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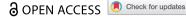# 'What do I do? Save the environment or let children go hungry?' Leading English schools at time of climate crisis

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**ABSTRACT**

Our analysis of interviews with 10 headteachers of English secondary schools (11–18 years) shows they are keenly aware of the importance of climate change and sustainability issues but are not always able to translate this into action within their schools. Carried out in the summer of 2022, just after the Department for Education's first Strategy for Climate Change and Sustainability was published, the interviews explored headteachers' thoughts and actions in response to the climate and ecological crises. Surprising aspects of their responses led us to distinguish in our analysis between 'surface' and 'latent' meanings. The former revealed competing priorities and a lack of personal expertise that undermine their sense of agency and, in some cases, lead to an over-reliance on a committed individual elsewhere in the school. The latter revealed defensiveness in justifying their alignment with government-led priorities, and a sense for some that the interview itself was creating a space to think about these issues properly for the first time. Together, they showed headteachers making painful moral choices between perceived short-term systemic demands and the long-term well-being of students and society.

## Introduction

The climate and ecological crises demand a holistic and coherent educational response (van Kessel, 2020) but in England, early momentum in embedding climate change into the curriculum has faltered (Greer et al., 2021). The Department for Education's recent Strategy for Climate Change and Sustainability (Department for Education [DfE], 2022), the first of its kind in England, is a sign of renewed government commitment which has until now been more evident in the devolved educational administrations of the United Kingdom such as Wales and Scotland (Catallo et al., 2022; Rushton, Sharp, et al., 2023). Our research, based on interviews carried out with 10 headteachers in England in June and July 2022 between the announcement and implementation of the Department for Education's strategy, offers a helpful baseline for gauging its impact.

There is a growing body of literature on teachers' attitudes toward climate change and sustainability education (CCSE) (e.g. Greer et al., 2023), but little empirical research on the role of school leaders' crucial role in shaping and embedding school priorities. This article provides some context for CCSE in English schools, reviews the literature on its scope and characteristics, and explores how the core issues and practical requirements of CCSE create acute moral and professional dilemmas for school leaders. Our focus is on the conflicting priorities of these headteachers and the moral dilemmas these cause, such as the one included in the title of this article. Our data does not explore solutions; nevertheless, by exploring the factors that enable or impede headteachers' ability to embed CCSE in schools, we suggest some potential ways forward.

We use CCSE here as a shorthand for the range of potential ways a school can respond to the climate and ecological crisis within and beyond the formal curriculum. We could have chosen 'education for sustainable development', 'climate change education', or 'education for environmental sustainability' as each has advantages, disadvantages, and histories of use (see Rushton, Sharp, et al., 2023, for an overview). This range of terms can make it hard to know exactly what 'counts' as climate change and sustainability education (Greer & Glackin, 2021). The term sustainability means different things to different people, and it often refers to more than the environment. For example, Scoffham and Rawlinson (2022) refer to 'the three pillars' of sustainability: environmental, economic and social. In this article, our focus is on education which explicitly addresses climate and ecological crises and the need, or implications of failing, to live within planetary boundaries, as well as the management of school buildings and operations. We recognize that CCSE can take many different forms within a school and approached our interpretation of this education expansively and exclusively in our engagement with the case study schools.

## Context

The phrase 'climate change' appears once in the national curriculum for England for 5 to 16-year-olds (in chemistry). The focus in this case is on 'evidence, and uncertainties in evidence, for additional anthropogenic causes of climate change' (Department for Education [DfE], 2014, p. 221). In Geography, 11–14-year-old students should learn about 'the change in climate from the Ice Age to the present' and 'how human and physical processes interact to influence, and change landscapes, environments and the climate; and how human activity relies on effective functioning of natural systems' (DfE, 2014, p. 243). Across the curriculum, broad concepts such as 'climate' and 'biodiversity' are sparse and restricted to geography and science while the terms 'sustainability' and 'sustainable' do not appear at all. Beyond the national curriculum, neither climate change nor sustainability feature in the Education Inspection Framework (Ofsted, 2019) or the Initial Teacher Training and Early Career Framework (DfE, 2024) which sets out mandatory content for initial teacher education and the first 2 years of teachers' employment. Similarly, neither climate change nor sustainability feature in any of the National Professional Qualifications (DfE, n.d.), including those for school leadership. You could be forgiven, when reading any of these documents, for forgetting that we are facing profound, existential threats to our biosphere (Intergovernmental Panel on Climate Change [IPCC], 2023).

Despite this absence, in 2022, the Department for Education in England (DfE) published its first official response to the climate and ecological crises, 'Sustainability & climate change: A strategy for the education & children's services systems' (DfE, 2022). The strategy identifies five 'action areas': Climate Education; Green Skills and Careers; Education Estate and Digital Infrastructure; Operations and Supply Chains and International. It also introduces several initiatives: a virtual National Education Nature Park to enhance biodiversity education across all education settings, a Climate Action Award to recognize those settings which enhance students' green skills and appreciation of nature and a GCSE in natural history. While the engagement of the DfE was broadly welcomed, and implementation is ongoing (DfE, 2023a) there have also been criticisms. Dunlop and Rushton (2022) argue that the Strategy could be seen as a 'placebo for policy', designed as much for show as for impact because it places responsibility on the education sector without 'an enabling policy environment which puts climate change at the heart of education policy' (p. 1093). In other words, the broad frameworks of curriculum, inspection, and teacher development, all of which profoundly influence what teachers and schools do, remain unchanged.

