

Climate change, sustainability and the environment: the continued importance of biological education

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In a time of global pandemic and climate and ecological emergencies, and editorial which seeks to reiterate the importance of biological education may seem redundant, especially one written by two geography educators. Nevertheless, although biology educators clearly articulate the detrimental impact of human life on planet Earth (Reiss, 2022, 2020) and national and international attention continues to be paid to climate change and sustainability education (DfE, 2022; EC, 2022), we wish to underline the value and importance of biological education in the context of climate change and sustainability education in three ways.

Firstly, the everyday language and images used to describe challenges the globe faces in relation to environmental sustainability frequently foreground rapid climate change. For example, 'the climate emergency', 'the climate crisis', and the now ubiquitous visual representation of increasing global annual temperatures created by Professor Ed Hawkins – 'climate stripes' (University of Reading, 2022). This focus continues in some of the language of the recent DfE strategy, with 'the Climate Leaders Awards' (DfE, 2022). Foregrounding rapid climate change in this way can mean that the simultaneous ecological emergency, including the irreparable loss of biodiversity, can be overlooked as it is elided and subsumed as a facet of climate change. As geography educators, we suggest that there is more that both the geography and biological education communities can do to highlight the value of biodiversity at local and global scales through our research and teaching. Some may point to the introduction of a new Natural History GCSE in England as evidence of a renewed focus on the natural world however, we are concerned that this is not an opportunity which will be available to all young people and is not the cross-disciplinary approach to sustainability education which some teachers and young people have called for (Dunlop & Rushton, 2022).

Secondly, we argue for greater attention to be paid by (biology) educators to the ways in which school and university-based teaching and learning can enable children and young people to establish and maintain a greater connection to nature. In their analysis of fourteen European countries, Richardson et al. (2022) found that the UK ranks bottom for nature connectedness, and they argue that this matters because nature connectedness is central to pro-environmental behaviours and pro-nature conservation actions. The new sustainability and climate change conceptualises the whole physical education estate as a 'virtual National Education Nature Park' (DfE, 2022), and sees this a way to encourage children and young people to measure and improve the biodiversity of their education setting and therefore, reinforce their connection to nature. Clearly, the strategy provides a renewed mandate for biological education which provides children and young people with a life-long connection to the natural world. It remains to be seen whether schools will have the resource to enable this mandate to be realised.

Thirdly, we point to a growing body of work which highlights ways that children's wellbeing can be supported through arts and participatory nature-based interventions that develop children's 'eco-capabilities including: autonomy; bodily integrity and safety; individuality; mental and emotional wellbeing; relationality: human/nonhuman relations; senses and imagination; and spirituality (Walshe et al., 2022). We encourage educators to explore the extent to which nature-based arts practices can be incorporated into their teaching and learning to promote both sustainability, wellbeing and connectedness to nature.

We share these ideas as a reminder of some of the vital contributions that biological education makes to climate change and sustainability education and, as call for continued research in this area.

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