Beyond anthropocentrism: Rethinking adult education for an ecocentric and just future

Albertina Oliveira
University of Coimbra, Portugal (aolima@fpce.uc.pt)

Abstract

This article argues for the urgent reorientation of Adult Learning and Education (ALE) from its dominant anthropocentric paradigm toward an ecocentric foundation. Adopting a critical and interdisciplinary approach, it engages with UNESCO global reports and prominent scholars from ALE and other fields of knowledge that highlight the need for fundamental shifts in educational paradigms. Drawing on environmental philosophy, decolonial thought, and ecological epistemologies, it interrogates the ontological and epistemological assumptions underpinning contemporary sociocultural and educational frameworks. Central to this discussion is the role of contemplative knowledge as a pathway to overcome disconnection, with attention to its assumptions, pedagogical approaches, and capacity to foster relational, embodied, and ecological awareness. The findings reveal emergent alternatives prioritising epistemic diversity, planetary well-being, and sustainability. By integrating contemplative practices with critical ecocentric perspectives, the article advocates a profound reimagining of ALE – one that transcends human exceptionalism, nurtures interconnectedness, and supports justice-oriented, sustainable, and resilient educational futures.

Keywords: adult learning and education, ecocentric epistemologies, contemplative knowledge, relational pedagogy, mindfulness as education

Introduction

From a critical and interdisciplinary perspective, it is of paramount importance to reassess the role of Adult Learning and Education (ALE) during pivotal moments of societal transformation – such as the one we are currently experiencing – and to examine the underlying ontological and epistemological conceptions. This work builds upon and advances an increasingly acknowledged shift towards renewed architectures of thought

and consciousness, advocating for the reorientation of the field of ALE from an anthropocentric to an ecocentric vision. In line with this perspective, and as Vandenabeele et al. (2024) aptly observe, 'Adult Education can never be just about individual growth or fulfilment but always and above all about (shaping and caring for) a shared world' (p. 228). The central argument and overarching aim of this paper is to critically examine the necessity – and the pressing urgency – of ALE embracing an ecocentric conceptual foundation to inform its policies, goals, and educational practices. For this purpose, the article begins by examining the current civilisational crisis and its anthropogenic impacts, followed by a reflection on UNESCO's political voice regarding the need to overcome this crisis and an analysis of certain paradoxes within contemporary society. The discussion then addresses the ontoepistemological conceptions underpinning modern societies, followed by a discussion of possible societal pathways forward – specifically Degrowth and Eco-swaraj – before clarifying ALE's role in moving beyond anthropocentrism. The subsequent, more extensive section, articulated through four key sub-points, outlines a roadmap for transformation – a revolution grounded in ecocentric epistemology and ontology. Within this roadmap, we contend that the knowledge arising from contemplative traditions – although largely absent from ALE discourse, research, and practice – holds particular significance and transformative potential.

Civilisational crisis and anthropogenic problems

Growing social injustices worldwide, the massive destruction of biodiversity, ecosystem imbalances, mental health issues, and climate change are just some aspects of the civilisational crisis facing contemporary societies. The exponential acceleration of technology, with its dominant emphasis on production and consumption, increasingly pressures citizens to live frenetically, leaving little time for reflection. An increasing number of adults feel that action has become mere reaction – driven by daily demands, tight deadlines, and the relentless competition framed within the discourse of progress and development. This sense of exhaustion, both personal and planetary (Di Paolantonio, 2019), is accompanied by the pervasive feeling that 'there isn't enough time to do what must be done or what was planned' (Arocena & Sansone, 2020, p. 221), fostering disillusionment, fragmentation, and emptiness. As Holmqvist and Millenberg (2024) advocate, 'the fragmentation of existence reduces societal cohesion, alienating us from each other and our surroundings' (p. 300).

In this context, many scholars from ALE and other fields of knowledge highlight a profound structural distortion in the relationship between individuals and the world, particularly concerning the temporal dimension and daily rhythms of life. This distortion contributes to various forms of alienation (e.g., Escobar, 2018; Gadotti, 2005; Holmqvist & Millenberg, 2024; Lange, 2004; Latour, 2018; Maison, 2023; Misiaszek, 2023; Rosa, 2016). According to the German sociologist Hartmut Rosa (2016), technological acceleration and the imperative of competitiveness drive another form of acceleration – social acceleration – characterised by job insecurity, frequent changes in employment and residence, and the erosion of reference points, trust, and stability. For instance, as mentioned by Maksimovic (2024), 'the enormous problem of housing, demands constant readiness for relocation, potentially hindering a conscious effort to establish a sense of belonging' (p. 335). These phenomena foster a pervasive sense of uncertainty in what Rosa describes as 'a hyper-individualized, pathologically competitive environment that makes one feel that one has never accomplished enough' (Di Paolantonio, 2019, pp. 609-610). These postmodern characteristics of the Anthropocene era (UNESCO, 2018)

highlight human actions as a powerful force of socio-ecological degeneration disrupting planetary balance, creating a high-risk and destructive world that affects all living beings.

Emphasising the darker aspects of the Anthropocene, Carvalho (2024) argues that it 'is associated with a modern hubris that has disenchanted the world, instrumentalising it according to the dictates of rationalisation, and controlling it through multiple technologies and sociotechnical interventions that often give rise to "monsters" such as the climate crisis' (p. 78). Expanding on this argument, he asserts that 'we are currently witnessing the collapse of what [Thacker, 2011] calls the world-for-us, a planetary ontology conditioned by modern and anthropocentric frameworks, which falters in the face of the multiple and ambivalent expressions of non-human agency, shattering human exceptionalism' (Thacker, 2011, as cited in Carvalho, 2024, p. 94).

For scholars whose critiques stem from ecological economics, the environmental justice movement, and eco-Marxist analyses of social metabolism (e.g., Foster, 2022), the notion of economic growth without environmental destruction is an illusion. It is 'not sustainable and cannot be made sustainable by any other modulations of growth' such as the green industry or smart jobs (Schmelzer et al., 2022, p. 79)[1]. Regarding working life, a growing perception suggests that, for most people, 'work is neither creative nor fulfilling [...] workers are thus turned into instruments; they function as a thing, not as a person' (pp. 106-107). David Graeber famously termed such roles 'bullshit jobs' (Schmelzer et al., 2022, p. 107), performed under what Berardi (as cited in Di Paolantonio, 2019) describes as the *cognitariat* – workers engaged in fragmented cognitive tasks that serve the 'imperatives of semiocapitalism' (p. 606). This concept refers to the contemporary fusion of media and capitalism, which not only exploits natural resources but also commodifies human interiority – 'our soul' (p. 605) – by extracting passions, desires, and creative impulses as exploitable assets. Reinforcing this critique, Di Paolantonio (2019) further contends that:

> [T]oday we are compelled to hold jobs that cannibalize our lives all day long, as the informal nature of our schedules eludes our control and exposes us to the 24/7 flow of online demands [...] always feeling the need to respond to the latest solicitations. (Di Paolantonio, 2019, p. 607)

While such concerns are not new within the critical radical debate in ALE (e.g., critical pedagogy, emancipatory education), raising awareness of these structural crises and its several interconnected layers underscores the urgency of challenging, rethinking, and transforming dominant ideologies, worldviews, and patterns of living. This imperative extends to the ways in which societies and educational structures socialise and educate individuals and communities.

A broader political voice: UNESCO global reports

Envisioned as a broad political voice, UNESCO's global reports are key documents shaping educational policies and goals internationally. In response to the so-called emerging *scientific and technical revolution*, its first report unequivocally asserted that education must cultivate the 'complete human being' (Faure et al., 1981, p. 10) within the framework of lifelong education, through the proposal of *learning to be*. The second report, published amidst a period of rapid neoliberal expansion, globalisation, and escalating socio-cultural complexity (Delors et al., 1996), articulates an educational vision rooted in lifelong learning and structured around four foundational pillars: learning to know, learning to do, learning to live together, and learning to be. While these two reports exhibit certain divergences – most notably the subtle neoliberal influence

underlying the concept of lifelong learning in the latter – they share a distinctly humanistic foundation but also a pronounced anthropocentric orientation.