## Literature review

### *Climate change and sustainability education (CCSE)*

We use CCSE to refer to what, where and how young people are taught about climate change and sustainability, and how schools manage their buildings and operations. It relates to the need to reduce greenhouse gas emissions, address the biodiversity crisis, to protect and connect with the natural world, and to work locally and globally toward more sustainable and equitable futures. This holistic complexity is reflected in the strands of the recent Government Strategy (DfE, 2022) outlined above. Finnegan (2023) describes whole-school approaches as the integration of 'environmental performance of facilities, the impact of operations, and learning outcomes for students' (p. 4). Similarly, the National Association of Environmental Education (NAEE), in its guidance for school governors, identifies four areas in schools where climate change and sustainability learning take place: curriculum, campus, community and culture (Lee & Scott, 2020). There is also evidence that young people themselves support a whole-school approach (Dunlop & Rushton, 2022). Beyond these important dimensions, there are calls for a more profound shift in the way education is conceived. Sterling (2024), for example, calls for an ecological and transformative paradigm 'for our critical times' (p. 10), which reimagines the purpose and enactment of our education system.

Curriculum scholars broadly agree that first, CCSE should not be restricted to science but explored across the whole curriculum, including through inter-disciplinary approaches (e.g. Hulme, 2011; Rousell & Cutter-Mackenzie-Knowles, 2020; Selby & Kagawa, 2010). This supports young people in understanding the challenges from multiple perspectives, including socially, economically, culturally, and historically. Second, CCSE comprises not only facts to be learned but also values, dispositions, and opportunities to take action which transforms learning *about* the environment to learning *for* it (e.g. Dunlop et al., 2022; Greer & Glackin, 2021). This equips students with personal and collective agency, cultivates their emotional responses (Higham, 2021; Rushton, Sharp et al., 2023), and builds critical skills

and resilience that can change minds and stimulate imaginations (e.g. Power & Kitson, 2024; Seddighi et al., 2020). Third, students should encounter different ways of knowing about the world, including indigenous knowledges which often place an understanding of mutual affect with the natural world at its heart (e.g. Wall Kimmerer, 2020). Fourth, successfully engaging young people requires attention to what they might relate to personally, and benefits from a participatory, dialogic pedagogy where discussion and speculation are encouraged (e.g. Rushton, Sharp et al., 2023).

The implications of the DfE's Strategy, coupled with growing research evidence, are that the climate and ecological crisis demands an integrated response from schools across all their activities. This presents a moral dilemma for headteachers. On the one hand, there is growing demand from young people (SOS-UK; Dunlop et al., 2022; Gillow et al., 2022), teachers (Greer et al., 2023; Teach the Future) and parents (Gillow et al., 2022) for schools to do more to engage with CCSE. Headteachers may also feel personally compelled to take more action (Dixon, 2022). On the other hand, schools have limited capacity and, as the broader education policy landscape remains unchanged, are not held directly accountable for their response to the environmental crisis.

The context in England, together with the literature outlined here, already point to the tensions that the headteachers in our research experience. We have captured the source of these tensions in Table 1 – expressed as *barriers* to embedding CCSE in schools, alongside factors that *enable* CCSE to be embedded. Their juxtaposition can create acute moral dilemmas. We therefore end this literature review with a focus on headteachers in England as morally conflicted leaders.

## Headteachers in England as conflicted moral leaders

Headteachers occupy an influential position in society and shape the teaching profession. They are lead professionals and significant role models within the communities they serve. The values and ambitions of headteachers determine the achievements of schools. They are accountable for the education of current and future generations of children. (DfE, 2015)

Table 1. Barriers and enablers to embedding CCSE in English schools.

| Barriers | Enablers |
|---|---|
| *Constrictive accountability structures* <br> There are no references to CCSE in the School Inspection Framework in England (Ofsted, 2024) deprioritizes leaders' focus on sustainability. | *Climate change as a moral imperative* <br> There is conclusive and compelling evidence that human actions are causing a rise in the earth's temperature which could have significant effects on the lives of our young people (IPCC, 2023). |
| *Limited curriculum opportunities* <br> There are currently very limited explicit references to CCSE in the school curriculum in England (Department for Education (DfE 2014; Greer & Glackin, 2021) and no encouragement to make cross-curricular links. | *Pressure from students and parents* <br> There is evidence that young people are dissatisfied with the amount of education their receive about climate change and sustainability (see for example Gillow et al., 2022). There is also evidence that parents see climate change as a priority area for education and that schools are the best place to provide this (Gillow et al., 2022). |
| *No compulsory training* <br> There are no references to CCSE in the National Professional Qualifications for school leadership in England (DfE, n.d.), nor in other professional development frameworks including Initial Teacher Training and Early Career Framework (Department for Education, 2024). | *Policy shifts* <br> The Department for Education's Sustainability and Climate Change Strategy Department for Education (DfE, 2022/2023) was the first of its kind in England, and a recognition that CCSE is a legitimate focus for schools. |

