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Rethinking education and training for the climate: individuals, systems, narrative skills and economic transformation

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ABSTRACT

Education and training (E&T) for the climate is gaining prominence in educational discourse. However, there is a danger that approaches focus on individual responsibility and changing the behaviours of learners rather than critically understanding and changing the system-level drivers of the climate crisis. Picking up litter is much more likely to be discussed than extractive economics. Therefore, we argue that the purpose of E&T for the climate should be radically rethought, empowering learners to become agents of system-level economic change, placing the prosperity of people and planet at its core. Here, we present a theoretical, normatively driven vision for E&T's role in economic transformation, drawing critically on our previous research to argue for narrative and 'narrative skills' as central to this change. Humans are inherently narrative beings, and narrative enables us to make sense of the world around us and craft new futures as a collective endeavour. Narratives are drivers of social change and have underpinned key economic transformations over the last three centuries. We build on these ideas and draw together philosophical, sociological, and economic accounts of narrative to argue that E&T for the climate is enhanced through deeper engagement with narrative.

KEYWORDS

Climate change education; individual responsibility; economic systems; narrative; narrative skills

Introduction

There is a constant danger that education and training (E&T) for the climate, across all levels, focuses on individual responsibility and changing the behaviours of individual learners rather than critically discussing the system-level challenges that underpin the climate crisis. Climate Change Education (CCE) has tended to be focused on developing 'suggestions for climate-friendly behavior' (Feldbacher et al., 2023, p. 111). This means that curricula in all subject areas tend to emphasise individual actions and responsibilities of teachers and students as the core mechanism for overcoming climate change (Dunlop et al., 2022; Monroe et al., 2019). Picking up litter is more likely to be discussed than extractive economics (Sutoris, 2022).

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However, this sits in contrast with the fact that there is a broad consensus amongst critical commentators that the drivers of anthropogenic climate change lie directly in modern economic approaches and extractive capitalism (Jackson, 2016). This is particularly manifested in the neoliberal economic shift that took place in the 1970s and 1980s, driven by Thatcher and Reagonomics leading global proliferation, that emphasised the importance of shareholder profit over everything else and has led to corporate capture of climate-related discourses and policy (Monbiot & Hutchison, 2024). Despite a trend towards discussion of 'stakeholder capitalism' in the years immediately following the financial crisis of 2008, as an antidote to the dominance of shareholder capitalism, few economic structures have changed. Indeed, with the increasing dominance of populism, polarisation and post-truth (Naim, 2023) in global politics, it is arguable that extractive economics has been relegitimised. This all means that addressing the climate crisis in a meaningful way must involve some kind of economic transition (Hickel, 2021), often referred to as a green transition, whereby the fundamental economic structures and, by extension, geopolitical systems and discourses, are reformed in a manner that enables the economy and society to function within planetary boundaries (Raworth, 2017).

As such, from this perspective, it is arguable that the focus of any educational engagement with the climate crisis must address systemic issues related to extractive capitalism and discuss critically the structural issues that underpin the crisis and the potential social and economic mechanisms of transition. However, analysis of climate change education curricula, the curricula of subjects broadly related to education for the climate (Puttick & Talks, 2021), and vocational education and training in areas particularly related to green jobs and green skills (construction, for example; Killip & Robson, 2024) all suggests that the primary focus is on individuals rather than systems and structures. Individual behaviour and choice, including recycling, energy use, and use of polluting vehicles, are broadly presented as underpinning the climate crisis. Individual actions, including recycling, turning off lights, and active transport are all too often presented as the primary mechanism for solving the climate crisis. This 'responsibilisation' of individuals, and indeed the 'hyper-individualism' associated with it, can be seen as rooted in the neoliberal ideology that has also underpinned extractive capitalist views of the climate and the planet. This focus on individual responsibility and action within CCE, and E&T more broadly, combined with an unwillingness to discuss critically economic systems through the lens of sustainability, therefore both perpetuates and disguises the neoliberal ideologies and consumerist, extractive economics that underpin the climate crisis (Monbiot & Hutchison, 2024).