Only in its more recent world report has UNESCO explicitly recognised the urgent need for 'action to change the course of humanity and save the planet' (UNESCO, 2021, p. V). This report gives international visibility to philosophies and principles aimed at respecting the 'existence of all living beings on the planet' (p. V) while rejecting singular conceptions about the world (worldviews) and emphasising the importance of 'different epistemologies and ways of living' (p. 53). Accordingly, it highlights educational approaches[2] grounded in pedagogies of cooperation and solidarity, centred on 'sympathy, empathy, and compassion' (p. 53). This substantial shift contributes to a qualitatively distinct narrative that a growing number of ALE scholars are articulating (e.g., Vandenabeele et al., 2024) – one focused on redressing injustices and reversing the extensive environmental degradation caused by humankind. The 2021 UNESCO report also contends that contemporary dilemmas and challenges demand that 'a range of epistemic practices flourish in schools and that [broader and more constructive alliances] be formed between epistemologies and ecologies of knowledge' (p. 94). In this regard, it advocates for the *decolonisation of knowledge* particularly that which has historically shaped the culture of the *Global North* and that remains predominantly rationalist. Additionally, the report points towards the need to challenge entrenched dichotomies within Western intellectual traditions, such as 'theory and practice', 'individual and collective', and 'spiritual and material' (p. 124). It acknowledges that non-Western perspectives have played a crucial role in contesting these polarities, many of which are linked to knowledge systems that have been historically 'excluded from formal education' (p. 125), as we will reflect on later. According to UNESCO (2021), 'the world's most educated countries and people are the ones most accelerating climate change [… and] if being educated means living unsustainably, we need to recalibrate our notions of what education should do and what it means to be educated' (p. 33).

Paradoxes of the ideology of growth

> Without facing the ideology of growth head-on, we will not be able to manifest the radical transformation of society that we need. (Schmelzer et al., 2022, p. 28)

Indeed, it is precisely the wealthiest countries – where population growth is stagnating or even declining – that bear the greatest responsibility for the ecological crisis. The richest one per cent of the global population 'are responsible for over twice as many carbon emissions as humanity's poorest half' (Schmelzer et al., 2022, p. 227). Drawing attention to *degrowth by design or by disaster*, these authors highlight a paradox identified as early as 1865 by William Jevons, stating that:

> [I]ncreasing the efficiency of energy and material use often leads to more, and not less, consumption of this energy or raw material [… and that] a rising number of empirical studies have shown how rebound effects [meaning excess demand due to an increase in productivity] counteract decoupling. (Schmelzer et al., 2022, p. 87)

For instance, although global energy intensity today is nearly 25% lower than in 1980, CO_2 emissions have nonetheless increased 'by more than 60 % since 1990' (Schmelzer et al., 2022, p. 89).

Another paradox is the *happiness-income effect*, which suggests that beyond a certain income threshold, economic growth no longer leads to increased long-term well-being (Waldinger & Shultz, 2023). This raises a fundamental question: if a growth-driven

economy fails to ensure both social and environmental balance, then power structures and societal dynamics, including educational structures, must shift away from their dominant focus on economic expansion towards enhancing human wisdom and sentient well-being while actively reducing environmental harm. In other words, the priority must shift toward both social and ecological justice. Integral to this transformation is 'the weaving of a new narrative for education and literacy' (Ireland, 2023, p. 1), where action and reflection spring from the principle of 'the intricate entanglement and mutual interdependence of human and non-human entities' (von Kotze, 2024, p. 326). Within this context, the idea that 'more than ever, the choice is between degrowth – a multidimensional set of transformations based on sufficiency, care, and justice – or barbarism' (Schmelzer et al., 2022, p. 21) is gaining increasing recognition.

The pressing challenges outlined above, along with their far-reaching implications, constitute a call to critically examine and transform the dominant sociocultural paradigm in western societies and educational structures. A deeper understanding of its prevailing epistemologies, ontologies, and purposes – combined with more systemic thinking and action aligned with radical sustainability – will be further explored. An alternative vision proposes the redesign of societies based on different sociocultural paradigms (Bertrand & Valois, 1994; Escobar, 2018). From the perspective of ecological humanism and Eastern knowledge systems (e.g., Henry Thoreau, Mahatma Gandhi, and Ivan Illich), which are rooted in a profoundly ethical approach to human experience (Varela, 1999), human beings are deeply interconnected with ecosystems. Even quantum physics acknowledges 'the deeply relational nature of reality' (Spretnak, 2011, as cited in Lange, 2018, p. 413), where the distinction between subject and object is considered a mere perceptual illusion.

Onto-epistemological conceptions prevailing in contemporary societies

A critical examination of the dominant worldview in contemporary societies reveals its foundation in specific ontological, epistemological, and functional conceptions that are deeply rooted in the notion of separation – between social classes, the natural and human worlds, subject and object, mind and body, among others. Our actions continue to be shaped by Cartesian habits, a set of dispositions embedded in dualistic conceptions (e.g., *res cogitans* and *res extensa*), an intellectual framework that perpetuates exploitative relationships – whether among people, between humanity and nature, or in the treatment of the planet itself, all of which are primarily viewed as objects serving dominant interests (Escobar, 2018). These relational dynamics stem from a 'narrative of disconnection' (Bainbridge & Nero, 2020, p. 49), deeply entrenched in Western civilisation and governed by a specific paradigmatic framework – what Bertrand and Valois (1994) define as a *sociocultural paradigm*[3].

Elaborating on this notion, Bertrand and Valois (1994) argue that a sociocultural paradigm, that inform a corresponding educational paradigm, 'dictates what should be seen and how to see it' as well as 'what needs to be done and how to do it' (p. 30). In such a way that, after the process of socialisation, the adult individual becomes conditioned to perceive society 'according to the dominant and dominated discourse' (p. 30). For centuries, Western civilisation has been shaped by the industrial paradigm, which is underpinned by a mechanistic worldview and a positivist-rooted epistemology. This 'scientific-experimental rationality goes hand in hand with a quasi-religious belief in technical progress as a saviour' (Schmelzer et al., 2022, p. 147) and it is still deeply ingrained in our contemporary cultural structures. The singular pathway to knowledge

that it prioritises is anchored in a rationality devoted to success, efficiency, acceleration, productivity, competitiveness, meritocracy and consumption – principles that fundamentally serve the interests of the capitalist market economy. Though the contestation of these interests as well as the struggles to foster social justice and emancipation informed by critical theory are strongly at the roots of ALE as a domain of study and practice (Freire, 1970; Lucio-Villegas, 2018), the field remains imprisoned by 'the hegemonic neo-liberal policy repertoire of employability […largely governed by] capitalist oligarchies utilising their socially and culturally manipulative artificial intelligent algorithm' (Hake, 2021, p. 41). Current educational structures are not dissonant with this rationality, since the dominant paradigm is anchored in the overvaluation of technical rationality, the cognitive, and efficient production (Bertrand & Valois, 1994; Lange, 2018), staying 'at the most superficial level of learning' and still forgetting that 'we are … a part of a much larger reality' (Lange, 2024, p. 249).

