, 10(22), 12499-12507. <https://doi.org/10.1002/ece3.6628>.

Behling, K. T., & Tobin, T. J. (2018). *Reach everyone, teach everyone: Universal design for learning in higher education*. West Virginia University Press. <https://muse.jhu.edu/book/62887/pdf>.

Bracken, S., & Novak, K. (Eds.). (2019). *Transforming higher education through universal design for learning: An international perspective*. Routledge.

Bjørkdahl, K., Duharte, F., & Santiago, A. (2022). *Academic flying and the means of communication* (p. 365). Springer Nature. <https://doi.org/10.1007/978-981-16-4911-0>.

Bookbinder, R., Mdee, A., & Roelich, K. (2024). The possibility of a theory of change to tackle the climate crisis in a UK university. *International Journal of Sustainability in Higher Education*.

Bovill, C. (2020). Co-creation in learning and teaching: the case for a whole-class approach in higher education. *Higher education*, 79(6), 1023-1037. <https://doi.org/10.1007/s10734-019-00453-w>.

Braungardt, C. B., & Ingram, S. (2012). Justifying long-haul field courses: the role of cultural learning. *Planet*, 26(1), 23-30. <https://doi.org/10.11120/plan.2012.00260023>.

Bos, D., Miller, S., & Bull, E. (2022). Using virtual reality (VR) for teaching and learning in geography: fieldwork, analytical skills, and employability. *Journal of Geography in Higher Education*, 46(3), 479-488. <https://doi.org/10.1080/03098265.2021.1901867>.

Boysen, G. A. (2024). A critical analysis of the research evidence behind CAST's universal design for learning guidelines. *Policy Futures in Education*. <https://doi.org/10.1177/14782103241255428>.

CAA (2024, January 11). *Young people leading post-COVID aviation revival, UK Civil Aviation Authority finds*. UK Civil Aviation Authority. <https://www.caa.co.uk/newsroom/news/young-people-leading-post-covid-aviation-revival-uk-civil-aviation-authority-finds/>.

Carabajal, I. G., Marshall, A. M., & Atchison, C. L. (2017). A synthesis of instructional strategies in geoscience education literature that address barriers to inclusion for students with disabilities. *Journal of Geoscience Education*, 65(4), 531-541. <https://doi.org/10.5408/16-211.1>.

Campbell, F., Blank, L., Cantrell, A., Baxter, S., Blackmore, C., Dixon, J., & Goyder, E. (2022). Factors that influence mental health of university and college students in the UK: a systematic review. *BMC public health*, 22(1), 1778. <https://doi.org/10.1186/s12889-022-13943-x>.

Chankseliani, M., & McCowan, T. (2021). Higher education and the sustainable development goals. *Higher Education*, 81(1), 1-8. <https://doi.org/10.1007/s10734-020-00652-w>.

Chiarella, D., & Vurro, G. (2020). Fieldwork and disability: an overview for an inclusive experience. *Geological Magazine*, 157(11), 1933-1938. <https://doi.org/10.1017/S0016756820000928>.

Clark, H., & Jones, J. (2011). The use of a fieldwork audit to anticipate barriers to fieldwork for disabled students. *Planet*, 24(1), 42-49. <https://doi.org/10.11120/plan.2011.00240042>.

Cohen, S. A., Higham, J. E., & Cavaliere, C. T. (2011). Binge flying: Behavioural addiction and climate change. *Annals of Tourism Research*, 38(3), 1070-1089. <https://doi.org/10.1016/j.annals.2011.01.013>.

Cohen, S. A., & Kantanbacher, J. (2020). Flying less: personal health and environmental co-benefits. *Journal of Sustainable Tourism*, 28(2), 361-376. <https://doi.org/10.1080/09669582.2019.1585442>.

Cook-Sather, A. (2018). Listening to equity-seeking perspectives: How students' experiences of pedagogical partnership can inform wider discussions of student success. *Higher education research & development*, 37(5), 923-936. <https://doi.org/10.1080/07294360.2018.1457629>.