These remarks acknowledge the central role headteachers play in their schools and wider communities. As a search using the terms 'headteacher' and 'farewell' reveals, heads who succeed in this daunting task inspire loyalty, gratitude, and love – emotions that principally recognize not their technical delivery of measured outcomes, but their creation of rich humane ecosystems of care, learning, and growth in which those and other outcomes become possible and meaningful. Hargreaves and Shirley (2009) state: 'Our schools are the social embryos of humanity – those institutions that we establish to promote our highest collective values' (p. 99); MacBeath and Dempster (2009) argue that 'learning and leadership . . . are always moral activities because they are always tested against "the good". Do these activities ultimately serve the purpose of the good life, the good society, the common good'? (p. 179). Together, these statements represent schools as sites for the shaping and enactment of humane values; even those who advocate for the most stringent focus on their schools' academic performance, we suggest, still seek to justify their approach in such terms.

Ideas about the nature of a good life and good society are contested and do not explicitly shape most everyday actions in schools. But they become more visible through heads' responsibilities for setting vision and direction, responding to competing priorities, and dealing with emerging dilemmas. Guihen's (2017) interviews with female deputy heads in England show them to be drawn toward this influential and morally significant role: 'I want to lead, I want to be strategic, I want to improve what's going on . . . I think it's that opportunity to shape and influence . . . ' (p. 72). Leithwood et al. (2020) conclude, citing substantial empirical evidence, that good school leadership is central in creating the organizational and cultural conditions for improved student achievement. They highlight both key personal traits and behaviors of leaders, and effective patterns for the distribution of leadership across the school, that enable this. Additionally, Covell et al. (2010), in their study of the implementation of the Rights, Respect and Responsibility initiative across 400 primary schools in Hampshire, England, demonstrated the key influence of headteachers in value-led initiatives. Where successful, they found that the head's 'commitment, competence and confidence' was the key factor, leading to 'a contagion of respect for rights' both within and beyond the school (p. 128).

Despite this encouraging evidence, a 2021 report from the National Association of Headteachers, based on survey results from 2,047 school leaders in England, showed that only 30% said they would recommend school leadership as a career and 80% said the role had a negative impact on their quality of life, with the most common words to describe it being 'exhausting', 'challenging', and 'stressful'. 86% called for greater recognition of school leaders as professionals, by which they meant less top-down interference and control (National Association of Headteachers [NAHT], 2022, p. 10). It further found that 53% of deputy and assistant heads do not aspire to headteacher roles, with only 24% clearly wanting one (National Association of Headteachers, 2022, p. 8). Jopling and Harness (2022) survey of key challenges among 132 senior school leaders in North East England identified funding as their greatest ongoing challenge, limiting their perceived autonomy both through the sheer range of decisions to be made – many on issues that would previously have been managed by the local authority – and by having to prioritize and improvise with insufficient resources. This limits their focus on improving the quality of learning and wider school vision.

Hammersley-Fletcher (2015) characterizes such stifling managerial demands on headteachers as 'the conflict between values and value' (p. 212), drawing on sociological critiques of 'neoliberal reform' in England and globally that seek to entrench and enforce market values of competition, efficiency, and centrally measured performance in schools (Cribb, 2009; Fielding, 2007; Gunter, 2011). In interviews with 10 headteachers about how they reconcile their values with their decision-making, one says: 'I think it's easy to forget what your educational values are with the maelstrom of decisions that we have to take all bound up with legalities and the threat of Ofsted' (Hammersley-Fletcher, 2015, p. 209). They lack time and space to think through moral dilemmas, often resorting to 'defensive compliance' with externally set priorities. Thompson et al. (2021) coin the term 'indentured autonomy' (p. 215) to describe the experience of ever-increasing responsibilities without the material means or freedom of interpretation to meet them in ways that reflect the priorities and values they and their communities hold.