Going further into the narrative of functionalism and fragmentation, as industrialisation and urbanisation continue to expand, people are increasingly losing direct contact with nature, leading to a diminished sensitivity 'to the "reality" of interconnectedness' (Bainbridge & Negro, 2020, p. 47). Despite growing awareness of environmental issues and the need to preserve ecosystems – stressed in recent years by a global political framework oriented towards sustainable development (United Nations, 2015) – unfortunately the dominant discourse has largely remained within the boundaries of a superficial anthropocentric approach to ecology, rather than embracing a deeper ecological perspective (Naess, 1973). The deeper understanding required for the desired transformation demands 'a profoundly different cosmology, ontology, and epistemology' (Lange, 2018, p. 412), one in which the preservation of the natural environment and ecosystems is grounded in the recognition of their intrinsic value (Earth Charter Initiative, 2012). This perspective implies leaving the ontology of separation and instead to assume the centrality of *relational ontology* which emphasises the concepts of embeddedness and of intra-relation – a view of the human being as a constellation of relationships, fully integrated into a global ecosystem encompassing both living and non-living elements, as well as the human and more-than-human worlds. A relational ontology guided by profound respect for all forms of life and ecosystems (Barad, 2007), named by Lange (2004) as *radical relatedness* – an ontological shift from *having* to *being.* Lange's early study of adult learners in higher education developed under an ecocentric onto-epistemological perspective revealed that 'a restoration of important relationships to self and environment' occurred as participants 'began to relearn organic time, contemplative practices, energy-conserving activities like adequate rest and sleep, and noncommodified simple pleasures' (p. 131). These ideas will be developed further in a next point.

Societal pathways: Degrowth and Eco-swaraj

Various alternatives to the prevailing orientation towards industrialisation and capitalist development – what Lange (2024) terms *composting modernity* – can be found in a range of proposals, philosophies, and systems of thought. Among these, Degrowth and Eco-swaraj are two relevant social movements frameworks that propose systemic transformations. They align with 'the radical critiques of the "post-development" school of thought, which criticised capitalist "development" and the notion that progress necessitates growth, [viewed] as a misguided, destructive, and universalising Western ideology' (Schmelzer et al., 2022, p. 13). These critiques fundamentally challenge the assumption that economic growth is inherently beneficial and that the advancement of productive forces is synonymous with progress and emancipation. Within these

alternative frameworks, work is reconfigured to transcend alienation and align human activity with a good life for all, including 'drastically reduced working hours for all [… and a] more pleasurable and useful work' (Schmelzer et al., 2022, p. 97), alongside a more equal sharing of necessary work. Regarding technology, the debate advances criteria for '"convivial technology", "convivial design", "frugal innovations", "digital commons", "peer-to-peer" or "soft digitalisation" […] situated between low-tech solutions and open digitalisation' (Schmelzer et al., 2022, p. 156). For these authors, such transformations signify the emergence of *nowtopias* within a *degrowth society*, wherein overcoming structural dependencies on growth, intensification, acceleration, and escalation is the appropriate course of action. This vision encompasses three interconnected dimensions of change: ecological justice, social justice, and the redesign of institutions and infrastructures, each underpinned by specific principles. *Ecological justice* necessitates reducing material metabolism, production, and consumption; dismantling structures of domination; and fostering ecologically sustainable ways of life that extend beyond short-term considerations. *Social justice,* in turn, implies securing a good life for all under a transformed metabolism; fostering prosperity beyond a work- and consumption-centred mode of existence; ensuring well-being that is not contingent on economic growth; and promoting power-with dynamics, based on solidarity, collaboration, and deliberation. Finally, the *redesign of institutions and infrastructures* requires severing dependence on growth and continuous expansion, as exemplified by municipal energy suppliers operating outside conventional capitalist imperatives.

Rooted in the ancient Indian philosophy of self-determination and collective governance, *Eco-swaraj* – developed more recently as Radical Ecological Democracy (*Vikalp Sangam*)[4] – is a movement framework that similarly advances a holistic vision of human and nature well-being. Drawing on Gandhi's *Hind Swaraj*—an ancient Indian philosophy centred on self-determination and collective decision-making – *Eco-swaraj* links autonomy with ethical responsibility towards others (including the rest of nature, Kothari, 2018). It articulates five spheres of transformation – *ecological wisdom and resilience*, *social well-being and justice, direct or radical political democracy, economic democracy,* and *cultural and knowledge plurality* (including the view that 'learning takes place as part of life rather than in specialised institutions' (Kothari, 2018, p. 52)).

Analysing the Eco-swaraj proposal, we can underscore its strong alignment and coherence with the radical transformation of human consciousness – *eco-consciousness* (UNESCO, 2020) – that we have been exploring. Represented metaphorically as flower petals, these spheres intersect on certain core principles – knowledge as a commons, creativity and innovation, meaningful work and livelihoods, sustainable trade, sustainable transport and energy, as well as responsibility, solidarity, and reciprocity. These, in turn, are underpinned by values such as equality and equity, respect for all forms of life, diversity and pluralism, and a balanced collective and individual existence. Together, these principles and values constitute the ethical and spiritual ideals of Eco-swaraj or Radical Ecological Democracy, making the movement a timely and systemic alternative to growth. Within ALE, educators can draw on these principles to encouraging critical ecological consciousness, enabling learners to engage with sustainability as an embodied, relational and political practice.

For the context of ALE, such ecocentric principles are increasingly visible in the work of authors who rearticulate ALE 'within a relational post-humanist account of learning [drawing] on deep ecology' (Vandenabeele et al., 2024, p. 232); who engage in (Radical) Popular Education as a movement and practice of resistance and liberation that entails creating 'new relationships between people and between people and nature' (Lucio-Villegas & Fragoso, 2016, p. 34); who emphasise the relearning of interpersonal

relationships as *conviviality*, alongside other forms of social organisation grounded in interdependence; and who highlight learning to act towards *liberation from excess*, recognising the significance of voluntary simplicity (frugal living), ecopedagogy, and the cultivation of a sufficiency-oriented culture (e.g., Canário, 2021; Misiaszek, 2023; O'Sullivan & Taylor, 2004). Related educational processes reinterpret *prosperity*, invite resonance (as a counter to acceleration and alienation), value time prosperity (abundance of time and meaningful relationships), and promote place-based learning (e.g., Maksimovic, 2024). Such processes emphasise slowing down and opening to embodied knowing, interweaving action and reflection – exemplified in von Kotze's (2024) *gut pedagogy* and in Holmqvist and Millenberg's (2024) a *seed package* on climate change – so that learners connect personal, everyday experiences with broader social and environmental sustainability, thereby encouraging a dialectical understanding of existence.

Taken together, the movement horizons of movements such as Degrowth and Eco-swaraj can open space for pedagogical pathways in ALE. Building on the societal pathways outlined above, we next turn to ALE's role in moving beyond anthropocentrism toward inclusive relational frameworks.

Challenging anthropocentric perspectives and advancing towards more inclusive frameworks

This shift necessitates contesting anthropocentric perspectives and embracing Barad's (2007) concept of ontoepistemology – *knowing as part of being* – which underscores 'the inseparability of ethics, ontology, and epistemology when engaging in knowledge production, with scientific practices, and with the world itself and its inhabitants – human and nonhuman beings that intra-actively co-constitute the world' (Hyde, 2021, p. 381).

Ontology, meaning 'the way a person exists in the world', a way of being, for instance cultivating greater presence in the moment, is shaped by 'deeply established mental and emotional inclinations that affect the overall quality and tone of one's existence' (Hoggan, 2018, p. 45). Epistemology, on the other hand, pertaining to ways of knowing may encompass the emergence of this new consciousness – one that embraces multiple modes of knowledge, with particular emphasis on extra-rational forms, such as contemplative, intuitive, somatic, or embodied ways of knowing. Grounded in this onto-epistemology, one of the primary roles of ALE in contemporary societies is to strongly participate in challenging anthropocentric perspectives and structures, while simultaneously promoting more inclusive relational frameworks (Košmerl & Mikulec, 2022; Lange, 2018). This entails integrating into its policies and educational organised processes the imperative to cultivate a deep ecological awareness, fostering what Khasnabish (2020) terms 'ecologies of collective liberation' (p. 1725), grounded in the radical interdependence between humans, other living beings, and nature. ALE must itself be reimagined to participate in the radical and transformative reconfiguration of human action towards shaping peaceful, just, and sustainable futures for all (Ireland, 2023). This reconfiguration requires a shift in its ultimate goal 'from a humanitarian charter to one of ecological justice' (UNESCO, 2020, p. 7), from an anthropocentric basis to ecocentric horizons. In pursuit of this vision, the literature across different fields highlights multiple pathways – such as *buen vivir*[5], *ubuntu*[6] – that at an underlying level have strong common denominators, each offering interesting inspirations for paradigmatic reconstructions.