Cumming, T. M., & Rose, M. C. (2022). Exploring universal design for learning as an accessibility tool in higher education: A review of the current literature. *The Australian Educational Researcher*, 49(5), 1025-1043. <https://doi.org/10.1007/s13384-021-00471-7>.

Dowey, N., Barclay, J., Fernando, B., Giles, S., Houghton, J., Jackson, C., ... & Williams, R. (2021). A UK perspective on tackling the geoscience racial diversity crisis in the Global North. *Nature Geoscience*, 14(5), 256-259. <https://doi.org/10.1038/s41561-021-00737-w>.

Dutt, K. (2020). Race and racism in the geosciences. *Nature Geoscience*, 13(1), 2-3. <https://doi.org/10.1038/s41561-019-0519-z>.

Fazey, I., Hughes, C., Schöpke, N. A., Leicester, G., Eyre, L., Goldstein, B. E., ... & Reed, M. S. (2021). Renewing universities in our climate emergency: stewarding system change and transformation. *Frontiers in Sustainability*, 2, 677904. <https://doi.org/10.3389/frsus.2021.677904>.

Finn, M., Hammond, L., Healy, G., Todd, J. D., Marvell, A., McKendrick, J. H., & Yorke, L. (2022). Looking ahead to the future of GeogEd: Creating spaces of exchange between communities of practice. *Area*, 54(1), 41-51. <https://doi.org/10.1111/area.12701>.

France, D., & Haigh, M. (2018). Fieldwork@ 40: Fieldwork in geography higher education. *Journal of Geography in Higher Education*, 42(4), 498-514. <https://doi.org/10.1080/03098265.2018.1515187>.

Galkiene, A., & Monkeviciene, O. (2021). *Improving inclusive education through Universal Design for Learning* (p. 323). Springer Nature. <https://doi.org/10.1007/978-3-030-80658-3>.

Gifford, L. (2022). The AAG's emissions problem: achieving carbon neutrality in a post-offset world. *The Professional Geographer*, 74(1), 178-181. <https://doi.org/10.1080/00330124.2021.1934880>.

Giles, S., Jackson, C., & Stephen, N. (2020). Barriers to fieldwork in undergraduate geoscience degrees. *Nature Reviews Earth & Environment*, 1(2), 77-78. <https://doi.org/10.1038/s43017-020-0022-5>.

Glass, M. R. (2015). International geography field courses: Practices and challenges. *Journal of Geography in Higher Education*, 39(4), 485-490.
<https://doi.org/10.1080/03098265.2015.1108044>.

Glover, A., Strengers, Y., & Lewis, T. (2018). Sustainability and academic air travel in Australian universities. *International Journal of Sustainability in Higher Education*, 19(4), 756-772. <https://doi.org/10.1108/IJSHE-08-2017-0129>.

Gormally, A. (2019). The role of sustainability in HE and the GEES disciplines; recommendations for future practice. *Journal of Geography in Higher Education*, 43(4), 599-608. <https://doi.org/10.1080/03098265.2019.1660627>.

Greene, S., Ashley, K., Dunne, E., Edgar, K., Giles, S., & Hanson, E. (2020). Toilet stops in the field: An educational primer and recommended best practices for field-based teaching. <https://doi.org/10.31219/osf.io/gnhj2>.

Hall, T., Healey, M., & Harrison, M. (2002). Fieldwork and disabled students: discourses of exclusion and inclusion. *Transactions of the Institute of British Geographers*, 27(2), 213-231. <https://doi.org/10.1111/1475-5661.00050>.

Hares, A., Dickinson, J., & Wilkes, K. (2010). Climate change and the air travel decisions of UK tourists. *Journal of transport geography*, 18(3), 466-473.
<https://doi.org/10.1016/j.jtrangeo.2009.06.018>.

Healey, M., Healey, R. L., & West, H. (2023). Reflections on disciplinary perspectives on students as partners. *International Journal for Students as Partners*, 7(1), 1-13.
<https://doi.org/10.15173/ijsap.v7i1.5444>.