The authors above present this shift as an ongoing, incremental project; the 2020 Headteachers' Standards, which replaced the 2015 National Standards of Excellence for Headteachers cited earlier, offers further evidence of this. References to headteachers holding an 'influential position in society' and being accountable for 'current and future generations of children' were removed. The changes were justified as part of a 'move away from the aspirational nature of the 2015 standards in order to provide benchmarks that all headteachers should meet' (DfE, 2020); we interpret 'aspirational' here as meaning 'openness to distinctive personal and/or institutional vision'. The full text further reflects this narrowing of heads' field of responsibility and increased central control. For example, they require headteachers to 'uphold fundamental British values' that are defined by central government and have generated significant political controversy (Elton-Chalcraft et al., 2017). Regardless of their merits, these stipulations limit headteachers' scope to sustain an independent moral vision. As Higham and Booth (2018) express it:

> Where a school's principal accountability is understood to be to external agencies and systems, the head may lose agency almost entirely – as does the rest of the school community – regardless of internal decision-making structures. They may lose a sense that what they are doing arises from their own deeply held commitments, motives and values and in this process they can lose an awareness of themselves as moral actors: they become vehicles for the moral actions of others. (p. 142)

## Methods

### Data collection

We interviewed headteachers in 10 secondary schools as part of a larger piece of case study research which included interviews with heads of science and geography, focus groups with staff and students and a tour of the school site. This article focuses specifically on the headteacher interviews, recognizing that whole school approaches, overseen by school leaders, are needed in response to the climate crises. Other aspects of the data have been analyzed elsewhere (for example, Rushton, Sharp et al., 2023 and 2024) and this process of analysis and dissemination is ongoing. The schools were selected mainly from existing contacts and networks to ensure a diverse range,

including in terms of schools' existing engagement with CCSE. They are situated in rural, urban, suburban, and coastal contexts, including in areas of high levels of socio-economic deprivation as indicated by high Income Deprivation Affecting Children Indices scores (IDACI) and the number of pupils eligible for free school meals (FSM) (see Table 2). This project received full ethical approval by the UCL IOE Research Ethics Committee. Informed consent was obtained prior to the school visits, participants had the right to withdraw from the project at any time, and participant contributions have been anonymized via pseudonyms (Table 2). However, as an opportunity sample, these schools were not chosen to be fully representative of all schools in England, and we only draw tentative conclusions about any emerging patterns related to their contexts.

The semi-structured interviews were conducted by three researchers, the majority by author three, in a private space, lasting up to an hour. They were audio recorded and professionally transcribed. Joint interviewing and ongoing sharing of notes ensured consistency of the approach. Questions were exploratory rather than evaluative and were not shared in advance (see Appendix). We did not foresee that the questions might significantly discomfort headteachers, but in hindsight, their responses indicate they felt under pressure to justify their record on CCSE. We will return to this later.

### Data analysis

Data was initially analyzed by authors two and three using a Reflexive Thematic Analysis (RTA) approach (Braun & Clarke, 2021) to identify 'shared patterns of meaning' influenced by theoretical concepts relating to the teaching profession (for example, around agency) and to CCSE (for example, around young people's attitudes). This revealed scope for a further analysis from a school leadership perspective, which author one offered to

Table 2. School information.

| School Number | School Overview | Name of Headteacher |
|---|---|---|
| 1 | Non-selective academy. Rural southwest of England. ~1400 students, 11–18 years, mixed gender. Below national average free school meal (FSM) population. Income deprivation affecting children index (IDACI) score of 1. | Adam |
| 2 | Non-selective academy. Rural east of England. ~2000 students, 11–18 years, mixed gender. Below average FSM. IDACI score of 1. | Josh |
| 3 | Non-selective academy. Rural west midlands of England. ~1600 students, 11–18, mixed gender. Below average FSM. IDACI score of 3. | Theo |
| 4 | Selective private school. Urban northern England. ~450 Students. Girls only. No FSM. | Ben |
| 5 | Non-selective academy. Coastal east midlands of England. ~1000 students, 11–18 years, mixed gender. Above average FSM. IDACI score of 5. | Steph |
| 6 | Non-selective academy. Suburban northeast England. ~2000 students, 11–18 years, mixed gender. Below average FSM. IDACI score of 1. | Alex |
| 7 | Non-selective community school. Rural northeast England. ~350 students, 9–13 years, mixed gender. Below average FSM. IDACI score of 1. | Phoebe |
| 8 | Non-selective academy. Rural southeast England. ~1700 students, 11–18 years, mixed gender. Below average FSM. IDACI score of 1. | Daniel |
| 9 | Non-selective academy. Central London. ~1110 students, 11–18 years, mixed gender. Above average FSM. IDACI score of 5. | Keith |
| 10 | Non-selective academy. Central London. ~888 students, boys only. Above average FSM. IDACI score of 3. | Eve |

lead, sparking a productive collaboration and an interplay between inductive and deductive approaches. Consistent with Braun and Clarke's (2021) suggested six-stage process, once we had familiarized ourselves with the data, we moved from specific codes to broader themes. These shifted over time through ongoing discussion; for example, our initial 'noticings' (Braun & Clarke, 2013), around what headteachers didn't say led us to draw on Ricoeur's 'suspicious' mode of interpretation, in which 'Surface meanings are not taken at face value but seen as signs which, if read correctly, will allow the researcher to access more significant, latent meaning' (Willig, 2008, p. 278).