As argued by Jeffrey and Dyson (2020): 'by reproducing the narrative that participants should take responsibility for existing problems, prefigurative actors may obscure a lack of meaningful state intervention, reproduce neoliberal rationalities of rule, and prevent bridge-building with other sections of society'. This means that enabling a narrative of individual reponsibilisation to dominate, at the expense of systemic change, fundamentally limits the educational purpose of climate change-related E&T, while validating and reproducing the discourse.

Multiple competing stories are being told about the climate crisis (Puttick et al., 2022). Critical engagement with the range of narratives is an essential task for education systems. Empowering young people to critically engage with these narratives and discuss structural and systemic issues is an urgent task for E&T. However, this requires

a fundamental rethinking of education and training for the climate in a way that challenges the philosophical, economic, and social assumptions that underpin it. Therefore, through this paper, we argue that the purpose of E&T for the climate should be radically rethought in a way that overtly strives to empower learners to become agents of system-level economic change. As a key part of this, we offer the concept of 'narrative skills' (Robson et al., 2021) as central to this process of empowerment. We argue that these skills, which include critical engagement with dominant narratives as well as the ability to reform and retell stories about the future (through the lens of economics, society and livelihood), are key to young people navigating uncertainty, reimagining different kinds of futures, developing a more expansive understanding of the role that narrative evidence plays in public reasoning (Dillon & Craig, 2021; Otto et al., 2015), and engage in agentically driven systemic change.

Individual behaviour change vs system-level change

At the heart of discussions about CCE (and the variety of names associated with the broad focus on education and training for the climate) is a tension related to its purpose and the potential theories of change involved. Questions about the aims of individual behaviour change versus system-level change can be traced back to the early days of the field of environmental education. The recommendations from the 1977 international conference on environmental education hosted by UNESCO (United Nations Educational, Scientific and Cultural Organization) and UNEP (United Nations Environment Programme) included the endorsement of the goal: 'to create new patterns of behaviour of individuals, groups and society as a whole towards the environment' (UNESCO, 1978, p. 26). UNESCO's guidance for education, framed in support of advancing progress towards meeting the UN (United Nations) Sustainable Development Goals (SDGs), includes a series of behavioural learning objectives proposed for SDG13 on Climate Action starting with the evaluation of climate-friendliness of personal and professional decisions (UNESCO, 2017, p. 36):

(1) The learner is able to evaluate whether their private and job activities are climate friendly and – where not – to revise them.
(2) The learner is able to act in favour of people threatened by climate change.
(3) The learner is able to anticipate, estimate and assess the impact of personal, local and national decisions or activities on other people and world regions.
(4) The learner is able to promote climate-protecting public policies.
(5) The learner is able to support climate-friendly economic activities.

Foundational research in environmental education has explored the theoretical underpinnings of education for behaviour change and evaluated the impact of educational interventions on pro-environmental behaviours (Busch et al., 2019; Heimlich & Ardoin, 2008; Hungerford & Volk, 1990; Kollmuss & Agyeman, 2010; Stern et al., 2014; Zelezny, 1999). There are significant place-based dimensions of these discussions, including the influences of political and environmental contexts of different places on individuals' beliefs and actions. For example, there are correlations between peoples' experiences of climate extremes, economic conditions, and voting for Green parties (Hoffmann et al.,

2022), where findings show 'a significant and sizeable effect of temperature anomalies, heat episodes and dry spells on environmental concern and voting for Green parties' (p. 148). The authors argue that direct experience of climate extremes can:

> reduce the psychological distance to climate change by making the impacts and related hazards appear more certain (hypothetical distance) and temporally closer (temporal distance) as opposed to an abstract threat in a distant future . . . At the same time, experience can make people understand that climate change affects them personally and their neighbourhoods (spatial distance) and not a distant social group that they have no relations to (social distance). (Hoffmann et al., 2022, p. 150)

Perceptions of risk, beliefs and concerns are highly influenced by recent events that are more 'cognitively available' than other, more abstract, evidence, such as from statistical analysis of longer-term data sets. These effects cut in different directions, for example, in the negative impact on green voting intentions and environmental attitudes that were found by Bez et al. (2023) to be associated with exposure to international trade, arguing that 'higher trade exposure leads to lower support for environmentalist parties and worse attitudes about climate change. Results suggest that mitigating the unequal repercussions of international trade is key to advancing support for green agendas in Western democracies' (p. 1134). The specific place-based economic, environmental context in which people live is an important factor in their environmental beliefs and actions, driving Myers et al.'s (2012) call for local, place-based climate change education. Their argument is based on data about personal experience and belief certainty collected at two time points with 20 months between to explore their 'chicken and egg' question: what came first, the beliefs or the experiences? They note complexity associated with the impact of pre-existing beliefs (or disbeliefs) on the interpretation of experience: the stories people believe significantly affect the ways in which they interpret and make meaning from events they personally experience, and these experiences in turn shape the beliefs held and the organising of experiences into broader narratives.