Herrick, C. (2010). Lost in the field: Ensuring student learning in the 'threatened' geography fieldtrip. *Area*, 42(1), 108-116. <https://doi.org/10.1111/j.1475-4762.2009.00892.x>.

Higham, J., & Font, X. (2020). Decarbonising academia: Confronting our climate hypocrisy. *Journal of Sustainable Tourism*, 28(1), 1-9.
<https://doi.org/10.1080/09669582.2019.1695132>.

Hill, J., Walkington, H., & King, H. (2018). Geographers and the scholarship of teaching and learning. *Journal of Geography in Higher Education*, 42(4), 557-572.
<https://doi.org/10.1080/03098265.2018.1515188>.

Hölbling, S., Kirchengast, G., & Danzer, J. (2023). Unmasking mobility patterns: international travel behavior and emissions of scientists in a higher research institution. *International Journal of Sustainability in Higher Education*, 24(9), 355-371. <https://doi.org/10.1108/IJSHE-03-2023-0081>.

Hoolohan, C., McLachlan, C., Jones, C., Larkin, A., Birch, C., Mander, S., & Broderick, J. (2021). Responding to the climate emergency: how are UK universities establishing sustainable workplace routines for flying and food?. *Climate Policy*, 21(7), 853-867.
<https://doi.org/10.1080/14693062.2021.1881426>.

IATA. (2023, June). *Global Outlook for Air Transport: Highly Resilient, Less Robust*. International Air Transport Association Report. <https://www.iata.org/en/iata-repository/publications/economic-reports/global-outlook-for-air-transport---june-2023/>.

Jackson, C. (2021, March 1). *Some barriers are invisible*. *Geoscientist: The Magazine for the Geological Society of London*. <https://geoscientist.online/sections/viewpoint/some-barriers-are-invisible/>.

Joseph-Salisbury, R., & Connelly, L. (2021). *Anti-racist scholar-activism*. Manchester University Press.

Kent, M., Gilbertson, D. D., & Hunt, C. O. (1997). Fieldwork in geography teaching: A critical review of the literature and approaches. *Journal of geography in higher education*, 21(3), 313-332. <https://doi.org/10.1080/03098269708725439>.

Kingsbury, C. G., Sibert, E. C., Killingback, Z., & Atchison, C. L. (2020). "Nothing about us without us:" The perspectives of autistic geoscientists on inclusive instructional practices in geoscience education. *Journal of Geoscience Education*, 68(4), 302-310.

<https://doi.org/10.1080/10899995.2020.1768017>.

Komoto, C. (2009). Moving toward a signature pedagogy in geography: A close reading of the landscape. In *Exploring signature pedagogies* (pp. 121-138). Routledge.

Klöwer, M., Hopkins, D., Allen, M., & Higham, J. (2020). An analysis of ways to decarbonize conference travel after COVID-19. *Nature*, 583, 356-359.

<https://doi.org/10.5281/ZENODO.3553784>.

Larsen, T., Tabor, L., & Smith, P. (2020). End of the field? Hacking online and hybrid environments for field-based learning in geography education. *Journal of Geography*, 120(1), 3-11. <https://doi.org/10.1080/00221341.2020.1858325>.

Latter, B., & Capstick, S. (2021). Climate emergency: UK universities' declarations and their role in responding to climate change. *Frontiers in Sustainability*, 2, 660596.

<https://doi.org/10.3389/frsus.2021.660596>.

Lawrence, A., & Dowey, N. (2022). Six simple steps towards making GEES fieldwork more accessible and inclusive. *Area*, 54(1), 52-59. <https://doi.org/10.1111/area.12747>.

Leyland, J., Geoghegan, H., Hall, S. M., Latham, A., & Souch, C. (2022). Classics Revisited: 'Muddy glee'-What geography fieldwork means in the current moment. *Area*, 54(4), 522-524. <https://doi.org/10.1111/area.12838>.

