Carving space to learn for sustainable futures: A theory-informed adult education approach to teaching

Diana Holmqvist
Linköping University, Sweden (diana.holmqvist@liu.se)

Filippa Millenberg
Linköping University, Sweden (filippa.millenberg@liu.se)

Abstract

This article addresses the pressing need to reimagine education for sustainable futures amidst the socioecological crises of our time. Grounded in the recognition of modernity as profoundly alienating and unsustainable, we argue for an education informed by theory, critical pedagogies and critical sustainability research. Through an example from our own teaching practice, where we focused on pace, place, connections and modes of engagement, we demonstrate how adult educators can draw on theory to deliberately shape teaching. Highlighting the unsustainability of social acceleration, we encourage educators to slow down and carve out a space for profound engagement with sustainability. Drawing on diverse theoretical frameworks, we propose an approach that cultivates a sense of embeddedness in place and connection to oneself, others and the natural world. Finally, we argue that education for sustainable futures necessitates a departure from modernist paradigms, inviting educators to envision transformative pedagogies that foster critical awareness and societal change.

Keywords: sustainability, critical pedagogy, adult educators, teaching design, modernity

Introduction

As of 2022, six out of the nine proposed scientific planetary limits representing a safe biophysical operating space for humanity to thrive and develop have been exceeded (Richardson et al., 2023)[1]. Biodiversity loss has intensified to such an extent that,

according to some, human activities are driving the sixth mass extinction of life on Earth (Cowie et al., 2022). Many of the easily obtainable non-renewable resources on our planet have already been depleted, and renewable resources are being consumed at a rate faster than that at which they can be replenished (Galaz & Collste, 2022). In short, we are living in a time marked by a socioecological crisis where climate change, ecological breakdown, social justice and public health crises intertwine and will continue to challenge us in decades to come. Scientists have repeatedly, and for several decades now, shown that this is due to ecosystem degradation, pollution and high levels of toxicity in our food and environment – which, in turn, are the result of both the planet and people being exploited (Gupta et al., 2023). Scholars across scientific fields and disciplines have linked these destructive practices to industrialism, consumption and the incessant pursuit of economic growth (Angus, 2016; Galaz & Collste, 2022; Schmelzer et al., 2022; Smetschka et al., 2023), as well as to the implicit ontological assumptions of modernity, such as human supremacy, linear development and progress and social acceleration (Chakrabarty, 2022; Graeber & Wengrow, 2021; Rosa, 2013; Stein et al., 2022; Swillens et al., 2023). In light of such monumental challenges, we are interested in how we as adult educators and education researchers can leverage our knowledge to emancipate learners, promote sustainable practices and transform the systems that perpetuate environmental degradation and social inequality.

In this article, we argue that education for sustainability[2] must be a practice informed by theory. More precisely, education aspiring to assist in societal transformation needs to draw on critical pedagogies such as those developed within the field of adult education. Through an example from our own teaching practice where we focused on pace, place, connections and modes of engagement, we demonstrate how adult educators can draw on theory to deliberately shape teaching. Highlighting the unsustainability of social acceleration, we encourage educators to slow down and carve out a space for profound engagement with sustainability. Drawing on diverse theoretical frameworks, we propose an approach that cultivates a sense of embeddedness in place as well as connection to oneself, others and the natural world. We start by framing the need for our teaching design as the unsustainability of modernity. Then, we situate ourselves and our work as adult educators and researchers. We explain what each activity seeks to achieve and which theoretical grounding we draw on. We end our exposition by discussing the potential benefits of adult educators thinking carefully through theory when planning and engaging in practice and argue that education for sustainability requires us to pay particular attention to time, place and connections.

Disconnection and alienation: The unsustainability of modernity

Late modernity – the era we are currently living through – is characterised by shallow connections and the fragmentation of existence as 'lived events no longer link to each other, to history, and to one's own individual identity' (Rosa, 2013, p. 307). This encourages a culture of interchangeability and disposability, driving exploitation, unsustainable consumption and waste production. The fragmentation of existence reduces societal cohesion, alienating us from each other and our surroundings. This can create or reinforce social divides, injustices and exploitation and affect mental health, eliciting feelings of futility and alienation (Hertz, 2020; Nagoski & Nagoski, 2020).