The first three themes – *responsibility*, *priority*, and *agency* – were principally theory-led, drawing on 'surface meanings', and responding to our initial research question for this re-analysis: 'how do headteachers understand and enact their leadership responsibility for CCSE in the school alongside other priorities?' Our final two themes, *contradiction and diversion* and *thinking aloud*, emerged from our analysis of the striking forms and patterns through which headteachers expressed personal and professional tensions; these required us to extrapolate latent meanings using a deductive, data-led approach. For clarity, we do not take 'surface' meanings to be superficial or of less value, but simply as more directly expressed than 'latent' meanings. The findings section below is divided into two to reflect this analytical shift.

## Findings

### Surface meanings

### Responsibility

In their descriptions of CCSE, headteachers foregrounded schools' broad responsibilities. Eve was among those who saw it as requiring a distinctive approach:

> It's educating everybody . . . not just the students. What are the causes of climate change? What can be done to either slow climate change down or to mitigate its effects? Ecological ones, sociological and human.

Eve's definition links interdisciplinarity to a need for real-world action and recognizes both adults and children as on a learning journey. Daniel also emphasized the need for learning and action within, across and beyond the curriculum:

> it's about . . . not only the bit in the classroom in terms of the curriculum . . . but also the kind of softer, wider curriculum . . . assemblies etc., and also, I'd say, encouraging activism . . .

Adam also saw 'climate change education is a responsibility for all teachers, whether geography or English'. All these comments imply heads see CCSE as demanding more, morally, than just imparting subject knowledge. That said, most saw science, geography, and food technology curricula as where they most clearly address it. While several echoed Adam's wish for CCSE to be 'embedded throughout the school curriculum . . . . because it consolidates and repeats the message', many also thought this would require more staff development generally; for Daniel this meant 'experts who are trained up to deliver it . . . students are great at seeing through people reading the PowerPoint'.

Josh, however, stressed that while CCSE is 'in our timetable in small measure . . . you wouldn't find an environmental and sustainable education lesson in there . . . not

primarily through subject teaching'. He later justified this by saying 'we teach children for 25 hours a week . . . it's a zero-sum game: you push something in, something pops out'. Josh expresses this perceived gap between schools' responsibility to teach CCSE and their capacity to do so more starkly than other headteachers – but all talked about this gap in terms of limited knowledge, time, resources, and incentives.

All participants spoke about their efforts to decarbonize the school site. Two had already installed solar panels; others wanted to do so but felt caught in the capital investment trap: 'if you can barely pay to keep the heating on, you're not going to pay for a new system that might save you 10 grand in five years' time' (Daniel). Headteachers in Multi-Academy Trusts relied on them to make such investments – one said their entire Trust was already carbon-neutral with the use of offsetting – while those in standalone academies or Local Authority schools recognized their responsibility but saw their financial options as constrained.

Most headteachers emphasized teaching children about their personal responsibility to understand and reduce their impact on the environment. Steph's initial response focused on their everyday decisions and actions:

> If children are taught from an early age to understand that actually, every little bit can make a difference. So recycling can make a difference. . . conserving energy, all that kind of thing, then it's teaching future generations that, isn't it?

Steph's subsequent comment, however, anticipated criticisms of tokenism: 'Every little helps, so to speak . . . sounds like a Tesco [supermarket] advert. But yeah, it's got to be . . . a collective, shared responsibility'. She acknowledges the scale of the crisis means adults, including teachers, cannot discharge their responsibilities simply by encouraging the next generation of adults to adopt less wasteful habits. Ben took this further:

> [CCSE] is also about making sure [teachers] are equipped to have these sorts of conversations with the students, to run lessons either in specialist subjects like geography or science or in PSHE, or to lead assemblies on the theme and then to galvanize the support of the pupils for events . . .

This was the most explicit statement making links between learning and action across and beyond the curriculum, and in asserting teachers' moral responsibility to lead as experts and advocates. However, very few headteachers referred to 'culture', 'shared responsibility' or 'values' around sustainability and climate change – something Phoebe recognized as a broader phenomenon:

> I've just read the National Governance Associations' sustainability strategy draft and they talk about establishing a culture – and I think ultimately that is the thing that is missing across schools nationally.

This reflects a gap between the morally driven, coordinated approach headteachers said CCSE requires and the limited initiatives they reported; their main justification was that they faced competing priorities.

### *Priority*

> The reality is you don't get a league table in how green your school is. (Daniel)

Headteachers regarded performance and inspection pressures as the factors that most limited their focus on CCSE. Two of Josh's remarks summarize his position. The first, 'If [CCSE] became a bigger focus for Ofsted … schools will change what they're doing', discharges the school of responsibility for addressing CCSE systematically until the government requires it. The second, however, hints at the discomfort of this assertion:

> So, I'm not advocating that we should measure environmental and sustainable education, but it would be great if there is some sort of value system that makes it more valuable for schools to do it.

Josh here recognizes that measuring CCSE, like measuring kindness, would be both practically difficult and morally questionable in using extrinsic motivators to promote an intrinsic good. Yet he half-calls for such measures anyway, knowing that measures are key systemic drivers that would give him the incentives he believes he needs to justify significant action. In their likely absence, he turns to others:

> But I think those extremes will continue to be felt. The more it's felt, the more it will be seen to be important to educate young people about making sustainable choices.

