Enhancing Fieldwork Learning Showcase

The future of HE fieldwork practice and teaching

At the Royal Geographical Society

1 Kensington Gore, London, SW7 2AR

Tuesday 10th and Wednesday 11th September 2024

Royal Geographical Society with IBG

Advancing geography and geographical learning

Enhancing Fieldwork Learning Showcase Programme

The future of HE fieldwork practice and teaching

Day One: Tuesday 10th September – 10:30am to 4:00pm (BST) (UTC +1)

Time	Theme / title	Presenters
10:30 to 11:00	Registration / Tea and Coffee	
11:00 to 11:10	Welcome *Shane Winser (Royal Geographical Society) & Derek France (University of Chester)*	
11:10 to 11:40	Keynote 1 – *The Future of Field Course Pedagogy in UK Higher Education*	*Ewan Woodley* University of Exeter
11:40 to 12:30	Session 1 – *Equality, Diversity and inclusion in fieldwork* Chaired by Julia Cooke	
	Designing and delivering accessible outdoor fieldwork experiences in higher education	*Andrew Suggitt, Lydia Cole, Jessica Williams and Sarah Linnéa Woods* Northumbria University
	Enhancing neurodiversity inclusivity in field-based learning	*Marjorie Lundgren* Lancaster University
	VR for fieldwork enhancement: EDI and beyond	*Rebecca Jones and Richard Dallison* Bangor University
	Questions from Session 1	
Lunch		
1:30 to 3:30	Session 2 – *Outdoor activity (in-person and online)* Chaired by Alice Mauchline	
	Urban Trees	*Danni Hill* Treeconomics
3:30 to 3:50	Session 3 – *Resources and opportunities*	
	RGS fieldwork resources	*TBC* Royal Geographical Society
	Natural History Museum's Nature Park	*Dave Morgan* ESRI UK
	BES funding opportunities	*Dylan Byrne* British Ecological Society
3:50 to 4:00	Wrap up – *Day One review / reflections*	

Conference Dinner at Ognisko, 55 Exhibition Road, SW7 2PG – *Meet at 7:00pm for 7:30pm meal*

Day Two: Wednesday 11th September – 9.00am to 3:00pm (BST) (UTC +1)

Time	Theme / title	Presenters
9:00 to 9:30	Registration / Tea and Coffee	
9:30 to 10:00	Keynote 2 – *Using Digital Visualisation Tools to support geographical education in Ukraine*	*Simon Hutchinson* University of Salford
10:00 to 10:40	Session 4 – *Student voice* Chaired by Brian Whalley	
	Moving with the times: Leveraging a local environmental crisis as a teaching opportunity	*Gemma Beatty, Natasha McGowan and Lorraine Scott* Queen's University Belfast
	Interactive virtual field trip in the region affected by surface lignite mining as a mean of enhancing the regional identity	*Tereza Poncová, Václav Stacke, Václav Duffek* University of West Bohemia
	Questions from Session 4	
Comfort Break		
10:50 to 11:50	Session 5 – *Equality, Diversity and Inclusion in fieldwork*	
	Panel discussion: Future Fieldwork Teaching	*Lynda Yorke, Naomi Holmes, Ewan Woodley, Stewart Barr, Chris Darvill* Bangor University
Lunch		
12:50 to 1:40	Session 6 – *Employability, future skills and green careers* Chaired by Lesley Batty	
	Tackling Britain's Environmental Challenges: a solutions-focused, multidisciplinary, role-play field module	*Liz Hurrell[1], Dean Waters[1] and Martin Varley[2]* 1. University of York 2. Cumbria Connect
	Prac for the Future – Views of Experiential learning for Bioscience students	*Natasha McGowan* Queen's University Belfast
	Manifesto for Fieldwork	*Dan Swanton[1], Lesley Batty[2] and Derek France[3]* 1. University of Edinburgh 2. University of Birmingham 3. University of Chester
	Questions from Session 6	
Comfort Break		
1:50 to 2:30	Session 7 - Use of AI and machine learning in fieldwork teaching Chaired by Trevor Collins	
	AI in fieldwork - survey and discussion	*Lesley Batty* University of Birmingham

	Generative Artificial Intelligence: Fieldwork Assistant or Fieldwork Frivolity	*Katharine Welsh and Laura Milne* University of Chester
2:30 to 3:00	Wrap up – *Day Two review / closing and next steps*	

Collection of Abstracts

Keynote 1.