Rosa (2013) attributes this alienation to modernity's acceleration, where rapid technological advancements increase the speed of existence. From the invention of the vehicle, electricity and assembly line to the Internet, live content streaming, Alexa and internet banking, change is occurring at an ever-increasing rate. As a result, the time

required to complete a task or engage in an activity is decreasing exponentially, both on scale and for the individual. For example, building a car or printing a book can be easily done in under an hour, and travelling to the opposite side of the globe is almost as easy as imagining the place. Such *technical acceleration* 'implicitly transforms our relations … and hence the mode and manner of our being-in-the-world' (Rosa, 2013, p. 304), making it increasingly difficult to establish and maintain connections to specific persons, places and things and encouraging shallow relationships where 'everything and everyone' is exchangeable.

This technical acceleration, Rosa (2013) argues, is also accompanied by a faster *pace of life*. Travelling faster and over greater distances, for instance, has changed how we socialise across geographical locations, how we think about ourselves and how much we expect to pack into a day or a lifetime. This life pace acceleration has led to perpetual stimulation and constant movement, as we flick between activities, contexts and roles at the click of a zoom-meeting button or the buzz of a notification alert. This *busyness of constant activity* is qualitatively different from *genuine experiences* and keeps us from engaging deeply with people, places, thoughts and things. While high levels of activity by themselves do not have to be detrimental, this acceleration becomes perverse as it disrupts social and personal narratives, rendering the present both futureless and separate from the past. Unsurprisingly, this disconnection is linked to unsustainable consumption patterns, such as excessive commuting and stress-induced shopping, which are driven by capitalist productivity principles (Grauer et al., 2022; Rau, 2015). This has important implications for education that aims to facilitate sustainable futures.

Research on time and sustainability (cf. Grauer et al., 2022) emphasises recovering personal needs and well-being *as existential questions* rather than an emptiness to be filled through consumption. It also argues for the need for increased reflexivity on how time use and lifestyle choices affect the environment. For societal transformation and sustainable futures to be possible, we must engage with both practices of time use and conceptualisations of time. Pedagogically, it, therefore, makes sense to take *time use, temporalities and rhythms* into consideration when designing teaching and learning activities aimed at carving out a space for learning for sustainable futures. Similarly, *the kind of attention* we pay to people, places and things – the mode of engagement – also has pedagogical implications. In relation to outdoor education, Gruenewald (2003, p. 645) warns that a distant, disengaged approach 'impoverishes human experience, conceals from view the correspondence between ideology, politics, and place, and potentially leads to biological and cultural extinctions'. In contrast, education for sustainability must aim to promote a sense of *being embedded in place*, connected to ourselves, others and the natural world (Gruenewald, 2003; Lange, 2023; Pisters et al., 2019). To work past shallow connections and a sense of alienation, it can also be fruitful to adopt a relational approach (Walsh et al., 2020) and strive to embody values such as openness, generosity, appreciation, mutual respect and responsibility, collaboration, dialogue and creativity (Pisters et al., 2019). While such an approach is commonly associated with social justice initiatives, these are also *ecological values* which sustainability initiatives, therefore, should strive to enact (cf. Bianchi et al., 2022; Millican, 2022).

Working from a sustainability perspective, theoretical frameworks such as the ones we have mentioned here offer an important analytical lens to counter the perpetuation of unsustainability and carve out a space to consider alternatives and learn for sustainable futures. Building on Gouthro's (2019) advocacy for educators' engagement with social justice agendas, we argue that education for sustainability must be a practice informed by theory – both in pedagogical approach and in the ontological understanding of the world and sustainability. As adult educators, we must go 'beyond simple tinkering with a very

un-green educational system' and instead endeavour to transform education through radical, theory-driven work (Jickling & Blenkinsop, 2021, p. 58).

Situating our work

The *we* of both the article and the project consists of Filippa and Diana – two adult educators currently working at a Swedish university, teaching adult educators who will later work at folk high schools[3]. Filippa's path to where we are currently situated was through working as a folk high school teacher and later researching the pedagogical practices of these teachers through ethnographic fieldwork and the lens of lifeworld phenomenology (Merleau-Ponty, 1945/2012). Diana entered this project bringing with her experience from theatre and drama pedagogies, critical pedagogy and proficiency in translating pedagogical theoretical approaches into teaching practice. Apart from our shared endeavour of teaching at the folk high-school teacher university programme, we were brought together by the conviction that sustainability must become a central issue for adult education research and practice to engage with. Our shared interest in sustainability and its place in the adult education discourse has evolved over the past few years, largely due to the devastating environmental crises unfolding around us. In this, we believe that we resemble many other adult educators and adult education researchers, as our engagement with sustainability is rather recent and we do not identify as or claim to be full-fledged experts in this area. Nevertheless, we saw a need to educate ourselves on such matters and explore how we can help our students start engaging with sustainability as a topic worthy of their serious attention and commitment, as well as inspire them to do the same for the learners they will encounter when teaching in folk high schools.