All these concepts, advocating for social and environmental justice, resonate with the Degrowth movement (Schmelzer et al., 2022) and exemplify diversity of visions and cosmologies. Despite rooted in different cultures and geographies, they share many

commonalities, particularly in their approaches to human flourishing and connection to nature, fostering a good life for all beyond the modern development paradigm. These alternative ways of life constitute a plurality of frameworks that can inspire systemic or paradigmatic change, as they align with the transformation of prevailing structures of domination and exploitation. As such, they are increasingly being considered gateways of opportunity for transcending the 'ruins of the ontological empire of modernity' (Carvalho, 2024, p. 111). Furthermore, they also align closely with UNESCO's (2021) vision of education for 2050, which calls for a 'radical transformation in human eco-consciousness and our ways of living in balance with the living Earth' (p. 34).

Moving towards this goal requires Adult Learning and Education to place strong emphasis on epistemes that foster deep ecological awareness, which cannot merely result from training in ecology and sustainability seen as themes to be learned separated from other issues. The global political framework for sustainable development (United Nations, 2015) necessitates changed educational approaches, those that prepare individuals for a fundamentally different way of understanding, perceiving, experiencing, and interacting with others and the natural world. This implies reframing discussions on education policies within an onto-epistemic framework for pluriversality, which entails de-Westernisation, decoloniality, and the integration of more holistic ontological perspectives in ALE (Lange, 2024; Silova et al., 2020; von Kotze, 2024).

The educational reconstruction that we are speaking of means embracing Earth as a new paradigm that integrates both social and environmental concerns while ceasing to 'use education as a vehicle for promulgating human exceptionalism' (UNESCO, 2020, p. 4). If education 'is to be the engine behind deep societal transformation, then questioning human beings' place in the world should be central to educational debates, research and practices', and 'the epistemological, cultural [and] ideological paradigms in which education is embedded should also be brought to awareness, discussed' and ultimately reformed (Maison, 2023, p. 2).

A shift in consciousness towards the interconnection between human and non-human realms has the potential to foster transformative learning, reflected in an ethics of care for oneself, the community, and the planet. The principle that improved relationships between human and non-human worlds enhance well-being is exemplified by a concrete case in which the re-establishment of this connection proved to be profoundly restorative. Participants in a study conducted by Bainbridge and Negro (2020) showed a transformed perspective on their existence, significantly reshaping their beliefs, particularly in the context of challenging life situations – an experience common among the vulnerable groups with whom ALE frequently engages. In an earlier study within the context of a university extension course, 'Transforming Working and Living', whose conceptual framework moved beyond the fragmentary thinking that fosters alienation and disconnection, Lange (2004) observed this same restorative process. She identified a departure from anthropocentrism, supported by testimonies reflecting transformative learning: 'As people saw themselves embedded in their bodies, a social world, a species, a natural world, and a larger cosmos, they moved beyond anthropocentric worldviews and humanist moralities to a much larger horizon of significance' (p. 131). Another example of this kind of learning connected to the expansion of awareness emerged from a workshop on embodiment in ALE, where Luraschi (2020) highlighted the following testimony of an adult learner:

> I felt as if I was being called. By whom? By the leaves! … I was actually seeing myself in the leaves. I was aware of the vitality of leaves and of my body, made of a soul, which is itself nature. (Luraschi, 2020, p. 198)

The more inclusive, resonant, and profound forms of relationality we are emphasising point to new narratives and conceptual frameworks, paving the way for alternative worldviews while simultaneously enabling profound shifts in ideas and perspectives. They are regenerative, are rescuing us from fragmentation and connecting all life to the ground of being.

Ecocentric epistemology, ontology, and pathways forward

The onto-epistemic transformations under discussion can be observed at both personal and societal levels. On a personal level, this shift is characterised by a movement from self-centredness to eco-centredness, requiring a process of epistemological and ontological transformations within the individual. It aligns with the paradigm of *deep ecology,* which conceptualises the self as an integral part of a complex, interconnected ecosystem. This process entails experiencing oneself as ecocentric – fully embedded within an interdependent multilayered ecological system. Such a 'transformation is not just an epistemological process involving a change in worldview and habits of thinking; it is also an ontological process where participants experience a change in their being in the world, including their forms of relatedness' (Lange, 2004, p. 137). In a similar way, Gadotti (2005) argues that the transformation in question is not solely concerned with fostering a more harmonious relationship with the environment; rather, it addresses 'the deeper meaning of what we do with our existence' (p. 22), beginning with everyday life. A state of consciousness grounded in an ecocentric epistemology reflects the understanding that humanity's role is not to control or dominate nature but to exist as an integral part of it, recognising that humans are situated 'in the unfolding universe story' (Lange, 2018, p. 414). Thus, the epistemic transformation (from self to eco) that this state of consciousness entails is fundamentally embodied in nature, requiring embodied knowing and the enactment of an embodied relationality that transcends the traditional mind-body and body-world dichotomies (Maturana & Varela, 1992; Varela et al., 1993). This does not imply replacing the self with the eco; rather, it fosters a respectful and expansive perspective, cultivating embodied spaces for development and learning within safe, pressure-free environments – allowing sufficient time for transformative processes to unfold, whether these pertain to conscious or unconscious anxieties or other aspects of human experience. This transformation in consciousness, which necessitates transformative experiences, is more likely to occur when individuals *choose to engage* with and respond to difficult situations *rather than seeking to dominate or control* them. In this regard, Bainbridge and Negro (2020) advocate for 'rejecting the stultifying prospect of increasingly dominant technical rationalist approaches to education' (p. 55), a position that, we argue, extends beyond education to society and life in general. There is a pressing need for a renewed paradigmatic horizon – one that envisions human beings in a more holistic and integrated manner, seeing them as *becoming worldly* and *becoming with* the Earth (UNESCO, 2020). This shift entails inhabiting the vital hollow spaces of becoming, moving beyond restrictive modes of thought and epistemological frameworks.

The growing centrality of contemplative knowledge

> Contemplation doesn't just destroy and rebuilt the world simply by reorganizing the elements given to one's experience. Rather, in giving oneself to that which is wholly other, it allows genuine freedom and novelty to emerge. (Walsh, 2016, p. 36)

The onto-epistemological changes we have been addressing are associated with the reappraisal of modes of knowledge refined and perfected over centuries in various parts of the world by wisdom and contemplative traditions. While positivist science gained an enviable status in the field of knowledge by distancing itself from direct experience in the name of safeguarding the objectivity of observations, contemplative knowledge followed the opposite path, specialising in intimate contact with direct experience. However, since the emergence of science in the Modern Age, these practices of training attention, awareness, embodiment, and radical relationality, although remaining active, have persisted largely in invisibility within confined contexts. It was only in the last quarter of the twentieth century that the dialogue between (neuro)scientists, poets, Buddhists, and meditation teachers (Williams & Kabat-Zinn, 2013) brought their importance back into the foreground, under the designation of contemplative science (Dorjee, 2016; Wallace, 2007). According to Kabat-Zinn (2011), this emergence is due to the historical convergence of two very distinct epistemologies of knowledge construction: contemporary science and the knowledge of contemplative traditions. Mindfulness-based approaches (Crane et al., 2017), which at present have been revolutionising various fields of knowledge, originate from these millenary traditions, both Eastern (e.g., Buddhists, Yogis) and Western (e.g., pre-Socratics, the Stoic tradition of Ancient Greece), committed to modes of life oriented towards the ontological transformation of the person (Reis & Oliveira, 2016) and towards societal transformation[7].