This body of work highlights not only the complexity of human behaviour, and the challenges of understanding the relationships between knowledge, beliefs and actions, but also the complexity of the debate within educational studies about the nature and purpose of climate change education. Across multiple studies there are strongly expressed arguments about the importance of changing individual behaviour as an aim of education and as a key part of the solution to the climate crisis. This research also highlights the stubborn nature of people's beliefs and the limited connections between knowledge and action: knowing more about climate change and the climate crisis does not necessarily lead to pro-environmental behaviours aimed at positively changing the situation.

Reasons for changing beliefs and behaviours are highly personal and have also been shown to be connected to perceptions of agency. For example, Chawla and Cushing (2007) linked the personal and the collective to argue that people are more likely to change their behaviour if they have developed both 'a personal sense of competence *and* a belief in their collective competence' (p. 438). A systematic review of effective climate change education also found that much research on climate education includes assessments of outcomes related to behaviour, with examples including individual actions to decrease students' personal carbon footprints (Monroe et al., 2019).

Thus, guidelines from UNESCO and some of the debate described above suggest that CCE should move from individual to collective responsibility and action. Indeed ideas of system and structural critique and change are viewed within some of the academic literature as an integral part of CCE. However, the policy and curriculum focus has remained stubbornly on changing individual micro-behaviours (Puttick & Talks, 2021). Dunlop et al. (2022) provide a detailed critique of this, unpacking the ways in which current education and training policy and approaches to curricula prioritise individualised responsibility and action at the expense of deeper analysis of systemic and structural challenges. Firstly, the authors illustrate how the notion of individual choice, which is frequently emphasised in CCE, hides multiple structural barriers and inequalities. For example, discussion of food systems in schools often emphasises the importance of individuals choosing to buy food grown in a sustainable manner. However, the broader set of entrenched inequalities related to food systems and the factors that restrict choice rarely get discussed. For example, the impact of differentiated socioeconomic status, the relative expense of sustainably grown food compared with unhealthier and more impactful options, localised 'healthy food deserts' where sustainable options simply are not available are rarely included in CCE. As such, a focus on individual choice in CCE fails to engage appropriately with social, economic, and geographic inequalities or the broader structural and systemic issues that underpin them.

Secondly, Dunlop et al. (2022) argue that a focus on individual action in CCE undermines the importance of democratic citizenship and ideas of collective responsibility. They argue that notions of citizenship necessarily involve the concept of individuals-in-context, representative politics, and collective action. It is through these mechanisms that individuals can meaningfully participate in the democratic process of shaping the society in which they live. While representative politics provides the institutional framework for translating diverse interests into policy and law, democratic citizenship extends beyond the ballot box, requiring individuals and groups to organise, deliberate, co-develop, and advocate for shared goals. This duality ensures that citizenship is not a passive individualised status but an active collective practice, enabling people to influence political agendas, challenge injustices, and uphold democratic values. A focus on simply addressing individual behaviours as a process of mitigating climate change (whether related to litter, turning lights off, sustainable food choices, or travel) can be seen as undermining collective action, representative modes of politics, and consequently undercutting democratic citizenship (Dunlop et al., 2022)

More broadly focusing on individuals and individual action obscures necessary attention to politics. As Dunlop et al. (2022) state, 'emphasising the individual over the collective transfers responsibility from government to individuals, and invisibilises the role of government. Eaton and Day (2019) take this a step further, arguing that such invisibilisation is actually a manifestation of what they call 'petro-pedagogy', which serves to align CCE with the interests of fossil fuel companies:

> Central to petro-pedagogy is the valorisation of industry interests as a necessary component of energy and climate education, the representation of life without fossil fuels as a threat to modern freedom, the representation of fossil fuel production as compatible with environmental sustainability through government and industry initiatives to reduce industry's impact, and the insistence that individuals are both cause and potential solution to climate and environmental crises through their individual lifestyle choices. (p. 470)

Thus, from Dunlop et al.'s (2022) perspectives, the implications of a focus on individual responsibility and action at the expense of critical discussion of systematic and structural issues are part of a process of hiding social inequalities and structural barriers, undermining democratic citizenship, and rendering invisible the role of government in both the causes of and solutions to the climate crisis. We argue that these points in relation to wider negative and unintended consequences of the current approach to climate change education can be extended to include the following broader spillover effects.

The crowding-out effect

Research from environmental psychology and behavioural economics offers empirical support for arguments against individual responsibilisation of the climate crisis. Where individual behaviours are either supported or enacted, there is a danger that seems to be realised in practice that these apparently pro-environmental actions actually have a negative impact on people's support for the far more significant government policy designed to reduce emissions at scale. In Werfel's (2017) terms, 'household behaviour crowds out support for climate change policy when sufficient progress is perceived' (p. 512). Through survey experiments with over 14,000 participants in Japan, he describes the crowding-out effect through the hypothesis: 'for a given individual, household behaviour and policy support are partial substitutes rather than complements' (p. 512). Participants who were asked to report their energy-saving actions at the household level went on to be less likely to support government policy aimed at mitigating climate change (here, this included tax increases on carbon emissions). This crowding out increased with the number of individual actions completed.

Werfel suggested two mechanisms for how this crowding-out effect might operate. Firstly, doing individual actions may lead to the perception of sufficient progress through this approach, increasing beliefs about the importance of this observable action and decreasing perceived importance of action by the government. Secondly, the perception of sufficient progress may reduce the amount of environmental good believed to still be necessary. Interestingly, merely endorsing household behaviours (for example, believing that recycling is important) was associated with similar reductions in support for government policy. It is important to note that the Japanese context of this research is of course distinctive, not least for the very high rates of recycling associated with the principle of *mottainai* – 'a sense of regret concerning waste' (p. 513) – in which some municipalities require residents to sort recycling into 44 separate categories.

However, work in multiple contexts supports many of the claims made about this crowding-out effect and the paradoxical finding that increased household environmental actions and perceptions of sufficient progress from these actions are associated with reductions in beliefs in the importance of the government's environmental actions (Truelove et al., 2014). Maki et al.'s (2019) meta-analysis of pro-environmental behaviour spillover found a small positive spillover from engaging in a pro-environmental behaviour (such as saving energy at home) into the *intention* to engage in further pro-environmental behaviours. However, the spillover effect was negative for actual behaviour and policy support. Truelove et al. (2016) tested the extent to which the performance of a pro-environmental behaviour spills over to affect (either increasing or decreasing) support for government policies

aimed at improving the environment. Their findings, and those of others such as Lacasse (2014), showed a greater impact of political allegiance than Werfel et al.'s Japanese participants for whom political affiliation was not related to the spillover effects.

The individualised behavioural approach to CCE can be compared with the wider approach to behavioural change advocated for in nudge theory (Thaler & Sunstein, 2008) and an emerging body of research that critiques embedding this kind of behavioural economics in policy. The approach of using 'nudges' has gained popularity among policymakers globally in the last decade. In terms of climate-related activity, the ideas are that small behavioural changes, such as making neighbours' energy use comparisons visible, or making renewable source energy plans the default option, have been popular because they have been shown to be effective at changing behaviours while involving almost no additional costs for consumers and limited costs for governments. As such nudges represent an individualised responsibilisation of policy problems. Hagmann et al. (2019) compared these kinds of nudges against the broader policy of carbon taxes, largely seen as a more effective climate policy intervention, analysing the relationships between support for carbon taxes and alternative nudges. Across their six experiments, they found that being exposed to a green nudge option reduced participants' support for a carbon tax, concluding that: 'nudges aimed at reducing carbon emissions could have a pernicious indirect effect if they offer the promise of a "quick fix" and thereby undermine support for policies of greater impact' (p. 484). Strikingly, even those who knew that the carbon tax was a more effective solution diminished support when exposed to the green nudge, 'suggesting that crowding-out is not merely the result of incorrect perceptions of relative effectiveness' (p. 488), but leads to a deeper change in perceptions of policy relevance.