Lininger, K. B., Rowan, A. V., Livers, B., Kramer, N., Ruiz-Villanueva, V., Sendrowski, A., & Burrough, S. (2021). Perspectives on being a field-based geomorphologist during pregnancy and early motherhood. *Earth Surface Processes and Landforms*, 46(14), 2767-2772.

<https://doi.org/10.1002/esp.5238>.

Madriaga, M., & Goodley, D. (2010). Moving beyond the minimum: Socially just pedagogies and Asperger's syndrome in UK higher education. *International Journal of Inclusive Education*, 14(2), 115-131. <https://doi.org/10.1080/13603110802504168>.

Maguire, S. (1998). Gender differences in attitudes to undergraduate fieldwork. *Area*, 30(3), 207-214. <https://doi.org/10.1111/j.1475-4762.1998.tb00065.x>.

Maguire, S., Boyle, A., Conchie, S., Martin, A., Milsom, C., Nash, R., ... & Wurthmann, S. (2003). Fieldwork is good? The student experience of field courses. *Planet*, 5(11), 48-51. https://pure.ulster.ac.uk/ws/portalfiles/portal/76286387/Fieldwork_is_good_The_student_experience.pdf.

McDougall, D. A. (2019). VR glaciers and glaciated landscapes. *Geography*, 104(3), 148-153. <https://doi.org/10.1080/00167487.2019.12094078>.

McEwen, L. (1996). Fieldwork in the undergraduate geography programme: challenges and changes. *Journal of Geography in Higher Education*, 20(3), 379-384. <https://doi.org/10.1080/03098269608709380>.

McGuinness, M., & Simm, D. (2005). Going global? Long-haul fieldwork in undergraduate geography. *Journal of Geography in Higher Education*, 29(2), 241-253. <https://doi.org/10.1080/03098260500130478>.

Mol, L., & Atchison, C. (2019). Image is everything: Educator awareness of perceived barriers for students with physical disabilities in geoscience degree programs. *Journal of Geography in Higher Education*, 43(4), 544-567. <https://doi.org/10.1080/03098265.2019.1660862>.

Murphy, V. (2020, July 3). *Geoscience course stops running Oman fieldtrip to be more inclusive*. Imperial College London. [Geoscience course stops running Oman fieldtrip to be more inclusive | Imperial News | Imperial College London](https://www.imperial.ac.uk/news/2020/07/geoscience-course-stops-running-oman-fieldtrip-to-be-more-inclusive/).

Nairn, K. (1999). Embodied fieldwork. *Journal of geography*, 98(6), 272-282.

<https://doi.org/10.1080/00221349908978941>.

Nairn, K., Higgitt, D., & Vanneste, D. (2000). International perspectives on field courses. *Journal of Geography in Higher Education*, 24(2), 246-254.

<https://doi.org/10.1080/713677382>.

Nevins, J., Allen, S., & Watson, M. (2022). A path to decolonization? Reducing air travel and resource consumption in higher education. *Travel Behaviour and Society*, 26, 231-239.

<https://doi.org/10.1016/j.tbs.2021.09.012>.

Nurse-Bray, M., Palmer, R., Meyer-Mclean, B., Wanner, T., & Birzer, C. (2019). The fear of not flying: Achieving sustainable academic plane travel in higher education based on insights from South Australia. *Sustainability*, 11(9), 2694. <https://doi.org/10.3390/su11092694>.

O'Neill, K., & Sinden, C. (2021). Universities, sustainability, and neoliberalism: contradictions of the climate emergency declarations. *Politics and Governance*, 9(2), 29-40.

<http://dx.doi.org/10.17645/pag.v9i2.3872>.

Pandey, M. (2022, June 29). *Mental Health negatively affecting almost 50% of UK students in survey*. BBC. <https://www.bbc.co.uk/news/newsbeat-61968952>.

Prior-Jones, M., Pinnion, J., Millet, M. A., Bagshaw, E., Fagereng, A., & Ballinger, R. (2020). An inclusive risk assessment tool for travel and fieldwork. *EGU2020, Sharing Geoscience Online*. [Google Scholar]. https://presentations.copernicus.org/EGU2020/EGU2020-7678_presentation.pdf.