From an educational perspective, contemplative training (e.g., Barbezat & Bush, 2014) has shown potential to challenge the *status quo*. Including mindfulness, it consists 'essentially in the re-integration of body and mind, sensibility and conceptuality, emotion and reason, heart and head, self and other, humanity and nature' (Deroche et al., 2025, p. 848), as well as love and knowledge (Zajonc, 2009). Envisioning mindfulness or contemplation *as* education (Ergas, 2019), and not *in* education[8], as an educational culture, it brings Life/the whole back into education. Illustrating this way, and coming from his experience with mindfulness, Tisdell and Riley (2019) recognises that 'it has become [for him] a path to living a wise and skilful life' (p. 16). As it entails a profound and desirable onto-epistemological change, we argue that contemplative education can (and should) assume a central role in mainstream education in contemporary society, and should be integrated into the various contexts and spaces of ALE. Tisdell and Riley (2019) adopt a similar position in considering contemplative practices 'an important part of adult education' although they situate them 'as a partial prescription for lifelong learning and well-being' (p. 18). Furthermore, contemplative education has an emancipatory potential that is given very little consideration by scholars of ALE. Indeed, the scope of contemplative knowledge is not only to enable us to be more mindful in any context and at any time – although this is already of great importance – but also to enhance our awareness of how we relate to ourselves and others, as well as of the structures and patterns in which we are embedded that can cause harm to ourselves, others, and the natural world (Berila, 2015; Magee, 2019). Contemplative training mobilises and develops 'a capacity we are all born with, like the capacity for language or walking' (Tisdell & Riley, 2019, p. 11), but it needs to be practiced, and it takes time. It is especially relevant in a hyper-technological society that fosters immediacy, unstable attention, multitasking and distraction. Indeed, the contemplative education approach is seen by Deroche et al. (2025) 'as the core antidote to the root cognitive problem of the information age: distractibility' (p. 854).

Contemplative knowledge as a pathway to overcoming disconnection

As we have discussed previously, Western civilisation and its education, predominantly oriented towards instrumental rationality, require a paradigmatic shift that overcomes disconnection. In this regard, we consider particularly relevant the analysis by Bai et al. (2009), which highlights that the educational architecture of the present rests on relationships of objectification, identifying three axes of disconnection. The first axis concerns disconnection from our own body, treated as an object: we are not educated to attune to what is happening in the body, to develop intimate knowledge of it; instead, we focus on what we can do with it to achieve certain outcomes – an objectification and instrumentality rooted in the dualist legacy culturally inscribed within us. A second axis is the perception of the world as categorically separate from ourselves; from this perception arises the conviction that the planet exists to serve us, holding a reservoir of resources and goods for human consumption – a consciousness of objectification entirely devoid of the sense of inter-being, the understanding that we, the mountains, the rivers, the trees, and so forth, participate in an interpenetrating flow that involves and connects all beings. The third axis of disconnection is that between human and human; as relationships are predominantly instrumental, we relate to others primarily to achieve certain outcomes (good performance evaluations, recognition, acceptance, etc.) rather than valuing others for their intrinsic worth and with a full-hearted engagement. Even when relationships are pleasant and agreeable, they remain fundamentally instrumental. In education based on the subject-object duality, attention is constantly directed outward, towards abstract and discursive knowledge (Bai et al., 2009; Ergas, 2015). There exists an entire relationship of objectification that is more about having power and control over the world and each other than truly knowing it (Zajonc, 2009).

In contrast, the development of the contemplative dimension of the human being promotes relational modes of knowing that cultivate a profound sensitivity and awareness of the other; it develops the capacity for becoming aware; focuses knowledge of somatic, affective, and intuitive sensitivities; and generates epistemic units of inter-being (Bai et al., 2009). One could even say that it 'allows us to *be* free, to *be* healing, to *be* human, to *be* filled, to *be* peace, to *be* joy, and to *be* at home with ourselves so that we can *do* justice [emphases in original]' (Chatman et al., 2025, p. 2). From indwelling, which enables a complete, non-existentially alienated experience, emerges security, repose, contentment, and a primordial trust. Consequently, education that fosters contemplative knowledge creates frameworks for other modes of consciousness and is based on a specific set of postulates.

Assumptions of contemplative knowledge

Reviewing literature about contemplative knowledge, we have identified a set of postulates that provide conceptual anchoring for pedagogical action moving from the anthropocentric to the ecocentric, from objectification to the 'new story of relationality' (Lange, 2024, p. 239). These postulates align closely with the central ideas advanced in this article. Accordingly, we present below those deemed fundamental, as identified through the specialised literature on the subject:

- The human being is an integral part of larger systems (social, cultural, and natural) with which he is intrinsically interconnected, even if they are frequently unaware of this; therefore, contemplative knowledge begins with the assumption of the nonexistence of separation, leaving aside dichotomies such as human-

nature, body-mind, subject-object, or even internal-external (Barbezat & Bush, 2014; Zajonc, 2009).

- The intrinsic interdependence and interpenetration of all phenomena 'inspires an ethic of universal compassion' (Walsh, 2016, p. 32), which safeguards the well-being of the self, others, and nature, inherently carrying the intention of causing no harm (Hanh, 2021) – contemplative knowledge is not restrictive, expanding compassion and affection to all beings. As Barbezat and Bush (2014) emphasise, we act on the basis of a moral judgment rooted in an empathetic connection to a living world, in contrast to action governed by utility calculation and cost–benefit analysis.

- Experience does not possess only *primary qualities* – critical-rational-computational value; it also includes hidden qualities that need to be brought to awareness through contemplative insight (Zajonc, 2009); in this sense, the mind is not conceived as being located in the head or in any specific place – the mind is 'an emergent experiential phenomenon allowing internal and external reality to become manifest' (Tiedman, 2016, p. 12).

- Contemplative training requires an embodied, investigative awareness, a mindful, curious welcoming, and a receptive presence, ready to act, even subtly, for personal, collective, and planetary well-being (Hanh, 2021).

- Contemplative training cultivates receptivity to experiences that transcend the individual self, focusing on the emergent understanding of being – it encourages a deepened awareness of existence as it unfolds in experience. In the Husserlian sense, it activates the *epoché* – the recognition and suspension of prior assumptions about the objects of consciousness – which entails deep reflection; it is a consciousness that immerses in the pure flow of experience without content, and holds the potential to profoundly challenge prevailing conceptions of the mind, culture, and society itself (Tiedman, 2016; Bentz & Giorgino, 2016).

- Contemplative training entails the practice of the phenomenology of consciousness, fostering a radical reconfiguration of what is conceived as *the observer* and eliciting an expanded, penetrating awareness (Dorjee, 2016). It necessarily involves 'participative knowing, a knowing which shares more and more in the pattern of life of the "known" (who is now discovered to be as much the *knower* as the known)' (McIntosh, 1998, p. 132, as cited in Walsh, 2016, p. 40). In this sense, it is regarded as fundamentally emancipatory, capable of engendering a personal revolution – an ontological transformation.

- Contemplative training is a path of discipline and commitment, and, like any other human skill, its development requires regularity, perseverance, and persistence, with patience being one of its key secrets (Moody, 2016).

The pedagogical approach of contemplative knowledge

Since the primary interest of contemplative knowledge[9] is to help learners access subtle, often hidden qualities of experience, it focuses on non-discursive and complex forms of understanding, gained through direct, embodied apprehension (indwelling). Accordingly, this requires pedagogical methods that privilege practice-training attention and embodiment – rather than relying only on discursive methods such as explanation or discussion.

Indwelling the body: We encourage inhabiting the body profoundly, knowing it from within, immersing in it and noting the flow of changing sensations, which allows one to

become aware that it is a living reality of energy in flux, continuously in-forming the person. 'Concentrate yourself into this "Mu", with your 360 bones and 84,000 pores, making your whole body one great inquiry' (Shibayama, 1974, p. 19, as cited in Saari, 2020, p. 29).