Hagmann et al. (2019) also tested for potential ordering effects (that is, the first intervention always being prioritised over subsequent ones) and found that the carbon tax did not crowd out support for the nudge. Similarly, support for the nudge was not diminished when there was clear information about the nudge not being a 'substitute for more substantive policies, even if they are cost-effective', which might therefore 'provide a means for capitalizing on both tools' (p. 488). They argue that both (nudges and carbon tax) have a role, but the clarity of explanation – particularly in terms of the narrative constructed around the introduction of the nudge, its limitations and sole insufficiency – is vital for effective carbon dioxide reduction to be achieved.

Thus, applying these arguments to CCE or education and training for the climate more broadly, it can be seen that a focus on individual responsibility and individual behavioural change does not just obscure or ignore the importance of wider systemic discussion and structural transformation. It actively crowds out wider systemic approaches and negatively reframes individuals' understandings of this. As such, a critique of the current individualised approaches to CCE must not simply highlight the problems of an absence of wider systemic and structural analysis; it must also overtly acknowledge the pernicious impact that such an education has on individuals' understandings of the need for systemic and structural interventions and change. It even raises the question of whether CCE that focuses entirely on individual responsibility and behaviour is worse than no CCE at all.

Accountability sinks

Such pernicious effects can also arguably be seen in the way in which individual responsibilisation provides an incredibly effective screen for corporate responsibility for both governments and businesses in terms of both the causes and solutions of the climate crisis. While Dunlop et al. (2022) touch on this, highlighting that CCE obscures governments' responsibilities, the concept of CCE acting as an 'accountability sink' is a useful theoretical tool for extending this argument.

Rooted in organisational theory and systems theory, Davies (2025) develops the concept of an 'accountability sink' as a structure that absorbs or obscures the consequences of a decision so that no individual or organisation can be held directly accountable for it. As argued by Davies, 'for an accountability sink to function, it has to break a link; it has to prevent the feedback of the person affected by decision from affecting the operation of the system' (2025, p. 24). Davies provides a number of different examples of how accountability sinks function, usually rooted in specific organisational behaviour, for example, when your health insurance declines a procedure, when the airline cancels your flight, when a government agency declares that you are ineligible for a benefit. These all involve deference to some kind of impersonal policy, processes, legislation, or even algorithm in a way that breaks the link between the people who face consequences and the people making the decisions.

However, using the concept of accountability sinks as a lens to view CCE and any kind of education and training for the climate provides a useful heuristic device for seeing how a focus on individual responsibility and action provides an important accountability sink for decision makers in government and industry. Individual responsibilisation can be seen as an important tool in breaking the link between climate change and the corporate and political decision makers and the systemic and structural issues that have led to the climate crisis. Importantly, this kind of educational accountability sink also serves to obscure potential systematic and structural solutions. As such, it legitimises and normalises the status quo while removing the sense of corporate responsibility from both businesses and governments for the current climate crisis or from systemic and structural change.

The hyper-individualism of neoliberalism is often highlighted as a key mechanism for obscuring structural issues in society and the economy and rooting success and failure in individualised action and effort (Monbiot & Hutchison, 2024). This is clear in the way in which much of CCE is presented and the concept of accountability sinks is a useful tool for extending this kind of analysis.

Thus, these arguments offer a strong critique of the individualised logic that underpins much of current climate education and policy. While personal behaviour change remains symbolically potent and politically expedient, its unintended consequences (including policy crowding-out, false senses of progress, and the generation of profound accountability sinks) raise important questions about its role in climate education. If E&T systems are to make genuine contributions to climate mitigation at the scale and urgency needed, they must enable young people not only to think and act on an individual level but also to engage with the issues collectively, politically, systematically, and structurally. This kind of knowledge and action involves developing a different set of capacities, moving beyond individual micro-actions to engage with

questions of justice, power, and economic transformation. We offer the concept of narrative skills (Robson et al., 2021) as a pedagogical and political tool capable of fostering the kind of collective agency and system-level transformation that addressing the climate crisis demands. However, before introducing narrative skills, we outline the concept of narrative.