QAA(2022, March). *QAA Subject Benchmark Statement: Geography (March 2022)*. The Quality Assurance Agency for Higher Education. https://www.qaa.ac.uk/docs/qaa/sbs/sbs-geography-22.pdf?sfvrsn=29addc81_2.

Quirke, M., Mc Guckin, C., & McCarthy, P. (2023). *Adopting a UDL Attitude Within Academia: Understanding and Practicing Inclusion Across Higher Education*. Routledge.
<https://doi.org/10.4324/9781003137672>.

Rai, R., & Campion, K. (2022). Decoding “decoloniality” in the academy: tensions and challenges in “decolonising” as a “new” language and praxis in British history and geography. *Ethnic and Racial Studies*, 45(16), 478-500.
<https://doi.org/10.1080/01419870.2022.2099750>.

Royal Geographical Society (with the Institute of British Geographers) (RGS-IBG). (2020). *Principles for undergraduate field courses*. Higher Education Resources.
<https://www.rgs.org/research/higher-education-resources/principles-for-undergraduate-field-courses>.

R World(2024, June). *First Aid for Mental Health in Universities and Colleges*. R World Foundation. <https://www.rworld.org.uk/first-aid-for-mental-health-in-universities/>.

Sanderson, R. & Zile, A. (2023, March 3). *Who cares about the carers?* WONKHE.
<https://wonkhe.com/blogs/who-cares-about-the-carers/>.

Sharpe, B. (2015). Three Horizons: the patterning of hope. *Journal of Holistic Healthcare*, 12(1), 4-6.
<https://eds.p.ebscohost.com/eds/pdfviewer/pdfviewer?vid=3&sid=0eed2fca-e720-47d2-8391-30feeb55f37c%40redis>.

Sharpe, B., Hodgson, A., Leicester, G., Lyon, A., & Fazey, I. (2016). Three horizons: a pathways practice for transformation. *Ecology and Society*, 21(2). <http://dx.doi.org/10.5751/ES-08388-210247>.

Stokes, A., Feig, A. D., Atchison, C. L., & Gilley, B. (2019). Making geoscience fieldwork inclusive and accessible for students with disabilities. *Geosphere*, 15(6), 1809-1825.
<https://doi.org/10.1130/GES02006.1>.

Stokes, A., Magnier, K., & Weaver, R. (2011). What is the use of fieldwork? Conceptions of students and staff in geography and geology. *Journal of Geography in Higher Education*, 35(01), 121-141. <https://doi.org/10.1080/03098265.2010.487203>.

Spronken-Smith, R. (2013). Toward securing a future for geography graduates. *Journal of Geography in Higher Education*, 37(3), 315-326. <https://doi.org/10.1080/03098265.2013.794334>.

Stewart, I., Capello, M. A., Mouri, H., Mhopjeni, K., & Raji, M. (2023). Three horizons for future geoscience. *Earth Science, Systems and Society*, 3, 10079. <https://doi.org/10.3389/esss.2023.10079>.

Telford, A., Valentine, A., & Godby, S. (2024). The paradox of the 'sustainable fieldtrip'? Exploring the links between geography fieldtrips and environmental sustainability. *Journal of Geography in Higher Education*, 48(1), 115-132. <https://doi.org/10.1080/03098265.2023.2190961>.

Thierry, A., Horn, L., Von Hellermann, P., & Gardner, C. J. (2023, October). "No research on a dead planet": preserving the socio-ecological conditions for academia. In *Frontiers in Education* (Vol. 8, p. 1237076). Frontiers Media SA. <https://doi.org/10.3389/feduc.2023.1237076>.

Tseng, S. H., Higham, J., & Lee, C. (2022). Academic air travel cultures: A framework for reducing academic flying. Bjørkdahl, K., Duharte, F., & Santiago (Eds), *Academic flying and the means of communication*, 327-353. https://doi.org/10.1007/978-981-16-4911-0_13.