Education for sustainability is, by necessity, value-based, place-embedded and emancipatory, seeking to help learners develop a desire to connect – to 'actively' be in the world and shape it. From this point of departure, we recently set out to design what we call a 'seed package'[4] that consists of teaching and learning activities aimed at carving out a space where students can learn for sustainable futures (see Figure 1). The learners we had in mind as we designed our 'seed package' were folk high school teacher students. Many of these students already had some teaching experience, and some were involved in social justice or environmental sustainability causes themselves. In relation to the students, our aim was to provide them with an opportunity to develop their understanding and inspiration for how they themselves might engage the learners they teach in learning for sustainability. Since the folk high school teacher students form a diverse group with varying levels of teaching experience and familiarity with sustainability issues, we chose to make the workshop based on our 'seed package' optional. The students could choose between this offer and a more basic general didactics workshop. Furthermore, we were adamant that our students be able to focus on the offered activities and engage as fully as possible. For this reason, we chose not to record, or in other ways collect, data during the teaching sessions. Instead, we focused on our own teaching design work, recording the work sessions in which we developed the 'seed package', as well as our discussions, directly after teaching.

Over the course of six months (March to September 2023), we met once a month to work on our project. In between these collaborative work sessions, we digested, pondered, explored, learned and grew. We deliberately decided to take our time to plan this learning invitation. Though our thoughts on the matter were not as clearly articulated at the beginning as they are now, we have consistently been grounded in the conviction that we must think carefully, not rush and carve deliberatively. Somewhat akin to the artist's

practice of carving, we tried to stay open to discovery – at the beginning, we sort of knew what we wanted to achieve but also knew that the carving process would gradually reveal discrepancies, particularities and potentialities for us to engage with. Our choice to go slow but with purpose (rhythmically, oscillating between thinking and learning alone and coming together to share and create) was grounded in an understanding that the currently established paradigm of modernity is fundamentally exploitative, alienating and unsustainable. Thus, as we engaged in the project, we knew that we wanted to work in a way that broke with implicit capitalist and modernistic assumptions about work, efficiency and quality.

At the time of writing, we have tried out our 'seed package' on three different occasions: first, as a pilot exercise, we tested it ourselves (Spring semester 2023), after which we ran it with two student cohorts (Fall semester 2023 and Spring semester 2024). The reactions and responses from students indicate that our careful, deliberate, theory-informed work was met with appreciation and excitement and was perceived as different from what they are used to encountering in a university context.

The 'seed package'

Figure 1 provides an overview of the seed package, including its stages and theoretical underpinnings. We put together this overview both for our own sakes – to see how theory and practice, as well as parts and whole, relate to each other – and as a handout to give to our students. The side-by-side layout makes it easy to read the design in multiple ways. Read vertically, we can follow the unfolding stages or trace the coherence in theoretical concepts across the stages. Read horizontally, we can connect each step to the theoretical concepts that inform it. We believe that putting theory and practice side-by-side in this manner renders our pedagogical work more explicit and, consequently, makes it possible to have deeper, more meaningful conversations about teaching and pedagogy than if we would have presented only one or the other. For instance, when disagreeing, it is easier to have constructive critical discussions because we can see what the base of the disagreement is – the theoretical underpinning, the activity, the translation of theory into practice, etc. Below, we unpack our seed package explaining our pedagogical ambitions for each stage and how theory has informed our design choices.

Part 1: Individually, at home

The first part in our seed package comprises two stages, as students are introduced to the topic of sustainability and asked to 'walk and think' about what this means for them. These activities are designed to be engaged in individually and at the learners' leisure in their home environment.

Stage 1: Connecting to sustainability

First, we wanted to offer our students a way to approach sustainability through something which they likely could identify with or had experienced in their own lives. As Rasmussen (2021) points out with reference to Oskar Negt, a German philosopher, emancipatory liberal education should help learners' make the connection between personal everyday experiences and broader social themes and patterns. We chose the topic of *climate change*, since it is a symptom and result of unsustainable practices of exploitation that directly affect our lives (albeit in different ways depending on geopolitical and intersectional factors). We asked the students to select and read one chapter from a

Figure 1. Overview of the seed package we designed.

Learning for sustainable futures
A seed package of teaching and learning activities

The aim of this package is to provide the seeds for a pedagogical practice informed by theoretical knowledge from the fields of *adult education research* and *sustainability education research*. The included teaching and learning activities are meant to help learners realise or gauge the responsibility and freedom that we have as persons in the world. In other words, they are meant to emancipate learners to a desire to 'actively' be in the world. On the left-hand side, we describe the teaching and learning activities. A *pathway* of sorts or *use instruction* for the seeds we have designed. You are welcome to use it yourself or draw inspiration from it. On the right-hand side, we have listed the main theoretical assumptions, concepts and key references which have informed our design choices.