The Future of Field Course Pedagogy in UK Higher Education

Ewan Woodley, University of Exeter (e.j.woodley@exeter.ac.uk)

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 HEIs within the context of environmental and financial costs, coupled with the institutional challenges of comprehensively embedding 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 IBG (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 institutional practices in supporting field course pedagogy, alongside future direction and 'disrupting' (innovative) practices for promoting transformative change in this area of education. Here, we argue for three sector wide discussions that require collaborative engagement with practitioners, institutions, and students. Firstly, a reappraisal of the principles behind field courses to ensure a strong sector-wide understanding and commitment to intended learning outcomes and course design that clearly embed progressive and transformative values in pedagogy. Secondly, an urgent call to further institutional and academic efforts that embed low carbon travel, and other environmentally sustainable practices, in field courses. Crucially, we seek to challenge the entrenched 'exoticism' associated with field courses and to promote low carbon travel experiences as a means of engaging students as future actors in low carbon societies. Thirdly, we call for enhanced HEI support for academic and professional service colleagues in supporting training and implementation of Universal Design for Learning in field course pedagogy. As such, we call for a wider national conversation on the role and agency of key actors in HE to enable transformation of field course pedagogy.

Session 1. Presentations

Theme: Equality, Diversity and Inclusion in fieldwork

Designing and delivering accessible outdoor fieldwork experiences in higher education

Andrew J. Suggitt, Lydia E. S. Cole, Jessica J. Williams, Sarah Linnéa Woods

Contact: Andy Suggitt, Northumbria University (andrew.suggitt@northumbria.ac.uk)

Keywords: access, inclusion, equality, adaptive fieldwork

Abstract

There is a rapidly growing literature on the benefits of fieldwork for enhancing learning in higher education, but the outdoor locations we visit aren't always chosen with accessibility in mind. Accessible trips are often dependent on good relationships between staff and students- necessarily so- but this can leave the success of those trips dependent on individuals. Plus, for those designing a trip from scratch, it can be difficult to know where to start.

Here, we present a nascent model for accessible fieldtrips, focussing on physical accessibility (for now). Our frame of reference is the chronology of a fieldtrip, from the pre-design stage through to the sharing of lessons learnt for the next trip. We discuss the model's strengths and weaknesses, outlining how it can benefit fieldtrip planning for various accessibility concerns. We also identify where and how the model could benefit from wider buy-in across your host departments and institutions.

As the model is still in development, we will invite your offline feedback, and ultimately we aim to facilitate discussion on how the model could be generalised to be useful across higher education more widely. In sum, your thoughts, ideas, and indeed critiques will be most welcome as we aim to make fieldwork- and the great outdoors- as inclusive and accessible as we can.

Enhancing neurodiversity inclusivity in field-based learning

Marjorie R. Lundgren

Contact: Marjorie R. Lundgren, Lancaster University (m.lundgren@lancaster.ac.uk)

Keywords: neurodiverity, ADHD, field based learning, residential courses, field trips, placements

Abstract

The number of neurodiversity diagnoses is rapidly growing, with up to one fifth of the UK population currently estimated to have at least one neurodivergent condition. Despite these staggering numbers, our understanding of these conditions within the higher education context remains limited. Resources that aim to improve neurodiversity inclusivity within typical classroom settings are starting to become available to meet these demands. Yet few resources are available to aid in improving neurodiversity inclusivity in field-based learning, a very specific type of learning environment with great potential for exciting and engaging students, but also for stressing them. To address this shortfall, I will speak about a resource that I am developing to guide educators in best practices to make reasonable adjustments for neurodiverse students in field-based learning.