Narrative

As argued by Herman (2007), narrative is 'a basic human strategy for coming to terms with time, process, and change' (pp. 7–8). People require narratives to cope with the constant flux of daily life, to make sense of what is occurring around them, to work out how to navigate complexity and uncertainty, and to craft new visions for their futures. Thus, narratives are central to how humans make sense of the world: 'we not only continue to be animals who make stories but also animals who are made by our stories. We tell and retell narratives that themselves come fundamentally to constitute and direct our lives' (Smith, 2003, p. 124), and they play a particularly important role in our understanding of complex, uncertain and contested phenomena such as climate change (Dillon & Craig, 2021). There is a seriousness to this conceptualisation of narrative: understanding 'storytelling as a vital human strategy for sustaining a sense of agency in the face of disempowering circumstances' (Jackson, 2013, p. 34). Narratives are more than 'mere chronicles – they do more than provide an ordering of events. They posit links – often causal – between them' (Currie & Sterelny, 2017, p. 15), and we are understanding narratives as explanatory devices that function around a recognisable 'grammar' including setting, theme, plot and resolution with a focus on characters, actions and causality between different actions and events (Puttick, 2024).

Narrative underpins much of education and a range of pedagogic approaches. Contrasting narrative teaching resources with expository ones, Mar et al. (2021) discuss the finding that narrative approaches were understood and remembered more easily in relation to theoretical explanations, including: widespread familiarity with narrative structure; the emotional engagement created through story; and their use of relational and familiar everyday experiences. McKittrick (2021) emphasises the relationships between narrative and its generative potential to stimulate curiosity and creativity: 'telling, sharing, listening to, and hearing stories are relational and interdisciplinary acts that are animated by all sorts of people, places, narrative devices, theoretical queries, plots . . .' (p. 6). The importance, potential, power and centrality of narrative to human experience and understanding makes it a vital area for E&T systems to engage with further.

Through the concept of 'narrative economics', Shiller (2019) highlights how the future orientation of narratives and their dynamic social power can shape economic systems. In orthodox classical and neoclassical economics, as well as in the Chicago School, the economy and markets are largely viewed in objective terms. However, Shiller's detailed historical analysis of key economic events highlights how economic narratives spread like viruses leading to profound transformations within economic and social systems. The dominance of the Laffer curve, the sub-prime mortgage bubble, and even the dominance of Bitcoin are recent examples of the impact of economic narratives. In fact, Shiller argues that every historical economic transformation has been driven by the dynamic social process of narratives going viral.

Shiller's work has had enormous impact on the conceptualisations of economic change and even economic paradigm shifts within the field of economics. Indeed, Shiller has won a Nobel Prize for this work. However, from the perspective of the climate crisis, it shows how narratives have the potential to lead to the significant economic transformation required to mitigate climate change. As such, it illustrates how narratives around the climate and the need for economic system change, if they go sufficiently viral, can be (and must be) the mechanism by which a green transformation is possible. Appropriate economic narratives must drive economic system transformation. From this perspective, it is possible to see the crucial role that all forms of education and training for the climate can have in this kind of narrative-related economic transition.

However, as argued by Byung-Chul Han in his critical work on the *Crisis of Narration* (2024), narratives, though fundamental for meaning-making, community-building, cohesion and collective action, have been co-opted and commercialised in modern society. He argues that narrative has been stripped of its critical social functions through a process of commodification, such that storytelling has become 'storyselling'. This is all too apparent in the digital age whereby social media provides a key mechanism for the monetisation of narrative, often fundamentally linked with carefully curated, individualised digital identities – arguably a natural product of the combination of technology and neoliberal hyper-individualism (see Fisher, 2022). As illustrated by Robson et al. (2021), the power of narrative has also been co-opted by businesses through marketing campaigns and lobbying.

Thus, for Byung-Chul Han, narrative is an essential human practice – one that unites, imbues meaning, and sustains communal imagination. However, in our hyperdigital, information-driven world, this narrative function is being hollowed out. What remains are transactional stories, stripped of depth, and replaced by the incessant churn of shareable, consumable content. For Han, this is evidence of social degeneration. However, we argue that this perspective helps clarify a key purpose of education and training for the climate. If narrative is a, if not the, key mechanism for driving the economic (and social) transformation required to shift humanity away from extractivist capitalism, education and training has a critical role in empowering young people to reclaim narrative as a democratically-oriented social good and use it as a mechanism for reimagining a new economic future. This requires particular kinds of skills, what we refer to as 'narrative skills'.

