CIVIC UNIVERSITIES AND CLIMATE EDUCATION

A RAPID EVIDENCE REVIEW

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National Civic
Impact Accelerator

BACKGROUND

The National Civic Impact Accelerator (NCIA) is an ambitious three-year programme to gather evidence and intelligence of what works, share civic innovations, and provide universities across England with the framework and tools to deliver meaningful, measurable civic strategies and activities. The programme is funded by Research England, part of UK Research and Innovation (UKRI). It aims to drive collaboration and policy and practice innovation, involving universities, local government, business groups, and the community sector to inform place-based transformations.

AIMS AND OBJECTIVES

The Institute for Community Studies at The Young Foundation is carrying out primary and secondary research activities to generate an evidence base supporting the NCIA programme. This research focuses on the role of universities in delivering impact in their places, considering the perspectives of a range of organisations, actors and communities, to develop a holistic understanding of the impact of university activities and strategies.

The evidence generation process of the Institute is guided by four co-commissioning panels, which represent a range of stakeholder perspectives. This rapid evidence review responds to the direct input of the Environment, Climate and Biodiversity Panel, made up of representatives from universities across England and third sector organisations with a stake in the issue.

The panel prioritised three lines of enquiry around the role of universities in environment, climate and biodiversity, which the Institute team developed into research questions. The aim is to ensure the evidence produced is as meaningful and useful to a range of stakeholders as possible, within the natural constraints of the project. For a full description of the process and prioritised research topics, please refer to the Research Agenda published by the Institute.

INTRODUCTION

While climate education has been an endeavour for decades, an increasingly severe climate crisis is creating a different need and urgency, informing the type of climate education that is being delivered. In England, there is an unprecedented challenge in attempting to reduce carbon emissions to net zero by 2050. Reaching this target requires significant change to both manage the existing impacts of climate change, and to minimise contributions to ongoing climate change. These changes range from ones that are large-scale, infrastructural and structural, to changes in our daily lives and routines. Where climate-related risks and challenges were previously seen as something for scientists and policymakers to address, there is a growing recognition that managing and mitigating the impacts of the climate crisis requires the participation of everyone.

Although the climate education agenda has steadily evolved beyond its roots in scientific, classroom-based knowledge, it is still widely held that that rate of progress is insufficient to address the scale and complexity of the challenge (Pearson, 2021). As such, amongst many, there is a demand for a more radical and action-orientated climate education agenda (eg, Thew et al, 2021; Greer et al, 2023; SOS UK, 2022; BSA, 2024), including a call for the formal adoption of a Climate Education Bill for England and Wales (Teach the Future, 2023). Nonetheless, it remains a relatively nascent and poorly evidenced area.

The Civic University agenda introduces a new provocation to this debate: what does climate education look like for a civic university?From this line of enquiry emerge new opportunities to develop and deliver place-based, values- and action-orientated climate education. Additionally, this framing begets a whole-institution approach, which is focused on localized impact rather than activities. Under a holistic lens, climate education transcends its current place in single subjects, inviting connection across subjects, departments and actors within and outside the university. Crucially, the civic lens provides potential to extend climate education beyond its technical components, towards a ‘whole system’ view, and one which emphasizes the potential role of students as citizens and professionals.

This publication responds to the question what constitutes a climate education, and who decides this? In a rapid secondary research process, it brings together recent literature and evidence, alongside short case study examples, to understand the state of climate education in England. With an ultimate focus on challenging the role of universities in delivering a climate education, this publication looks at who is influencing the climate education agenda, how climate education is being delivered, and existing challenges and potential opportunities for a climate education.

What is needed from climate education?

Climate education has the dual potential of preparing us to adopt practices that reduce our impact on climate change, and climate changes' impact on us, through both personal responsibility and participation in systemic and structural change (Reimers, 2021). A recent study (Greer et al, 2023) found near consensus that education has a role to play in addressing climate change. However, there dissenting opinions on how education should equip individuals and to what end.

Climate education is a relatively nascent and under-theorised area. Heterogenous practice means there is a lack of robust evidence on what is good practice (Rousell and Cutter-Mackenzie-Knowles, 2020; Reimers, 2021) and there have been only a few attempts to conceptualise it in terms of associated skills, knowledge and competencies (Reimers, 2024). While climate education is often approached through science education, large-scale empirical studies suggest no correlation between scientific knowledge and pro-environmental behaviour (Rousell and Cutter-Mackenzie-Knowles, 2020).

Instead, the emerging consensus is that climate education should be multi- and cross-disciplinary, embrace considerations of values of justice as well as 'scientific fact', and reflect climate change's complex nature (Reis and Ballinger, 2020; Greer and Glackin, 2021). Existing studies demonstrate that – despite climate education currently being dominated by a science-based education – cooperative, interdisciplinary, participatory, place-based and experiential programmes can have significant impacts on attitudes and actions towards climate change (Rousell and Cutter-Mackenzie-Knowles, 2020).