VR for fieldwork enhancement: EDI and beyond

Dr Rebecca Jones and Dr Richard Dallison

Contact: Rebecca Jones, Bangor University (rebecca.jones@bangor.ac.uk)

Keywords: fieldwork, EDI, skills development

Abstract

Virtual fieldtrips present promising avenues for enhancing fieldwork practices within the realm of Equity, Diversity and Inclusion (EDI). This presentation will explore ways in which virtual fieldtrips and Virtual Reality (VR) are being used within teaching at Bangor University to address some of the EDI challenges encountered in traditional fieldwork settings. By immersing participants in realistic virtual environments, VR offers an innovative approach to experiential learning, from entering new or risky environments, to travelling through systems and locations at a faster pace, allowing more content and comparative studies to be considered.

The creation of controlled environments that simulate real-world scenarios allow participants to engage with diverse perspectives and experiences, as well as have the potential to foster empathy, reduce biases, and cultivate a deeper understanding of issues related to EDI. Furthermore, VR technology enables the customisation of fieldwork experiences to accommodate diverse learning styles, abilities, and preferences, empowering individuals to participate fully in fieldwork activities. The challenges and opportunities associated with integrating VR into fieldwork for EDI will be discussed, as it is essential to consider issues such as accessibility and representation in its implementation.

We believe that VR should be used to compliment current field offerings (not replace) and as an alternative to those who are unable to access fieldwork activities through ill health, disability, caring or family commitments, or any other EDI related concerns. In addition, the technology should be enhancing fieldwork offerings, bringing opportunities for the integration of new assessment styles and novel skills development for students.

Session 2. Outdoor Activity

Urbans Trees

Dani Hill, Treeconomics (danielle@treeconomics.co.uk)

Session 3. Resources and opportunities

RGS fieldwork resources

RGS representative (TBC), Royal Geographical Society

Natural History Museum's Nature Park

Dave Morgan, ESRI UK

British Ecological Society funding opportunities

Dylan Byrne, British Ecological Society

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Enhancing Fieldwork Learning Showcase Programme

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Keynote 2.

Using Digital Visualisation Tools to support geographical education in Ukraine

Simon Hutchinson, University of Salford (s.m.hutchinson@salford.ac.uk)

Abstract

Universities in Ukraine are now in their fifth year of huge disruption with COVID-19 being followed by Russia's invasion in February 2022. Particularly in regions toward the borders with Russia, staff and students have been displaced, teaching was forced on-line (and remains so in some areas) and buildings and infrastructure continue to be destroyed. For geography, as well as other environment-focussed disciplines, this has significantly impacted on the delivery of field-based learning, which in Ukraine forms an important proportion of the teaching calendar.

The 'Virtual Field Trips for Ukraine Initiative' in 2023 took approaches developed during the pandemic employing Digital Visualisation Tools (DVTs) to create Virtual Field Trips (VFTs) and then subsequently 'flipped' casting the class as VFT co-creators, to facilitate virtual fieldwork activities where in-person fieldwork was impossible. Training was delivered through a series of online workshops and has allowed students in three partner universities so far to co-create VFTs mainly via existing digital resources from past field activities or from their local environment.

In the east of the country especially i.e., where teaching is more likely to still be online and in-person fieldwork remains impossible, the Initiative helped students to re-engaging with their studies and develop new skills. Nevertheless, colleagues in Ukraine had already demonstrated significant tenacity in providing digital alternatives to in-person fieldwork, which became apparent in the 'Virtual fieldtrips for inclusive field skills training' Summer School which trained staff in the use of DVT in an internationally collaborative 4-day workshop.