Tucker, F., & Horton, J. (2019). "The show must go on!" Fieldwork, mental health and wellbeing in Geography, Earth and Environmental Sciences. *Area*, 51(1), 84-93. <https://doi.org/10.1111/area.12437>.

Tucker, F., Waite, C., & Horton, J. (2022). Not just muddy and not always gleeful? Thinking about the physicality of fieldwork, mental health, and marginality. *Area*, 54(4), 563-568. <https://doi.org/10.1111/area.12836>.

Vincent, K. (2022). Development geography I: Co-production. *Progress in Human Geography*, 46(3), 890-897. <https://doi.org/10.1177/03091325221079054>.

Wareing, S. (2024, January 21). *Polymakers need to realise that financial turbulence in higher education will hurt the whole nation*. WONKHE. <https://wonkhe.com/blogs/policymakers-need-to-realise-that-financial-turbulence-in-higher-education-will-hurt-the-whole-nation/>.

Weston, T., (2023, March 21). *Financial pressures on higher education*. UK Parliament, House of Lords Library. <https://lordslibrary.parliament.uk/financial-pressure-on-higher-education/>.

Williams, J., & Love, W. (2022). Low-carbon research and teaching in geography: Pathways and perspectives. *The Professional Geographer*, 74(1), 41-51. <https://doi.org/10.1080/00330124.2021.1977156>.

Yorke, L., McDougall, D. & Hutchinson, S. (2022a, November 28). *Virtual field trips: Equitable, sustainable, develops the learner?* Geography Directions. <https://blog.geographydirections.com/2022/11/28/virtual-field-trips-equitable-sustainable-develops-the-learner/>.

Yorke, L., Hurrell, L., & Hutchinson, S. (2022b, July 25). *Ways to make fieldwork more inclusive and accessible: Insights from the CULTIVATE team*. Geography Directions. <https://doi.org/10.55203/TDPG8238>.

Yorke, L., Hutchinson, S., & Hurrell, L. (2022c, May 31). *10 ways to make fieldwork more inclusive and accessible: a guide for educators*. https://research.bangor.ac.uk/portal/files/70783381/10_Ways_To_.pdf

Žalėnienė, I., & Pereira, P. (2021). Higher education for sustainability: A global perspective. *Geography and Sustainability*, 2(2), 99-106.
<https://doi.org/10.1016/j.geosus.2021.05.001>.

Zhao, J., LaFemina, P., Carr, J., Sajjadi, P., Wallgrün, J. O., & Klippel, A. (2020, March). Learning in the field: Comparison of desktop, immersive virtual reality, and actual field trips for place-based STEM education. In *2020 IEEE conference on virtual reality and 3D user interfaces (VR)* (pp. 893-902). IEEE. <https://doi.org/10.1109/VR46266.2020.00012>.

Table 1: Participant reflections identified key areas of unsustainable practice in UK Higher Education field course pedagogy.

Theme	Identification of unsustainable aspects of current practice in HE
The Environment and Climate Emergency (E&CE) and field course design	<ul style="list-style-type: none"> • Despite recent positive shifts within the sector, there remain deeply entrenched views among many academic colleagues, current students and prospective students regarding the necessity and pedagogic value of ‘exotic’ long-haul travel for field courses. • Neoliberal marketisation of Higher Education places international field courses at the centre of many marketing strategies for UK Geography degrees and this current market competition is a barrier to sector-wide environmental transformations. • Research locations of academic staff remain popular ‘by default’ destinations for field courses, even when the pedagogic and environmental rationale is limited. • High carbon transportation (aeromobility) remains the dominant mode of travel for international field courses in UK Higher Education. • Many academics are not willing to divest from aeromobility in favour of ‘slower’ forms of travel for field courses (such as high-speed rail), citing a range of factors, including time constraints and concerns about lack of understanding/institutional support for low-carbon travel. • There remains a dominance of education ‘about’ the E&CE, as opposed to education ‘for’ positive environmental transformation. In this respect, there remains a disconnect between field course environmental values and environmental sustainability practices.
Equality, Diversity and Inclusion (EDI) in Field Course practice	<ul style="list-style-type: none"> • Whilst there is increasing engagement with EDI in field course planning, field course locations and types of learning activity are often not accessible or inclusive. • The number of students with declared disabilities (physical and mental health) has risen significantly and HE faces the challenge of ensuring equality of learning opportunity. • Recent years have seen the emergence of new understandings across a variety of disabilities (e.g. neurodiversity and anxiety), which have significant impacts for appropriate types of learning environment, travel and accommodation. • Gender has become a significant issue with regard to practical field course planning (for example, accommodation and facilities). • Student stress and anxiety are very visible components of HE, and these challenges can be amplified during field courses. • Overall, there are positive examples of reasonable adjustments to enhance EDI in field-based learning; however, stronger sector-wide commitment to move towards Universal Design for Learning (UDL) is a priority.