Several international frameworks offer guidelines for climate change action and education. For example, The United Nations Framework for Climate Change (UNFCC) calls for Action for Climate Empowerment (ACE) spanning all age groups. This includes not only public awareness and education on climate change, but also opportunities for participation in 'addressing climate change and its effects and developing adequate responses' (UNFCC, 2023).

UNESCO's Education for Sustainable Development (ESD) for 2030 suggests that education needs to contribute to the attainment of the sustainable development goals, in alignment with goal 4.7, which is about giving all learners the skills to promote sustainable development (2020). The ESD strategy places particular emphasis on competencies related to empathy, solidarity and action-taking and suggests three dimensions to such an education – understanding challenges, taking practical action, and building core values and attitudes for sustainability (UNESCO, 2020).

Climate education and UK policy landscape

The UK's new Labour government has made several commitments to addressing climate change, and a climate education can be seen as crucial to the success of these. For example, the transition of industries and the creation of jobs will demand new skills and training, while infrastructural changes - such as locally-generated power and warmer homes - will hinge on a certain level of knowledge and active participations by many. However, climate education has typically received little attention or importance in policymaking. The UK government has been slow to engage formal education at all levels in the delivery of climate education (Reis and Ballinger, 2020).

Despite recommendations advocating for climate education in the Stern Review (2006) almost two decades ago, policy has tended to overlook climate education. Where it is acknowledged, there is a lack of focus on action, and instead a dominance of economic value (Greer et al, 2021). Indeed, until the recent strategy published by the Department for Education (DfE), there was resistance to any particular government department or institution taking accountability for the delivery of climate education (Greer et al, 2023).

The strategy for Sustainability and climate change: A strategy for the education and children's services systems (2022) is the first climate education policy paper of its kind in England. It foresees that young people will need skills in STEM and other key subjects, and that schools and universities should inspire young people to choose career paths that support the transition to net zero, the restoration of biodiversity, and building a sustainable future (DfE, 2022). However, it has still been criticised for prioritising economic growth and the transition of industries and access to jobs, as well as promoting climate education as optional or extracurricular (Greer et al, 2023).

Although Labour's manifesto did not specifically mention climate education, it did acknowledge the need for a skills plan to support green industrial transition and job creation. Before the General Election of July 2024, the Climate Education Bill was adopted into the Labour party's draft policy programme, encompassing climate education in schools, vocational courses, apprenticeships, and to upskill and retrain the existing workforce. Coupled with Labour's promise to conduct an expert-led review of the school curriculum, this might also bring more attention to the climate education agenda.

Picking up on where UK policy falls short: While policy work on sustainability and climate education in England tends to leave out the voices of educational practitioners, young people and adult learners (Dunlop and Rushton, 2022), work by the University of Reading (2021) attempted to bring together a more diverse range of actors to understand what is needed from a climate education. The National Climate Education Action Plan brought together young people, scientists, teachers and education practitioners, policymakers and campaigners, identifying the need to support education practitioners and developing a framework for compulsory climate education.

How is climate education being delivered?

Although schools and universities across the UK are developing and delivering climate education in a range of ways, there is little evidence on what is working and towards which aims. A study by Greer and Glackin found that climate education in England spans three broad approaches (2021). The most dominant was seen to be the knowledge-led approach, which places emphasis on fact-based and disciplinary knowledge. Other approaches were more capabilities-led, supporting people to take action by enabling 'soft' and 'hard' skills, and a more expansive climate education approach, that can be delivered through other social infrastructure and informal spaces (Greer and Glacklin, 2021).

Climate education has typically been approached through STEM education, focusing on teaching children and young people scientifically established facts about climate change and preparing them for the future workforce through 'green skills'. This is in line with the Department for Education's prediction that young people will need skills in STEM, which will support them to build careers and participate in the 'Green Industrial Revolution' (2022). An annual survey was introduced in schools by the Department for Education to assess progress towards climate literacy and knowledge (2022).

This narrow focus has been a cause for discontent for young people. In schools across England, climate education is most often restricted to being taught through GCSE geography and science; it is not inclusive of all students and only visited on a number of occasions, as defined by strict, exam-focused curricula. A recent survey of 1,000 young people aged 14 to 18 in England found that young people feel they are taught 'bare facts' rather than receiving a well-rounded education on climate change, despite 69% of respondents saying they'd most likely approach their teachers for accurate information on climate change. Some 72% welcomed the opportunity to learn more about climate change, and 68% felt it should be included across all subjects. Young people taking part in the survey also said existing climate education leave them feeling more anxious, demotivated and disenfranchised (British Science Association, 2023).