Indwelling the senses, emoticons, the space: Engage with the senses, the emotions, and the place through a loving attention; the 'other', the ontological whole in which one participates in the relationship, requires our full attention (whether a person, an animal, a plant, a place, or the city). This attention constitutes a work of consciousness – immersive, situated, and place-based – mobilising cognition as enaction rather than as representation (Varela, 1999).

Indwelling the aesthetic and the intuitive: Emphasis is placed on moving away from discursive reasoning and propositional knowledge; it is not a question of adding knowledge to what we already possess. As the Zen master Lin-Chi (as cited in Saari, 2020) stated, 'what can be known by philosophers and scientists through reasoning is only a fraction of the universe' (p. 31). Instead, it requires a pedagogy of an aesthetic of silence: to notice the beautiful and graceful, to perceive the invisible, and to observe ourselves 'suspended and absorbed between knowing and unknowing' (Caranfa, 2006, p. 93). Language is the world of the visible, the voice of the logic, 'language … robs the world of its invisible essence' (Merleau-Ponty, as cited in Caranfa, 2006, p. 91).

Indwelling relationality: Relationality as a way of being, meaning 'a relationality approach to composting modernity and emplacing ourselves within the living world' (Lange, 2024, p. 252), requires embodied relations and emplaced relational practices, such as emplacing us back in the 'life we have lost in living' (T.S. Eliot, as cited in Deroche et al., 2025, p. 847), and entering respectful, open, receptive, and non-judgmental relations (von Kotze, 2024). That is, to enter into relationship, to listen, and to speak from internally coherent and emotionally regulated states, guided by a sense of the whole and of belonging. This could for example include mindfulness listening – attending with attention and openness to all that emerge – mindfulness walking, freewriting in a journal, reflective reading, deliberative walks, and many other contemplative practices (Barbezat & Bush, 2014; Berila, 2015; Ehrström, 2020; Kroll, 2010; von Kotze, 2024; Zajonc, 2009;).

Conclusion

This article has presented a critique of the pervasive power structures dominating societies in the Anthropocene era, contributing in several ways to the deconstruction of the ideological roots of modern and post-modern notions of independence and separation. We have focused on reflecting upon and analysing viable and deeper understandings of sustainable pathways, emerging as alternative worldviews – hopeful visions of new horizons positioning ALE within an ecocentric framework, simultaneously helping to build fair and balanced democracies and sustainable futures for all. Such transformation entails *composting modernity* (Lange, 2024), dismantling the dominant educational paradigm grounded in monolithic, instrumental rationality and anthropocentric ideology, adopting a relational ontology, and affirming dignity and respect for all life forms and the planet. ALE can advance this sociocultural and educational revolution by fostering inclusive relationality and cultivating epistemes that promote deep ecological awareness under an ethic of care for individuals, communities, and the Earth. This revolution aligns with key concepts emphasised in this article, including relational ontology (e.g., embodied learning spaces), sufficiency-oriented culture (embracing voluntary simplicity), pluriversal frameworks (supporting pluriversal curricula), and contemplative

pedagogy (creating safe spaces for embodied, sensory, emotional, place, nondiscursive, and intuitive exploration). Ultimately, it calls for transcending entrenched anthropocentric structures and constructing an ecocentric, just future through diverse epistemic pathways informed by ancient wisdom and revitalised by contemporary interdisciplinary research.

Grounded mainly in the principles of interdependence, deep ecology, and contemplative knowledge, we have argued that these pathways necessitate a fundamentally different cosmology, ontology, and epistemology, along with corresponding pedagogical approaches – which ALE must engage with and cultivate in its contexts and in relation to its agendas. In an increasingly complex and uncertain present, the pathways discussed enable us to outline key principles and directions for the paradigmatic revolutions needed in society and in ALE. They inspire us to look to the future with both confidence and hope. They encourage us to work towards a 'world of creative existence where the vita contemplativa and the vita activa are magnificently interwoven' (Caranfa, 2006, p. 93) for the common good.

Notes

[1]   The first influential report to highlight the issue of the planet's ecological imbalance and advocate for the necessity of sustainable development was that of the Club of Rome, published in the early 1970s (Meadows et al., 1972).

[2]   An *educational approach* refers to a broad strategy encompassing policies, knowledge systems, curricula, and methods across formal and non-formal contexts. On the other hand, a *pedagogical approach* is regarded as more specific, focusing on the processes of teaching and learning, or co-learning and teaching, and their relational dynamics.

[3]   It fundamentally comprises five components: a conception of knowledge; a relationship between the person, society, and nature; values and interests; a method of execution; and the overall meaning of human activity.

[4]   A process that 'brings together movements, networks, organisations and individuals who have worked at practical and/or conceptual levels on alternatives to mainstream "development" and "political governance" models on a common platform' (Global Tapestry of Alternatives, n.d.)

[5]   Meaning Good Living (*sumac kawsay or suma qamaña*) is a concept that originated in Ecuador and Bolivia, South America. It was proposed by Eduardo Gudynas, Maristella Svampa, Alberto Acosta, and Pablo Sólon (Ireland, 2014; Schmelzer et al., 2022) and is anchored in the worldviews, perspectives, and experiences of Indigenous people. It emphasises the inseparability of people and nature and its philosophy seeks to integrate humans into their communities by fostering harmonious relationships with nature at both personal and collective levels, promoting sustainability, and ensuring a dignified life for all. This approach is considered an alternative and serves also as a critique of capitalist models of development (Ireland, 2014, 2023).

[6]   *Ubuntu* comes from the communal traditions and ethical values of the Bantu cultures of Sub-Saharan Africa. It was popularised by Nelson Mandela and Desmond Tutu and emphasises the centrality of relationships, expressed in notions such as *I relate, therefore I am*. It underscores human interdependence and complementarity, encapsulated in the philosophy *I am because you are* and *we are branches of the same tree*. Furthermore, it prioritises an ethics of care, encompassing self-care, care for others, and care for the planet (Gonçalves & Alarcão, 2020).

[7]   The first programme with rigorous empirical validation, primarily known for its positive effects in helping people cope with stress and chronic pain – Mindfulness-Based Stress Reduction (MBSR) – was systematised by Kabat-Zinn (2011), based on principles from Buddhist and Yogic wisdom traditions, with a broad purpose: to serve both as a vehicle for individual transformation (helping people take better care of themselves) and for societal transformation (building societies and lifestyles grounded in well-being, quality of life, and respect for ecosystems). However, due to its widespread popularity and the distortions with which it has been appropriated and implemented, MBSR is not always considered in this way (Crane et al., 2017), and has even been strongly criticised as a form of 'McDonaldization' (Hyland, 2017, p. 336) of well-being, often serving instrumental interests and the commodification of knowledge.

8   Viewed not in its popular appropriations – as merely functional tools aligned with the dominant educational model – mindfulness and contemplative practices are often introduced as programmes for stress reduction, as interventions, rather than as a way of being or a mode of relating to experience.

9   While *contemplative knowledge* is the resulting understanding or insight that arises from situated, experiential and embodied knowledge – centred on awareness of one's own nature and the interconnectedness of all things – *contemplative knowing* denotes the intentional, holistic process of being fully present and receptive to the moment, where mind, heart, and senses are open to the 'now' as it is, without judgment and without deliberate analysis or critique of what emerges.

Declaration of conflicting interests

Funding

Acknowledgement

References

Arocena, F., & Sansone, S. (2020). Hámsteres en la rueda? Aceleración y cuarta revolución industrial [Hamsters in the wheel? Acceleration and fourth industrial revolution]. *Civitas: Revista De Ciências Sociais, 20*(2), 221-233. https://doi.org/10.15448/1984-7289.2020.2.33886

Bai, H., Scott, C., & Donald, B. (2009). Contemplative pedagogy and revitalization of teacher education. *The Alberta Journal of Educational Research, 55*(3), 319-334. https://doi.org/10.55016/ojs/ajer.v55i3.55330

Bainbridge, A., & Negro, G. D. (2020). An ecology of transformative learning: A shift from the ego to the eco. *Journal of Transformative Education, 18*(1), 41-58. https://doi.org/10.1177/1541344619864670

Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning.* Duke University Press.