	<ul style="list-style-type: none"> • There is varied interpretation and adherence to protected characteristics listed in the Equalities Act (2010) and this can lead to a perpetuation of entrenched academic views that enable unsuitable field course designs to continue.
<p>The changing nature of student attitudes, behaviours and constraints</p>	<ul style="list-style-type: none"> • Student pre-university experiences vary significantly; however, these may be seen as important in perpetuating 'traditional' framings of field courses, particularly in terms of 'exotic' locations and implicit ablism in activity design and expectations. • A disconnect remains common between student and staff perspectives on the rationale and value of field courses. • UK HEI fees in England and Wales may shape student expectations regarding field course opportunities and experiences. • Some courses may not engage students effectively with the value of field course skills. • Some students may not regard field-specific skills as relevant or necessary in terms of their graduate attributes and intended career ambitions. • In view of the myriad potential challenges to students participating in field courses, some welcome opportunities to 'opt out' of these aspects of learning. • Increasingly, student work and caring commitments create challenges for participation, even on one-day field courses. • Despite most departments covering the cost of compulsory field courses, the 'top-up' (outside of tuition fees) costs required for some optional field courses create inequality of learning opportunity based on student financial means.
<p>Staff workload and training</p>	<ul style="list-style-type: none"> • There are increasing workload pressures on academic and professional services staff responsible for organising and delivering field courses. Examples include time taken to develop risk assessments, ethics applications, to ensure student and staff EDI requirements are met, travel and accommodation procurement, or liaising with travel procurement providers. • Some university managers do not have a good understanding of the workload requirements surrounding field courses. • In many Geography departments, a gulf exists between colleagues who a) hold important tacit knowledges regarding field courses and b) engage in this teaching, and others who do not/cannot participate in this area of pedagogy. There can often be a shortage of staff to participate in field courses. • Some colleagues do not feel confident engaging in this complex and challenging area of pedagogy, citing a lack of training or professional support. • Staff planning for field courses has been made more challenging in recent years by fluctuations in student cohort sizes. • Since the introduction of higher-level tuition fees in 2012, and the move towards a 'consumer focused' HE, there have been some cases where student demands and behaviour has become more challenging. • There is a widespread lack of appropriate training for staff to prepare them for field course teaching. Whilst some universities are recognising this need (e.g. Mental Health First Aid training/suicide awareness training), there is an urgent need to address this issue. • There is a general lack of support for academic staff running/participating in field course teaching. Workload expectations are often unrealistic or underestimated and have a significant impact on staff mental health and wellbeing.
<p>Institutional factors</p>	<ul style="list-style-type: none"> • Institutions generally do not demonstrate an awareness of the actual level of support that departments require for effective field course teaching. This may be seen through financial (budgetary) constraints, through insufficient professional services support, or provision of external procurement services. • There is a weak institutional engagement with the necessary environmental sustainability and EDI imperatives required to transform field course pedagogy in a dynamic HE environment. • Institutions need to demonstrate tighter regulatory mechanisms to ensure safe, efficient and effective field course teaching. • Institutions need to demonstrate a stronger leadership in ensuring that field course practices align with their own strategic objectives (e.g. commitment to sustainable travel policies).