Narrative skills for economic transformation

Our argument is that narrative skills – defined broadly as including storylistening and storycrafting as the capacities to interpret, critically examine, construct and communicate narratives (Robson et al., 2021) – are an essential part of public reasoning and democratic participation in transforming economic systems. These skills are critical to the reclaiming of narrative as a transformational public good and so should be the goal of all climate-related education and training. A process of fostering these skills provides a mechanism for the change required to meet the climate crisis, but also provides CCE with a much clearer and more easily articulated purpose that moves the approach beyond the problematic emphasis on individualised behavioural change. It enables systemic transformation to sit at the heart of CCE in a way that is rooted in a meaningful theory of change.

Therefore, a key part of operationalising this theory of change through narrative skills formation necessarily involves the critical discussion of the different narratives that surround the climate crisis. The kinds of narratives that are told about climate change shape the ways in which we discuss and respond to it. Therefore, pedagogic approaches around narrative should focus on discussing key critical narrative questions. What is the nature of the phenomenon? How is knowledge about it produced? What different actors are involved? How are the economy and the climate connected? Which significant events have led to the present juncture? What does uncertainty mean in this context? Who holds power, how is it used and where does it flow? What kinds of climate futures might we imagine? Reframing curricular priorities to critically examining the dominant narratives being told, and envisioning more sustainable futures, offers a radical departure from a curriculum that limits responses to individual micro-behaviours. Critically, it provides a mechanism for rethinking the role of agency in CCE-related curricula. This moves the concept of agency from a neoliberal sense of individualised responsibility and action to a model of agency as being rooted in a sense of collective endeavour, whereby individuals work together with a shared purpose. There are currently debates around the place of agency in curricula (see Leadbeater, 2017), and so framing curriculum discussions through the lens of narrative provides an important mechanism for shifting curriculum design lenses from individual to collective agency.

There are 'many big stories being told about climate change' (Puttick et al., 2022, p. 168). These span geologic eras, involve constructing narratives of human impact on the environment, are highly contested, and are often racialised. As argued by Yusoff (2018): 'in its brief tenure, the Anthropocene has metamorphosed. It has been taken up in the world, purposed, and put to work as a conceptual grab, materialist history, and cautionary tale of planetary predicament' (pp. 1–2). Gilroy (2018) similarly argues that 'the concept of the Anthropocene seems to be most potent and seductive where history is rendered in its thinnest forms and where the shift into a geological temporality seems unexceptional and obvious' (p. 4). The discursive control over millennia represents something of the power held in narratives about climate change, the breadth of which is illustrated through the range of metaphors used to frame and describe sustainability in the Anthropocene; the ecological footprint, a rocket taking off, an airplane (human civilisation) and a runway (modernity). These metaphors and the narratives to which they contribute are not merely descriptive tools, but normative devices that actively shape our futures. Critically examining such metaphors can be used 'to elucidate the normative implications of such conflicting macro-political perspectives' (Karlsson, 2015, p. 24). Karlsson joins calls for more critical engagement with the 'claims of ecomodernists and neo-primitivists alike. For too long much education for sustainability has been dominated by tired stereotypes of ruthless neoliberals supporting runaway globalisation and good-hearted eco-socialists defending a fragile planet from extractive industries' (p. 31). Equipping young people with narrative skills brings substantial potential to develop their ability to be attentive to these multiple, conflicting and powerful narratives – to the ways in which 'the climate emergency has been strategically deployed to promote narrow, partisan agendas' (Jeffrey & Dyson, 2020, p. 643).