Climate education in higher and further education settings

Universities are thought to be uniquely positioned for climate education, as they are multidisciplinary and collaborative, part of the local and national economy, and able to carry out longer term initiatives (Katehi, 2012). As graduates move into a range of industries, universities can increase the reach of a climate education (Reimers, 2021), while also being a space for grassroots mobilisation when students taken meaningful action (Perera and Hewege, 2022).

In England, universities have been declaring their commitment to tackling climate change, with emphasis on research, but also climate education across all operations of the university, and climate education that goes beyond the university (Latter and Capstick, 2021; Perera and Hewege, 2022). That said, students have argued that climate education provisions are insufficient given the scale of need (eg, Students Organising for Sustainability).

Further Education (FE) colleges also hold a unique position, given their close ties to local communities, and their role in educating people in industries that will have to transition (BEIS, 2021; AoC, 2020). However, there is significantly less literature on how FE colleges are engaging in a climate education, beyond skills training and career support for net zero-related jobs and industries.

Outside of the classroom

Some have argued that climate education shouldn't be limited to formal education settings, as people tend to engage with climate change beyond the classroom. For example, Stephens and Grahams (2008) put forward the potential of museums, the media, films and books, community events, and the home or neighbourhood being sites where people can meaningfully engage with climate education.

Across England, there are various examples of climate education being delivered in a range of spaces such as within music and arts festivals, in local authority-run courses, workshops or events, within charities, trade unions and grassroots organisations. Adult learning has declined over the past few decades (UPP Foundation, 2019), and these spaces, as well as learning facilitated by employers, often offer a more accessible type of climate education available to those outside of the formal education system.

Natural or green settings are also potential 'classrooms' for climate education, providing opportunities for embodied learning and enhanced connection to nature. The Department for Education's approach to climate education identifies the importance of connection to nature, enabling students to learn about natural environments (2021). However, there is a lack of clarity on how this can be effectively delivered by schools, especially those with fewer natural resources at their disposal, for instance schools in urban contexts.

EXAMPLES OF HOW CLIMATE EDUCAITON IS BEING DELIVERED

Developing unique climate action plans for schools: Climate Ambassadors scheme is a £2m project funded by the Department of Education and delivered by a consortium of universities hosting nine regional hubs across England. Nurseries, schools and colleges are linked with climate ambassadors – experts from industry and academia – to develop and deliver unique climate action plans, free of charge. The scheme is an extension of the previous Climate Ambassadors Scheme, which had engaged 236 volunteer climate ambassadors to reach more than 80,000 learners and teachers across 534 schools, colleges and universities between 2022 and 2024.

Climate literacy courses for beyond the university: Climate literacy courses have been developed by Nottingham Trent University (in collaboration with Future Learn) and Birmingham City University (in collaboration with West Midlands Combined Authority). The former is an online course, open to all and free of charge, and 708 people have enrolled on the course. The latter is an application-based, in-person 'skills bootcamp', open to working people living in the West Midlands Combined Authority area. The bootcamp is free for those who are self-employed or offered at a low cost to employers.

Learning through climate assemblies: Several climate assemblies have run across England and the rest of the UK, with education practitioners and other knowledge-holders invited to share knowledge with local authority stakeholders and residents within local communities, to aid the decision-making process (eg, Cupitt, 2023). While climate assemblies are normally one-off events that might or might not result in continued public engagement, initiatives such as Climate Citizens, run by Lancaster University, seek to embed more consistent two-way communication between government and citizens.

A participatory, grassroots climate education: The Women's Environmental Network hosted Climate Sisters – a 12-week leadership programme for underrepresented and marginalised women in the climate space. The programme taught participants about climate change causes, impacts and how it connects with everyday life, the intersections of climate, racial and gender justice, and feminist leadership skills. Learning was complimented with opportunities to take action, including community outreach, engagement with policy- and change-makers, and developing creative products to share ideas and solutions.

Challenges to existing climate education provisions

Existing literature highlights a number of persistent challenges, below, which are limiting the impact of climate education.

Superficial engagement with climate education

Reimers (2021) argues that climate education should not just facilitate research and innovation, but also new ways of organising social systems of living and working, as well as how we interact with the environment. This means equipping people with ethical frameworks, imagination, motivation to act, and skills to advance knowledge and innovation. Some universities, who are actively declaring a commitment to climate change, have faced some criticism that these declarations are being used as promotional statements that might otherwise detract from meaningful commitments and actions.

A critical discourse analysis of declarations made by universities in England by Latter and Capstick (2021) suggests they are being used to signal leadership – often on a global scale – on sustainability, alongside leadership on research and knowledge. The analysis indicates that only a small number of universities are prepared to take action that would contribute to more transformative change. Rankings such as those by the Times Higher Education can capture initiatives to advance sustainability, but not their integration or cohesion in terms of the student experience (Reimers, 2024).