Part 1 – individually, at home

Learners are presented with material that highlights some aspect of sustainability issues that is relevant to them. This could be in the form of a text, video, podcast etc. Choose carefully. If possible, offer choices, as this can increase the chance of each participant finding something meaningful for them to latch onto. E.g. a book with thematic chapters where learners are free to choose the theme that most resonates with them.

Using this material as a lens, the learner then goes on a **reflexive wandering** walk **in their surroundings** (in or around their home, workplace, school, grocery store, or any other place that is central to their life space). Ask the learner to **document their reactions and experiences** through photography (video and audio can be offered as alternatives but may be more difficult to process in the next part of the module).

Part 2 – together, on site

Learners share their discoveries and narrate their experiences aided by the documentation (what did you see?). This should be done in small groups, and it is essential that everyone is given space and time to speak without being interrupted or rushed.
Each learner then chooses one image from their portfolio and ponders: what do I dream of for this place? What could it become? What do I wish could be accommodated here? (important to anchor the imagination exercise in the world). Ask learners to **intervene in the chosen image**, i.e. edit the image by pasting stickers, drawing over it, cutting out parts, etc. This can be done digitally (e.g. on the mobile phone that the picture was taken with) or physically (i.e. on printouts of the image).
Next, **learners share their place-grounded future-oriented imaginings** by showing and narrating their creations. This is done in the same small groups as before and it is again important that the exercise is allowed to take time, so everyone may speak and be heard.
Depending on the outcome, you could now capitalise on the collective excitement to maintain momentum. How might we enact, to bring about such imaginings?

Key assumptions, concepts & sources

*Sustainability should be approached **holistically** and with recognition of **complexity**, and **dialectical relationships** (Hamilton, 2017; Lange, 2023). Tracing a theme, phenomenon or example can be a fruitful approach to highlight these aspects.*

*Meaningful learning is **anchored in the participant's lifeworld** (Millenberg, 2022); it becomes powerful when **connected to broader issues** and patterns of society (Rasmussen, 2021; von Kotze & Walters, 2023).*

*Places are pedagogical social constructs which invite certain modes of being-in-the-world and with each other. **Learning to 'read' places for unsustainable patters** of social and ecological domination is part of a **critical pedagogy of place** (Gruenewald, 2001)*

***Reflexive wandering** (Maximović, Joksimović & Utvić, 2020) to change the mode and pace of moving through space; to be in and outside at the same time.*

*When engaging with sustainability, **community** and collaboration are important (Lange, 2023). E.g. for emotional support (Gruenewald, 2003) nuance understanding (Hamilton, 2017), recognise embodied ways of knowing (von Kotze & Walters, 2023) & make democratic transitions (Arias-Maldonado, 2022).*

*Embrace pauses, silence, and gaps – **waiting** as, disruptive and generative experience (Bailey & Suddaby, 2023)*

*Sharing gives us a chance to experience and practice **conviviality** (Martinsson & Mullinari, 2023), **compassion** (Neff, 2011), **empathy** (Nichols, 2011) and **dialogue**.*

*The capacity and capability of **imagining futures** is crucial both for sustainability (Gyberg, Anshelm & Hallström, 2020) and democracy (Rasmussen, 2021) and must be practiced (Jickling & Blenkinsop, 2021).*

***Prefiguration**, i.e. thinking, behaving and being as if that which we'd like to bring about already exists – as if we were already free (Graeber, 2004, 2013). This can be seen as a **chosen margin** or liminal space (hooks, 2014/1990).*

***Collecting and sharing examples** of place-anchored future imaginations can foster community and invite **radical openness** (Gruenewald, 2003, hooks, 2010, Arias-Maldonado, 2022).*

popular science book that illustrates, in the Swedish context, how climate change impacts everyday life today and in the near future and how our social structures, consumption and everyday behaviour, in turn, affect climate patterns and the Earth system (Alestig, 2022). The book consists of a series of thematic chapters which address questions such as how extreme weather affects our health and economy, how we are managing energy supply as fossil fuels are being phased out and how we might defend democracy when the topic of climate change divides people.