Josh likely knows that by the time extreme climate events are commonplace, it will be too late to mitigate much of the catastrophic damage. We interpret this de-prioritization as due to a sense of powerlessness and fatalism that was reflected by others:

> But the reality in the past couple of years, we've had to put aside what I know were some interesting discussions of environmental issues and climate change that we just haven't had the time for. (Keith)

Keith had expert knowledge of these issues – yet 'the reality' of other priorities still trumps this proven existential threat. Daniel similarly remarks that 'for the last two years, it's not been about [CCSE] – it's been about, you know, survival'. These statements suggest the headteachers feel under such intense pressure to meet other demands that ensuring their survival in their professional roles, and protecting their school from downgrading, requires them to relegate CCSE despite it addressing urgent changes needed for the very survival of humans on Earth.

Nearly all headteachers acknowledged that the deprioritization of CCSE is not reflected principally in a lack of initiatives but difficulty in connecting and sustaining them. For example, Daniel says: 'It's not as coordinated as other things … we have a literacy coordinator, there's a PSHE coordinator … but there isn't a climate coordinator'. However, most schools did have committed individuals who were taking a lead in their own subject area or in some cases beyond:

> The new Head of Food Tech has … revamped everything and modernized it but also made it about sustainability, basically. So, where the food comes from and things like food miles and local ingredients, but also cost as well. So, I think that's quite powerful for the children. (Steph)

While headteachers like Phoebe valued and supported these leaders, they also identified the fragility of this model: 'people retire and it [CCSE] can't disappear when they do – we need a succession plan'. Several heads talked about aiming to integrate CCSE aims and teaching into school planning to ensure higher priorities. Adam said, 'I'd like to have a sustainability plan … thinking about how we make decisions strategically over a period

of time'. He also recognized that full integration into the school's strategic priorities couldn't be fully delegated – 'I guess it's partly down to me . . . I think there isn't a single issue more important at this time'.

However, several Heads also raised examples of how sustainability thinking was outweighed by other priorities. Two talked about recent school sports trips pitting emissions against memorable experiences; another talked about how removing plastic drink bottles from the canteen would reduce income that enables free school meals for poorer children. In no cases were sacrifices made to uphold sustainability principles. Overall, they felt constrained in prioritizing CCSE by policy and curriculum demands, and by lack of resources and expertise.

### Agency

Several headteachers spoke about students needing to take action 'on a very local and individual, and also on a global level' (Eve). They emphasized modeling action for sustainability as part of their duty in teaching CCSE:

> The more they see us as a school working towards sustainability targets, whether it's what we've done in the canteen, whether it's what we've done around the school site, like we've put wildflower meadows in . . .. (Theo)

Most focused on their actions in greening and decarbonizing the school site through rejuvenating outdoor areas, installing solar energy and improved recycling. Theo above, and two other headteachers, talked about the canteen, outdoor areas and food technology as a crossover point between curricular and extra-curricular learning and activities: learning about nutrition and food miles, planting food on the grounds and eating it at lunchtime. Taking an extra-curricular approach, Keith had organized an off-timetable 'drop-down day' to address CCSE instead – but pointed out that the raising of more problems than solutions left it feeling 'more like a therapy session' that hadn't fed back into core classroom activity. By contrast, Phoebe described using the UN Sustainable Development Goals (SDGs) holistically to enrich, rather than detract from, curricular learning:

> The SDGs are really flexible. They're not really niche in one curriculum area . . . they're great for curriculum development . . . we've started hash tagging their different goals so we can start to build a photo book . . . here's the work that our kids have done towards that so we can start to map it across all the different subjects . . .

However, Phoebe didn't feel free to explore the biggest questions at all:

> The impartiality guidance is so restrictive . . . . You feel like if you speak out about the climate you could infringe on some of that because it's political . . . You can't talk about 80% of the stuff that needs to be spoken about.

No others said they felt such direct constraint; Eve wanted children to have 'some understanding politically of the tensions around climate change and why certain targets are promised and then missed'. But the fact that all others focused on individual students' knowledge and choices suggests a more subtle self-limitation of political perspectives. Even within those narrower boundaries, most headteachers felt limited by a lack of suitable resources:

> I think you'd want organizations that have got either pre-made materials that you can draw upon . . . or ambassadors that are doing it already quite effectively. (Daniel)

Daniel here suggests teachers and leaders, outside their area of expertise and pressured by other demands, need information, examples, and role-models to motivate and support them in taking knowledgeable, sustained and coordinated action. Adam and Ben thought networking with other schools would help.

Despite perceived constraints on their agency, most headteachers spoke of children taking a lead. Josh described how a Year 8 girl came to him personally to lobby for a reduction in meat consumption in school, leading to the ongoing 'meat-free Mondays' initiative; Theo described a student going to COP 26 as a youth delegate; Eve described how a Year 8 boy had thoroughly researched how to increase the sustainability of the schools' uniform, from raw materials to packaging. In all cases, these initiatives had come independently from the students, not as a progression from classroom learning.