While some in-person fieldwork is possible in the less impacted west of Ukraine, and where VFTs have been employed in other ways, even when the war ends many areas will be unsafe e.g., due to undetonated ordnance, fieldwork facilities have been lost and consequently fieldwork will be restricted for many years. Therefore, a role for digital technologies in geography in Ukraine will remain but would also benefit from mutually beneficial international cooperation in sharing content and techniques. As the Higher Education system of the Ukraine is re-built this will also provide an opportunity to enhance the Inclusion and Accessibility of the discipline.

Session 4. Presentations

Theme: Student voice

Moving with the times: Leveraging a local environmental crisis as a teaching opportunity

Dr Gemma Beatty, Dr Natasha McGowan and Dr Lorraine Scott

Contact: Natasha McGowan, Queen's University Belfast (n.mcgowan@qub.ac.uk)

Keywords: Lough Neagh, algal bloom, nature walk, local experts, student voice

Abstract

Lough Neagh is the largest UK freshwater lake, comprising a vitally important habitat for local biodiversity, drinking water, and livelihoods. It holds several local, national, and international designations as part of the Natura 2000 network (SPA), an Area of Special Scientific Interest (ASSI), and a Ramsar site. It is world-renowned for its eels (Anguilla anguilla), hosting the largest fishery in Europe, and has European recognition for its pollan (Coregonus pollan). It is also a crucial breeding site for migratory and wading birds. Last summer, worrying levels of eutrophication were noted on the lough, making local, national and even international news headlines. Subsequently, we organised a voluntary site visit to Oxford Island Discovery Centre on the lough for Bioscience students at undergraduate and postgraduate level. Students heard a series of talks from local experts (staff at the centre and researchers) on the history and status of the lough and species it supports before embarking on a nature walk along its shores. After the visit, students completed a short questionnaire about their visit. Whilst students indicated that the presentations were informative and enjoyable, it was clear that the nature walk was a highlight for everyone. All students relayed that they enjoyed the visit (scoring either four or five out of five). This visit highlighted the value of opportunistically leveraging 'en vogue' news stories to demonstrate the real-world application of teaching. The feedback obtained will be used as a platform to refine such visits in the future.

Interactive virtual field trip in the region affected by surface lignite mining as a mean of enhancing the regional identity

Tereza Poncová, Václav Stacke, Václav Duffek

Contact: Tereza Poncová, Dept. of Geoscience, Centre of Biology, Geoscience and Environmental Education, Faculty of Education, University of West Bohemia, Pilsen, Czech Republic (poncovat@students.zcu.cz)

Keywords: local region; lignite mining; virtual field trip; model of the in-depth structure of teaching; Thinglink; spherical photos; Sokolovsko

Abstract

The teaching of geography of a local region plays an important role in creating a connection to the local region and helps with completing the student's identity. Our study is focused on the local region of Sokolovsko (NW Czech Rep.) that is both positively and negatively affected by the surface mining of lignite and its processing. Previous surveys revealed that the topic is taught minimally, and thus insufficiently covered. The goal was to create a virtual field trip (VFT) that would help students to comprehend mining and connected economic activities, thus contributing to building a student's regional identity. As the first step we used the model of in-depth structure of teaching to perform

ontodidactic transformation of the educational content, then we selected locations suitable for psychodidactic transformation of the content. We took 360 degree photos of the locations and transformed them to the VFT using the Thinglink platform. The result is a 45-minute interactive VFT covering the issues of lignite surface mining and connected economic activities, its environmental impact and ecological restoration. The VFT aims to compensate for the insufficient coverage of the topic by providing recent information and visual material. This VFT can be used also in the teaching of general mining topic and in the other local regions affected by surface mining as well.