Barbezat, D. P., & Bush, M. (2014). *Contemplative practices in higher education: Powerful methods to transform teaching and learning.* Jossey-Bass.

Bentz, V. M., & Giorgino V. M. B. (Eds.). (2016). *Contemplative social research: Caring for self, being, and lifeworld.* Fielding University Press.

Berila, B. (2015). *Integrating mindfulness into anti-oppression pedagogy: Social justice in higher education.* Routledge.

Bertrand, Y., & Valois, P. (1994). *Paradigmas educacionais: Escola e sociedades* [Educational paradigms: School and societies]. Instituto Piaget.

Canário, R. (2021). Educação permanente e emancipação social: Aprender a ser "mestre de si próprio" [Learning to be "master of oneself"]. In A. Melo, L. C. Lima, & P. Guimarães (Eds.), *Actualidade da educação permanente* (pp. 61-84). Associação Portuguesa para a Cultura e Educação Permanente (APCEP)/Espaço Ulmeiro.

Caranfa, A. (2006). Voices of silence in pedagogy: Art, write and self-encounter. *Journal of Philosophy of Education, 40*(1), 85-103. https://doi.org/10.1111/j.1467-9752.2006.00499.x

Carvalho, A. (2024). *Antropoceno(s): Crise climática, ontologia e o social* [Anthropocene(s): Climate crisis, ontology and the social]. Imprensa da Universidade de Coimbra. https://monographs.uc.pt/iuc/catalog/view/456/1036/1821-4

Chatman, M. C., Costa, L., & Robinson-Morris, D. W. (2025). *Contemplative practices and acts of resistance in higher education: Narratives toward wholeness.* Routledge.

Crane, R. S., Brewer, J., Feldman, C., Kabat-Zinn, J., Santorelli, S., Williams, J. M. G., & Kuyken, W. (2017). What defines mindfulness-based programs? The warp and the weft. *Psychological Medicine, 47*(6), 990-999. https://doi.org/10.1017/S0033291716003317

Delors, J., Al-Mufti, I., Amagi, I., Carneiro, R., Chung, F., Geremek, B., Gorham, W., Kornhauser, A., Manley, M., Quero, M. P., Savané, M-A., Singh, K., Stavenhagen, R., Suhr, M. W., & Nanzhao, Z. (1996). *Educação: um tesouro a descobrir* [Learning: The treasure within]. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000109590_por

Deroche, M-H., Kuyken, W., Uwatoko, T., Imoto, Y., & Kusumoto, R. (2025). The mindful way from information to knowledge, to wisdom, and to life: Perspectives on mindfulness (-Based Cognitive therapy) for higher education. *Mindfulness, 16,* 846-863. https://doi.org/10.1007/s12671-025-02528-5

Di Paolantonio, M. (2019). The malaise of the soul at work: The drive for creativity, self-actualization, and curiosity in education. *Studies in Philosophy and Education, 38,* 601-617. https://doi.org/10.1007/s11217-019-09653-4

Dorjee, D. (2016). Defining contemplative science: The metacognitive self-regulatory capacity of the mind, context of meditation practice and modes of existential awareness. *Frontiers in Psychology, 7*, 1-15. https://doi.org/10.3389/fpsyg.2016.01788

Earth Charter Initiative. (2012). Retrieved March 4, 2025, from http://www.earthcharterinaction.org/content/

Ehrström, P. (2020). Planning with people: Reflections on participation and learning on deliberative walks. In E. Lucio-Villegas, B. Merrill, M. Milana, & H. S. Olesen (Eds.), *Research on the Education and Learning of Adults* (pp. 203-214). Brill Sense.

Ergas, O. (2015). The deeper teachings of mindfulness based 'interventions' as a reconstruction of 'education'. *Journal of Philosophy of Education, 49*(2), 203-220. https://doi.org/10.1111/1467-9752.12137

Ergas, O. (2019). Mindfulness *in*, *as* and *of* education: Three roles of mindfulness in education. *Journal of Philosophy of Education, 53*(2), 340-358. https://doi.org/10.1111/1467-9752.12349

Escobar, A. (2018). *Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds.* Duke University Press.

Faure, E., Herrera, F., Kaddoura, A-R., Lopes, H., Petrovski, A. V, Rahnema, M., & Ward, F. C. (1981). *Aprender a ser* [Learning to be] (3rd ed.) Livraria Bertrand.

Foster, J. B. (2022). The return of the dialectics of nature. The struggle for freedom as necessity. *Monthly Review, 74*(7), 1-20. https://monthlyreview.org/2022/12/01/the-return-of-the-dialectics-of-nature/

Freire, P. (1970). *Pedagogia do oprimido* [Pedagogy of the oppressed]. Paz e Terra.

Gadotti, M. (2005). Pedagogia da Terra e cultura de sustentabilidade [Earth pedagogy and culture of sustainability]. *Revista Lusófona de Educação, 6*(6), 15-29. https://revistas.ulusofona.pt/index.php/rleducacao/article/view/842

Global Tapestry of Alternatives. (n.d.). *Vikalp Sangam.* Retrieved July 28, 2025, from https://globaltapestryofalternatives.org/weavers:vs

Gonçalves, J. L., & Alarcão, M. (Eds.). (2020). *Pilares do método Ubuntu* [Pillars of the Ubuntu method]. Academia de Líderes Ubuntu.

Hake, B. (2021). Looking forward backwards: Varieties of capitalisms, alternative futures, and learning landscapes. *European Journal for Research on the Education and Learning of Adults, 12*(1), 31-45. http://doi.org/10.3384/rela.2000-7426.ojs3463

Hanh, T. N. (2021). *Zen and the art of saving the planet.* HarperCollins Publishers.

Hoggan, C. (2018). Exercising clarity with transformative learning theory. In M. Milana, S. Holford, R. Waller, & P. Jarvis (Eds.), *The Palgrave International Handbook on Adult and Lifelong Education and Learning* (pp. 35-52). Palgrave MacMillan.

Holmqvist, D., & Millenberg, F. (2024). Carving space to learn for sustainable futures: A theory-informed adult education approach to teaching. *European Journal for Research on the Education and Learning of Adults, 15*(3), 299-315. https://doi.org/10.3384/rela.2000-7426.5237

Hyde, B. (2021). Critical discourse and critical Reflection in Mezirow's theory of transformative learning: A dialectic between ontology and epistemology (and a subtext of reflexivity mirroring my own onto-epistemological movement). *Adult Education Quarterly, 71*(4), 373-388. https://doi.org/10.1177/07417136211003612

Hyland, T. (2017). McDonaldizing spirituality: Mindfulness, education and consumerism. *Journal of Transformative Education, 15*(4), 334-356. https://doi.org/10.1177/1541344617696972

Ireland, T. D. (2014). The CONFINTEA agenda: Work in progress. In T. D. Ireland, & C. H. Spezia (Eds.), *Adult Education in retrospective: 60 years of CONFINTEA* (pp. 53-72). UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000227635

Ireland, T. D. (2023). *ILD 2023 UNESCO. Promoting literacy for a world in transition: Building the foundation for sustainable and peaceful societies.* https://redclade.org/wp-content/uploads/03092024-Articulo-Alfabetizacion.pdf

Kabat-Zinn, J. (2011). Some reflections on the origins of MBSR, skilful means, and the trouble with maps. *Contemporary Buddhism, 12*(1), 281-306. https://doi.org/10.1080/14639947.2011.564844

Khasnabish, A. (2020). Ecologies of the radical imagination. *Information, Communication & Society, 23*(12), 1718-1727. https://doi.org/10.1080/1369118X.2019.1631368

Košmerl, T., & Mikulec, B. (2022). Adult Education for Sustainable Development from the Perspective of Transformative Learning Theories. *Sodobna pedagogika/Journal of Contemporary Educational Studies, 73*(2), 164-179. https://www.sodobna-pedagogika.net/en/archive/load-article/?id=2067

Kothari, A. (2018). Eco-swaraj vs. global eco-catastrophe. *Asia Pacific Perspectives, 15*(2), 49-54. https://jayna.usfca.edu/asia-pacific-perspectives/pdfs/3-kothari-eco-swaraj.pdf

Kroll, K. (Ed.). (2010). *Contemplative teaching and learning.* Wiley Company.