### Latent meaning

### Expansion, diversion, and contradiction

The interview questions were designed to open an informal space for headteachers to talk freely about CCSE; however, at times their responses suggested stress or frustration as if they felt their knowledge, achievements or leadership being challenged. We outline some forms of response below not to criticize, but to better understand how they sought to manage the heavy moral responsibilities they felt.

When asked about their school's CCSE provision, headteachers frequently mentioned outdoor activities such as studying a pond in science, litter picking, adventure activity trips, and an alternative curriculum for disaffected students. While these may broadly help connect students to nature, there were few specific links to CCSE themes. Others referred to initiatives on mental and physical health such as a wellbeing garden and an artificial football pitch, and one drew in their work on the Black Lives Matter and #MeToo movements. CCSE was thus often used as a catch-all designation for a range of activities seen as outdoor, holistic, healthy, and/or pro-social – in perceived contrast to the core academic curriculum.

Some responses were more emotionally heightened, suggesting that headteachers felt cornered by their responsibilities and sought to deflect them. In highlighting a dilemma around sales from bottled drinks subsidizing poorer students' meals versus reducing plastic use, Theo said, 'With the cost-of-living crisis going on . . . . What do I do, save the environment or let children go hungry?' Theo escalates this dilemma, setting it out as an impossible moral quandary outside his power to resolve. Similarly, with respect to recycling, Steph presents herself as powerless: 'There always seem to be barriers in the way . . . "oh no, we can't do this" or "we can't do that"'. Josh even suggests that CCSE isn't gaining priority because: 'children, and I mean this nicely . . . these days are inherently selfish'. While this remark seems alarming, it doesn't accord with what he had said earlier about children campaigning for climate change initiatives in the school; as such, we interpret it principally as an in-the-moment psychological deflection of perceived professional and moral pressure. Others took contradictory positions at times; for example, Daniel identifies the lack of a named coordinator for CCSE teaching (unlike for other subjects) – but then says that even if there were, 'the problem is that you end up with a title and then not a lot gets done'.

These responses suggest that headteachers felt under-resourced and over-pressured by other priorities to meet their responsibilities to teach CCSE and that frustration pushed them to react to questions in heightened, defensive, and sometimes inconsistent ways.

### Thinking aloud

In contrast to the defensive responses above, some headteachers were reflective in discussing ideas emerging through the conversation. Theo, among others, expressed a resurgent sense of moral priority:

> 'Just literally thinking about it now, that environmental arm is crucially important because it doesn't matter if you've got 15 A-levels and 26 GCSEs if the world's falling apart, does it?'

Steph felt that their school's prioritization of CCSE is 'quite high, but perhaps not explicitly as high as it could be, reflecting on it'. Eve broke off a justification of deprioritizing sustainability on cost grounds to say, '…yeah, but these kids need this, actually'. All implied a gap between rhetoric and reality with respect to CCSE that did not bear honest moral scrutiny, despite all the barriers to implementation.

For Eve, discussing cross-curricular connections spurred new ideas: 'If you speak to RE or History… I think you would get a lot of people who'd be really up for it' – yet this was implicitly left to the interviewer to act on. This accords with earlier examples about wanting time and space to think and learn with colleagues and better materials and mentorship to strengthen new thinking and carry it into action.

## Discussion

Table 1 draws on academic and policy literature to set out key barriers and enablers for embedding CCSE in English schools. Our findings provide new insights into English headteachers' experiences in relation to these and point to three specific tensions which must be addressed if they are to be enabled and given 'permission' to make CCSE a priority in their schools.

### Tension 1: headteachers' ambiguous leadership role

While embedding CCSE requires school leaders to assume primary responsibility for an integrated, holistic approach, the DfE strategy and the actions of our headteachers imply a different role, that of advocate and facilitator. In its Strategy (2023b), the Department for Education emphasizes senior leaders' central role in CCSE:

As senior decision makers, SLT [senior leadership team] and governors should support and drive your sustainable activity. They should:

- provide the authority and support to drive and embed culture change;
- ensure climate change and sustainability feature on the agenda at key meetings;
- be responsible for succession planning, so that commitment to sustainability endures in the setting.

Encouragingly, the Strategy recognizes that a culture shift is needed to embed change. However, it is less clear to what extent senior leaders should personally drive that

change. Supporting and enabling less senior colleagues is critically important, and many of the headteachers in our research do this well, driven by an impressive and genuine desire to respond constructively to the planetary crises in their schools (see, for example, Rushton et al., 2023). However, Dixon (2022) argues that headteachers must also exercise 'captaincy' in embedding CCSE at the heart of a school's mission and purpose. In our research, the headteachers could not always be characterized this way, illustrated by the difficulties some had in articulating a holistic vision in which separate and often one-off initiatives across estates and curriculum could be expressed coherently. We argue that alongside the critical role of facilitating and empowering teachers and students to develop localized responses which help enhance their sense of agency, headteachers also need to be given the space and permission to make CCSE a key leadership priority.