Session 5. Panel discussion

Theme: Equality, Diversity and Inclusion in fieldwork

Future Geographical (& Biosciences) Fieldwork Teaching

Lynda Yorke, Naomi Holmes, Ewan Woodley, Stewart Barr, Chris Darvill

Contact: Lynda Yorke, Bangor University (l.yorke@bangor.ac.uk)

Keywords: fieldwork inclusive accessible equitable

Abstract

This session examines the changing face of fieldwork in teaching. Pressures arising from the climate crisis and environmental change require geographers to think about the carbon cost and sustainability of their fieldwork, and technological innovations present geographers with opportunities to consider new and improved ways of doing fieldwork, remotely or in the field. Moves to improve social equity within teaching require critical reflections on best practice, and discussions around decolonising disciplinary knowledge need to consider ways to avoid 'knowledge hierarchies' or 'parachute science' in which local expertise is ignored. This Future Geographic (and Biosciences) Fieldwork session will consider how field teaching has been conducted in the past and how it might be made more sustainable in the future.

Session 6. Presentations

Theme: Employability, future skills and green careers

Tackling Britain's Environmental Challenges: a solutions-focused, multidisciplinary, role-play field module

Liz Hurrell (University of York); Dean Waters (University of York); Martin Varley (Cumbria Connect)

Contact: Liz Hurrell, University of York (liz.hurrell@york.ac.uk)

Keywords: fieldwork; multi-disciplinary, environmental challenges

Abstract

The Department of Environment and Geography (DEG), University of York has recently undergone a restructure of all their undergraduate programmes. A key theme underpinning the restructure was a move towards solutions-focused teaching and learning; moving away from just focusing on environmental problems, but equipping students with the skills and knowledge to find sustainable and equitable solutions. A new emphasis was placed on multidisciplinary teaching; creating opportunities to bring together students from all four DEG programmes to holistically discuss environmental challenges and solutions.

With the restructure came a new, optional, 3rd year field module. The challenge was to design a fieldtrip that would appeal and cater for students from: Environmental Geography; Environmental Sciences; Human Geography and Environment and Environment, Economic and Ecology programmes and that focused on sustainable solutions. The module team was also keen to add real-world and employability elements.

This presentation outlines the design, delivery and evaluation of the new "Tackling Britain's Environmental Challenges" field module. The module was delivered as a role-play exercise whereby students, working in multidisciplinary teams, assumed the role of environmental consultants tasked to advise a real-world partner, Cumbria Connect, on landscape restoration. Cumbria Connect provided a Landscape Restoration Work Programme that allowed students to choose a project to scope out (the fieldtrip) ahead of planning and costing-up a feasibility study (their assessment). Throughout, students had to consider landscape restoration through an economic-social-environmental lens which tied strongly with both DEG and Cumbria Connect's frameworks and ensured a more integrated understanding of both challenge and solutions.

Prac for the Future – Views of Experiential learning for Bioscience students

Dr Natasha McGowan

Contact: Natasha McGowan, Queen's University Belfast (n.mcgowan@qub.ac.uk

Keywords: employability, curriculum enhancement, student voice, experiential learning, degree pathways

Abstract

STEM education and careers are perceived as essential to promote economic development and to address global issues. To be a STEM science practitioner, a portfolio of technical skills, including lab- and field- work, is often essential. In this study, an online questionnaire was distributed to

Biochemistry, Biological Sciences, Environmental Biology, Marine Biology, Microbiology, and Zoology students to gather opinions on lab and field opportunities. I also determined how they linked to previous experience and future career prospects.

Most students obtained lab (75.4%) but not field (49.1%) experience before entering university. Generally, students were satisfied with the volume of lab work offered on Bioscience programmes (54.1%) but wanted more fieldwork (59.0%); no students wanted to see fewer experiential learning opportunities. Students on more field-based programmes (Environmental Management, Marine Biology and Zoology) wanted more fieldwork than those on the more general (Biological Sciences) or molecular (Microbiology and Biochemistry) pathways.