Failing to equip people for action

Climate education has the potential to go beyond helping people to understand climate change, towards equipping learners with the skills to take meaningful action. It should make a real impact on students, their peers, families, communities and other stakeholders such as employers (Perera and Hewege, 2022; Creer and Clackin, 2021). However, while there is little evidence on what constitutes good climate education, there is even less evidence that people have the skills to translate knowledge into action (Stevenson et al, 2017).

Additionally, a review of environmental education research found less focus on collective action or on sociotechnical transformation, and more focus on individual behaviours amongst children and young people for energy conservation (Jorgenson, 2019). Also lacking are efforts to increase understanding of how the impacts of climate vary for different people, restricting people's ability to engage with climate action with greater complexity and nuance (Reimers, 2021).

Need for a more contextual climate education

Staff and students are often positioned as active and independent stakeholders with the capacity to raise awareness, show concern, encourage action, provide ideas, and keep educational institutions accountable (Latter and Capstick, 2021). However, top-down models of determining what should constitute climate education means educational practitioners are often left without support to develop their own knowledge about climate change and skills for teaching a climate education in their context (Rousell and Cutter-Mackenzie-Knowles, 2020; University of Reading, 2021).

These top-down models also assume climate change is a technical challenge to be solved with a universal solution, when in fact climate education would benefit from being designed to be contextually relevant in terms of the local challenges and the characteristics of the local education system (Reimers, 2021; Rousell and Cutter-Mackenzie-Knowles, 2020). Research with universities suggested that while they see their relationship with local community and other anchor institutions as key to their climate agenda, there was uncertainty on how to approach place-based climate education and action (Morrison et al, 2022).

Lack of evidence on good practice

Climate education deficiencies are not unique to England, and international analysis has identified a focus on cognitive learning, rather than social and emotional outcomes, or on behaviours and action (Greer et al, 2023; UNESCO, 2019). While several international and national frameworks and guidelines exist for climate action and education, they don't include elements of measuring tangible outcomes. So, while there is a challenge for climate education to build the capacity of education systems to teach high quality climate education, there is also a challenge to evaluate it (Perera and Hewege, 2022; Reimers, 2021).

In England, there is a noticeable lack of voice from teachers, education practitioners and children and young people in the development of climate education (Dunlop and Rushton, 2022), indicating key stakeholders are not given the space to co-create what good climate education looks like, and how it can be measured. Looking specifically at universities, Reimers (2024) identifies a lack of evaluations, and the need for better metrics and more research to identify which climate education approaches are coherent, rigorous, and engage enough student experiences.

Understanding climate education as place-based, civic work

When addressing the climate crisis, it is important to note that not all people or places across the UK have the same starting points, due to well documented spatial inequalities. A blanket, national response therefore risks exacerbating existing inequalities, as well as introducing new ones (Institute for Community Studies, 2024). This is true at the household, community, local, regional, and sectoral level.

As this challenge is coupled with disconnect between levels of education (Green et al, 2022), climate education in England could benefit from a more place-based approach, supporting different practitioners and institutions to deliver quality climate education that is relevant to their location, and the people in those places. There is an opportunity to bring together local climate education actors, to collectively design a climate education agenda that enables a knowledge and skills flow from school years to adult education.

A renewed focus on the civic impact of universities could support this collective endeavour, without undermining the distinct contributions that different actors bring to delivering a climate education agenda. 'Civic' here refers to the difference a university can make to their local places and communities while recognising they are not the only, or the most important, organisation in any place (Dobson, 2024). Where universities might have greater resources, facilities and networks, they have the potential to support the transformational change that the climate crisis demands (OECD, 2021).

Acting in a more place-based, civic way also complements a move away from more subject-bound climate education that values only 'scientific fact', towards more action-orientated, multidisciplinary and participatory climate education. A critical reflection on why such little evidence around a climate education exists is still very much needed. However, universities' existing capabilities for research and evidence generation are a strong foundation for evaluative work, while meaningful engagement with various actors could increase accountability towards more holistic metrics and research.

Next steps

As noted in the introduction, this evidence review seeks to answer the question **what constitutes a climate education, and who decides this?**, challenging the role of universities in this. The next steps in this enquiry will identify and document examples of 'what is working' when it comes to the development and delivery of climate education. The aim is to build on existing evidence with practical examples of best practice. Although 'what is working' will be different for each place and context, and relies on the resources available, examples can provide insights into factors for success, and opportunities to build on and potentially scale good practice. In the context of the civic university agenda, this presents an opportunity for universities to take a more collaborative approach, sharing learning towards the common goal of delivering effective climate education, which in turn contributes to addressing the climate emergency.

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