Lange, E. A. (2004). Transformative and restorative learning: A vital dialectic for sustainable societies. *Adult Education Quarterly, 54*(2), 121-139. https://doi.org/10.1177/0741713603260276

Lange, E. A. (2018). Transformative sustainability education: From sustainable to a civilization leap. In M. Milana, S. Webb, J. Holford, R. Waller, & P. Jarvis (Eds.), *The Palgrave International Handbook on Adult and Lifelong Education and Learning* (pp. 397-420). Palgrave Macmillan. https://doi.org/10.1057/978-1-137-55783-4_21

Lange, E. A. (2024). Composting modernity: Pedagogical practices for emplacing ourselves within the living world. *European Journal for Research on the Education and Learning of Adults, 15*(3), 239-259. https://doi.org/10.3384/rela.2000-7426.5214

Latour, B. (2018). *Down to earth: Politics in the new climatic regime.* Polity Press.

Lucio-Villegas, E. (2018). Revisiting Paulo Freire: Adult Education for emancipation. In M. Milana, S. Webb, J. Holford, R. Waller, & P. Jarvis (Eds.), *The Palgrave International Handbook on Adult and Lifelong Education and Learning* (pp. 151-168). Palgrave Macmillan. https://doi.org/10.1057/978-1-137-55783-4_9

Lucio-Villegas, E., & Fragoso, A. (2016). A tramp shining: The popular educator at the age of lifelong learning. In R. Evans, E. Kurantowicz, & E. Lucio-Villegas (Eds.), *Researching and transforming adult learning and communities* (pp. 27-38). Sense Publishers.

Luraschi, S. (2020). Research through, and on, embodied movement in orienting one's self towards future. In E. Lucio-Villegas, B. Merrill, M. Milana, & H. S. Olesen (Eds.), *Research on the Education and Learning of Adults* (pp. 191-202). Brill Sense.

Magee, R. V. (2019*). The inner work of racial justice: Healing ourselves and transforming our communities through mindfulness.* TarcherPerigree.

Maison, L. M. (2023). 'Who owns time?': Reflecting on the temporal dimension of sustainability with Zapatista and Norwegian educators. *Pedagogy, Culture & Society, 32*(5), 1413-1431. https://doi.org/10.1080/14681366.2023.2183239

Maksimovic, M. (2024). Exploring lost spaces: Integrating place, arts and adult education. *European Journal for Research on the Education and Learning of Adults, 15*(3), 331-348. https://doi.org/10.3384/rela.2000-7426.5180

Maturana, H., & Varela, F. (1992). *The tree of knowledge: The biological roots of human understanding.* Shambhala.

Meadows, D. H., Meadows, D. L., Randers, J., & Behrens III. W. W. (1972). *The limits to growth: A report for the Club of Rome's Project on the predicament of mankind.* Universe Books.

Misiaszek, G. W. (2023). Ecopedagogy: Freirean teaching to disrupt socio-environmental injustices, anthropocentric dominance, and unsustainability of the Anthropocene. *Educational Philosophy & Theory, 55*(11), 1253-1267. https://doi.org/10.1080/00131857.2022.2130044

Moody, H. (2016). Preface. In V. M. Bentz & V. M. B. Giorgino (Eds.), *Contemplative social research: Caring for self, being, and lifeworld* (pp. 6-9). Fielding University Press.

Naess, A. (1973). The shallow and the deep, long-range ecology movement: A summary. *Inquiry, 16,* 95-100. https://openairphilosophy.org/wp-content/uploads/2018/11/OAP_Naess_Shallow_and_the_Deep.pdf

O'Sullivan, E. V., & Taylor, M. M. (Eds.). (2004). *Learning toward an ecological consciousness: Selected transformative practices.* Palgrave Macmillan.

Reis, C. S., & Oliveira, A. L. (2016). Ontological conversion: The place of self-knowledge, the contemplative tradition and contemporary mindfulness in education. *Turkish Online Journal of Educational Technology*, *Special Issue for the International Conference on New Horizons in Education (INTE)*, 163-172. https://estudogeral.sib.uc.pt/handle/10316/45688

Rosa, H. (2016). *Alienación y aceleración: Hacia una teoría crítica de la temporalidad en la modernidad tardía* [Alienation and acceleration: Towards a critical theory of late-modern temporality]. Katz.

Saari, A. (2020). Transference and the gateless barrier: A relational approach to contemplative education. *Journal of Transformative Education, 18*(1), 24-40. https://doi.org/10.1177/1541344619863566

Schmelzer, M., Vetter, A., & Vansintjan, A. (2022). *The future is degrowth: A guide to a world beyond capitalism.* Verso Books.

Silova, I., Rappleye, J., & Auld, E. (2020). Beyond the western horizon: Rethinking education, values, and policy transfer. In G. Fan & P. S. Popkewitz (Eds.), *The International handbook of education policy studies* (pp. 3-29). Springer. https://doi.org/10.1007/978-981-13-8347-2_1

Tiedman, S. (2016). Preface. In V. M. Bentz & V. M. B. Giorgino (Eds.), *Contemplative social research: Caring for self, being, and lifeworld* (pp. 10-15). Fielding University Press.

Tisdell, E. J., & Riley, T. D. (2019). The landscape of mindfulness and meditation in adult education: A partial prescription (and critique) for lifelong learning and well-being. *New Directions for Adult and Continuing Education, 161,* 9-20. https://doi.org/10.1002/ace.20307

UNESCO. (2018, April 24). *Um glossário para o Antropoceno* [A glossary for the Anthropocene]. *Correio da UNESCO*. https://courier.unesco.org/pt/articles/courier/2018-2/lexicon-anthropocene

UNESCO. (2020). *Learning to become with the world: Education for future survival.* Common Worlds Research Collective. https://unesdoc.unesco.org/ark:/48223/pf0000374032

UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. International Commission on the Futures of Education. https://unesdoc.unesco.org/ark:/48223/pf0000379707.locale=en

United Nations. (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development: A/Res/70/1*. https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf

Vandenabeele, J., Schreiber-Barsch, S., & Finnegan, F. (2024). Editorial: Sustainability: Place, space and pedagogy in adult learning and education. *European Journal for Research on the Education and Learning of Adults, 15*(3), 227-238. https://doi.org/10.3384/rela.2000-7426.5549

Varela, F. J. (1999). *Ethical know-how: Action, wisdom, and cognition.* Stanford University Press.

Varela, F. J., Thompson, E., & Rosch, E. (1993). *The embodied mind: Cognitive science and human experience.* The MIT Press.

von Kotze, A. (2024). The gut as teacher: Learning from our bodies. *European Journal for Research on the Education and Learning of Adults, 15*(3), 317-329. http://doi.org/10.3384/rela.2000-7426.5138

Waldinger, R., & Shultz, M. (2023). *Uma boa vida: Lições do maior estudo científico de sempre sobre a felicidade* [The good life: Lessons from the world's longest study on happiness]. Lua de Papel.

Wallace, B. A. (2007). *Contemplative science.* Columbia University Press.

Walsh, Z. (2016). The social and political significance of contemplation and its potential for shaping contemplative studies. In V. M. Bentz & V. M. B. Giorgino (Eds.), *Contemplative social research: Caring for self, being, and lifeworld* (pp. 27-49). Fielding University Press.

Williams, J. M. G., & Kabat-Zinn, J. (Eds.). (2013). *Mindfulness: Diverse perspectives on its meaning, origins and applications.* Routledge.

Zajonc, A. (2009). *Meditation as contemplative inquiry: When knowledge becomes love*. Lindisfarne Books.