In terms of careers, most students wanted to enter research (42.4%), followed by ecology / conservation / rehabilitation (30.3%), medical / veterinary pathways (18.2%) and academia (12.1%). For 50% of students, placements confirmed that they wanted to enter field-based careers with no-one being deterred. The results of this study highlight that students relish experiential learning opportunities. Whilst we provide good laboratory training, field opportunities seem to be lacking somewhat.

Although fieldwork can be logistically challenging to organise, it is likely to enhance skills and academic journeys, and aligns with students' career goals. Adding fieldwork should therefore be prioritised at tertiary (particularly on more practical programmes) and secondary level education.

Manifesto for fieldwork

Dan Swanton, Lesley Batty and Derek France

Contact: Dan Swanton, University of Edinburgh (dan.swantn@ed.ac.uk)

Keywords: experiential learning, sustainability, inclusivity, accessibility, digital tools.

Abstract

This manifesto for field teaching is an invitation to engage in pedagogic discussions that sets out our visions for the future of fieldwork in field teaching. Fieldwork is a signature pedagogy in Geography, however the place of fieldwork in undergraduate curricula is changing. At the same time when curriculum projects in many universities are advocating for more experiential learning in authentic and real-world context, the climate and nature crises, pandemics, financial pressures, technology, and the importance of addressing inclusivity and accessibility are challenging field teaching and student fieldwork. The manifesto offers a set of provocations that we hope will be discussed, shared, and contested. The provocations will address wide-ranging issues including:

- Fieldwork must confront climate and nature crises. We need to be accountable for the environmental costs of experience learning in the field.
- Fieldwork is key to a world and ethical education that envisions liveable planetary futures.
- Fieldwork can be inclusive. But making fieldwork inclusive requires effort and may include radical shifts in the practices, sites and relations that fieldwork involves.
- AI, VR and other digital tools do not replace fieldwork. But they demand that we reimagine and remake the field.

Our ambition for the manifesto is not to encourage righteous equivocation between good and bad fieldwork. Instead, we hope the provocations offer useful prompts for reflection and debate that can help articulate a renewed vision for the place of fieldwork in geography programmes and provide a robust justification for the ongoing significance of fieldwork for a geographical education.

Session 7. Discussion and presentation

Theme: Use of AI and machine learning in fieldwork teaching

AI in fieldwork - survey and discussion

Lesley Batty

Contact: Lesley Batty, University of Birmingham (l.c.batty@bham.ac.uk)

Keywords: ??

Abstract

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Generative Artificial Intelligence: Fieldwork Assistant or Fieldwork Frivolity

Katharine Welsh and Laura Milne

Contact: Katharine Welsh, University of Chester (k.welsh@chester.ac.uk)

Keywords: Artificial Intelligence, fieldwork, SAMR

Abstract

Fieldwork is a fundamental, out-of-classroom learning opportunity for many disciplines. Whilst often a highlight of many degree courses, fieldwork is expensive, time-consuming and increasingly under pressure as Higher Education (HE) budgets are constrained. For many years, technology has been used within fieldwork (examples) to catalyse efficiencies and generate new ways to collect data. With the arrival of ChatGPT in November 2022, HE has been forced to respond rapidly to the impact that Generative Artificial Intelligence (GenAI) has had across the sector. Notwithstanding the as-yet unresolved ethical challenges associated with GenAI, there is acute interest in the potential opportunities afforded by GenAI as a co-educator (Habiba & Partho, 2024) to identify how it can help improve efficiencies within Higher Education (though caution with an 'efficiency' approach is required; c.f. Watermeyer et al. 2023). GenAI may not appear to feel like a natural fit for fieldwork, but through this session and drawing on the SAMR model (Puentedura, 2006), we identify the extent to which there are opportunities for how fieldwork practitioners can make use of GenAI to assist their fieldwork practice and think critically about whether GenAI is likely to be a useful fieldwork assistant or a just a fieldwork frivolity.