Our argument about the potential for narrative skills to contribute to economic transformation and more sustainable futures obviously brings a certain set of assumptions and values. However, narrative skills could be used to improve the quality of public

discourse across the narrative framings employed by a diverse range of groups and agendas. Such narrative skills are, of course, important in enabling meaningful public debate about broad economic systemic challenges and drivers of anthropogenic climate change. However, they also enable more nuanced discussion within political spaces already focused on tackling the climate crisis. For example, discussion of the 'extinction script' (Robson, 2025) and Hulme's (2019) emphasis on a 'new sense of urgency' and the idea that 'time is running out' have gained increasing salience in much public discourse. These works have resulted in an argument that feelings of panic and helplessness are the only necessary and appropriate response to the climate crisis. While these critical analyses of pro-environmental narratives make the framing, assumptions and implications of how the climate is described, understood, and governed more explicit, it is important to open them to public scrutiny through critical debate. Narrative skills are a critical part of underpinning complex and nuanced debates in the public sphere and perhaps shifting negative pro-environmental discourses into more solution oriented discussions.

UNESCO's guidance for sustainability education includes a number of cross-cutting competencies required to achieve all 17 SDGs. The normative competency is defined as: 'the abilities to understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions' (UNESCO, 2017, p. 10). Storytelling and narrative skills can be understood as a form of normative competency, in terms of both the interpretation of discourses around climate change and development of effective climate communication skills. In their systematic review of climate change education, Rousell and Cutter-Mackenzie-Knowles (2020) called for more participatory, creative and arts-based approaches to climate education, and experiments in story-based climate education research and practice illustrate potential narrative directions (Ettinger et al., 2023). Emerging educational practices highlight this transformative potential of narrative approaches. Digital storytelling, for example, offers interesting opportunities enabling students to articulate climate experiences, emotions and hopes in multimodal formats (Finnegan, 2023): stories not only as pedagogical tools but as political acts that situate young people as knowledge producers capable of contributing to public discourse.

Thus, a narrative skills-based approach is an important means of reconceptualising the purpose of education and training for the climate in a way that enables young people to engage with competing narratives about climate change and think through systemic and structural issues in a more critical fashion. It is a key way of shifting the dominant, problematic approach to CCE from individual responsibilisation and behavioural change to addressing wider systemic issues in a way that empowers young people to reappropriate narrative as a public good and a force for democratic social and economic transformation.

Conclusions

The dominant emphasis on individual behaviour change within E&T systems risks reinforcing neoliberal rationalities and diverting attention from the structural and economic transformations urgently needed. Our argument has built on and developed a growing body of research that challenges this individualised focus, particularly through evidence of spillover effects, crowding out, and accountability sinks and we have offered narrative skills

as a powerful pedagogical and political alternative. To meet the challenges of the climate crisis at scale, E&T should be reconceptualised so that it does not merely equip young people with carbon calculators and recycling habits, but with the interpretive, communicative and imaginative capacities needed to critically understand and reshape systems.

Our argument is that narrative skills are foundational to this shift, offering essential competencies for navigating complexity, weighing and negotiating values, and actively participating in the co-creation of sustainable economic futures. These skills encompass the ability to critically engage with dominant discourses (storylistening) and to construct counter-narratives that foreground justice, interdependence and hope (storycrafting). By developing narrative skills, young people are empowered to situate their lived experiences within broader economic and environmental systems, critically evaluate widely held assumptions, and articulate visions for more sustainable futures. The implications of this argument cut across multiple dimensions of E&T. In terms of curriculum this involves foregrounding systems thinking, making climate narratives explicit and open to critical discussion, and developing capacity in young people to engage with narratives critically and creatively. For pedagogy, this might involve approaches that encourage engaging critically with questions of uncertainty and epistemic justice, using narrative skills to teach, and integrating storylistening as a method of inquiry and civic participation. For assessment, this might involve providing opportunities to recognise narrative skills through young people's capacities to interpret, construct and communicate complex narratives about climate histories and futures. For teacher development, continuing professional development will be critical to support teachers to make increasing use of narrative skills to enrich pedagogy, curriculum, and assessment and to engage with the rapidly changing multi-disciplinary political, cultural and affective dimensions of climate education.

Narrative skills are not simply about communicating the science of climate change. They are about who gets to define the problem, who imagines the solutions, and how public reasoning about the issues is shaped. As we confront accelerating planetary crises, education holds transformative potential to equip young people with the skills to critically listen to and evaluate the stories they are told, to tell new stories, and to build the narrative infrastructure for a sustainable economic transition.

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