### Tension 2: restrictive accountability frameworks

While the DfE strategy broadly reinforces the case for prioritizing CCSE, it contains no requirement to implement the recommendations in schools and no revision of inspection or training frameworks. Consequently, responding to climate crises can become an additional burden, with no systemic incentives to prioritize it. In this respect, these headteachers' reflections on CCSE in their schools graphically illustrate Thompson et al.'s (2021) concept of 'indentured autonomy'. The strong pull of their moral and professional responsibility to do more is firmly restrained by ties of external accountability, competing priorities and limited resources. This conflict can be both painful and paralytic, leading to defensive compliance, compartmentalization, hopelessness, and a loss of agency that risks them becoming 'vehicles for the moral actions of others' (Higham & Booth, 2018, p. 142). Their responses align with the primary headteacher's remark in Hammersley-Fletcher's study: 'it's easy to forget what your educational values are with the maelstrom of decisions that we have to take' (Hammersley-Fletcher, 2015, p. 208). In this context, the safest option for headteachers – motivated also by heavy workloads and initiative overload (NAHT, 2022) – may be to address change through piecemeal delegation.

### Tension 3: taking a lead while needing support

The final tension is between a reliance on unusually committed individuals in some of our schools (including some of our headteachers), on the one hand, and the need for a coherent, national response which goes beyond individuals on the other. Dixon (2022) showed that headteachers successfully implementing CCSE all brought to the role a prior deep commitment to environmentalism. They saw it as a personal and collective mission and had the determination and creativity to reshape or sidestep top-down directives. They were generally optimistic and charismatic and driven by moral certainty: 'walking North on a southbound train' (Orr, 2011 as cited in Dixon, 2022, p. 188). While such leaders are vital role models, we cannot ask the majority of school leaders simply to emulate their values and behaviors without their background. As our headteachers themselves said, they need resources, support, mentors, time to learn and plan, and greater incentives to act counterculturally in accordance with

conflicted and frustrated moral convictions. These findings are not unique to England. Research in the US, for example, has found that while many school leaders are embracing efforts to 'green' their classrooms and schools, limited resources, or at least perceptions of limited resources, include money, time, information, and personnel, present substantial barriers to leading and managing greener schools (Veronese & Kensler, 2013).

These tensions substantially reflect the barriers and opportunities derived from the literature in Table 1, but with a distinct focus on headteachers' situation. They highlight how headteachers' combined moral, academic, and logistic leadership roles magnify their sense of responsibility and are overwhelmed in response to this multifaceted challenge; restrictive accountability and the mismatch of incentives emerge as the strongest factors holding them back. Government policy currently increases the tension between their moral and professional priorities rather than working to resolve it, building ambiguity into their role. Headteachers cannot currently pin their hopes on rapid changes to policy on accountability or training, so must be given more immediate and collaborative options for support.

## Recommendations

Although our findings do not speak directly to policy, they do point to three main recommendations.

(1) Those policy frameworks described as barriers in Table 1 need to be revised in order to incentivize and enable new ways of working within, across, and beyond the school curriculum in order to embed CCSE in a more integrated way. This would provide the 'permission' that some headteachers are looking for to make CCSE a bigger priority and would lead to the kinds of expert support and resources they say they need.

(2) Community-based school networks are needed to feed a bottom-up approach, helping to overcome headteachers' sense of isolation and helplessness, pooling expertise and ensuring that CCSE is embedded in ways that are sensitive to local contexts. We have elsewhere reported tentative correlations in our data between levels of student disadvantage, and schools' location and engagement in CCSE with the rural, relatively more advantaged schools in our research showing greater engagement (Rushton et al., 2024). Our data here give us further grounds to suggest, but not assert, that the context of a school does matter in the way it responds to CCSE. Less advantaged schools may need more support to build local networks of headteachers working together to respond to and support the local community.

(3) Further research is needed to understand the impact these kinds of community networks can have on headteachers' morale and effectiveness in leading CCSE. More generally, we hope that this research will lead to a greater recognition of the vital role of school leadership in responding to the climate and ecological crises and lead to further research that can inform the ways headteachers are supported to exercise their moral leadership in the future.

## Disclosure statement

## Funding

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## Appendix. Semi structured interview questions

(1) What do you understand by climate change education? Follow-up: Do you use any other terms to talk about this in your school? For example, sustainability education? Environmental education? Any others?

(2) Where does this fit into your school priorities? Who leads on it? Do they have funding (e.g. a TLR) or time for this?

(3) How does your school approach it?

(4) Through subject teaching? Which subjects?

(5) Through pastoral routes (tutor time, PSHE, assemblies)?

(6) Through events/trips/extra-curricular activities/volunteering?

(7) Through the use of the school buildings/estate?

(8) Would you like to do more? What kinds of support would help most with that?

(9) How well equipped do you feel teaching staff in your school are to teach about these topics right now? Where would you like them to be in the future? What do you want them to be able to do?

(10) Are you aware of the government's Sustainability and Climate Change Strategy for Education? If so, are you planning specific ways to respond to it?