Global issues such as ecological degradation and climate change 'can easily become abstractions from the immediacy of the places where we live' (Gruenewald, 2003, p. 633). Talking about incremental degree increases and kilograms of carbon emissions can render crises hard to engage with. For this reason, von Kotze and Walters (2023, p. 28) argue in favour of 'beginning with what people know from their daily lives', as such an approach is more likely to motivate us to act. At the same time, if taken alone, such a translation of unsustainability into local symptoms and effects risks rendering global power relations and exploitation invisible. This is why environmental and sustainability research in recent decades has turned to complex systems approaches, which often try to break with dichotomy and the conception of things as clearly demarcated, stable and separate, in favour of a dialectical understanding of existence. From a learning perspective, however, it can be vastly challenging to engage with such an approach. If everything hangs together in complex ways and is constantly fluctuating, where should you begin to grapple with understanding? One potential entry point to the topic, then, is to choose a phenomenon – a theme, strand or example – and trace it. Alestig's (2022) thematic chapters do just this. For example, tracing fire as a geophysical weather phenomenon which we cannot fully control, Alestig shows how human choices and actions – e.g. the capitalist structures we have put in place and an unreflected valuation of economic profit over everything else – make us particularly vulnerable to natural phenomena and exacerbate their consequences for both people and the planet. We found Alestig's book a good fit for our purpose, as it 'translates' climate change from an abstract, hard-to-engage-with concept, into the local lived context of Swedish everyday life. As such, it invites our students to think about how such phenomena connect to their everyday lives and the places they inhabit.

Another reason for choosing this particular book was *accessibility*, as we wanted to consider and remove potential barriers for learners to engage with the reading material. Written by a climate science journalist, the book is aimed at the general public and does not require expert knowledge on, for example, natural sciences or biophysical phenomena. It is available both as a physical book and in digital written and audio formats, and most libraries as well as commercial audiobook streaming services have it in stock. Though our students are generally affluent enough to purchase course literature, we do have students who lack financial security and we did not want such structural barriers to keep them from participating. Finally, we prioritised accessibility because we wanted our 'seed package' to serve as potential inspiration for our students in designing their own teaching and learning encounters with presumptive folk high school participants, who often suffer from financial insecurity or who could benefit from being able to listen rather than having to read the material.

Stage 2: Connecting to place

Anchoring learning in the participants' lifeworlds contributes to a sense of meaning and deeper engagement (Millenberg, 2023). Both conventional and critical sustainability research promote place as important to be considered when teaching (cf. Gruenewald, 2003; Lange, 2023; Lozano et al., 2022). Building on the concept of *reflexive wandering* introduced by Maksimovic et al. (2020), we encouraged the students to use 'mind and

feet in concert' (Sheridan, 2002). We asked the students to wander in a familiar place, such as their homes, commuting routes or grocery stores, while thinking on the chapter they had read. During this activity, we asked them to pay attention to their experiences – 'what do (you think) you see?' – and to document these by taking photographs or recording short video snippets.

Maksimovic et al. (2020, p. 218) present wandering as a walking practice without a specific destination – as walking *in* a place rather than *through* it – where wanderers merge with their environment, reclaiming its significance through imagination (Maksimovic et al., 2020, p. 221). Thus, wandering challenges the modernistic notions of progress and efficiency by operating at a different pace and in patterns other than what we generally experience in our everyday lives. In our seed package, wandering aims to carve out a space for *intentional deceleration* (Rosa, 2013), allowing learners to slow down enough to perceive and engage more deeply with the places they inhabit and let this experience converse with the reading material from stage 1.

We view places as not just physical locations but as profound centres of experience that shape our understanding of the world and ourselves. Our identities and possibilities are intertwined with the places we occupy, and this relationship is multidirectional, as people shape places and places shape people (Gruenewald, 2003, p. 621; see also Merleau-Ponty, 1945/2012; Relph, 1976). The type and quality of relationships, or the attention we give to places, then becomes significant from this perspective. Turning to the mind, we hoped to provoke *reflexivity* in our students – being present in a place while simultaneously viewing the experience from outside. Unlike introspection or turning inward while thinking, reflexivity requires the linking of the mind and feet and is made possible by our bodies. Bodies, then, are essential for 'experiential and affective connections with others and the environment' (Pisters et al., 2019, p. 4), and we learn *through* their physicality.

Part 2: Together, on site

Individual learning and engagement with sustainability are important but far from enough (Gyberg et al., 2020). *Community building* and *collective engagement* with such issues are paramount for many reasons, from providing *emotional support* (Gruenewald, 2003) and promoting a more *nuanced understanding* of the topic (Hamilton, 2017) to recognising *embodied ways of knowing* (von Kotze & Walters, 2023) and finding *democratic ways of moving forward* (Arias-Maldonado, 2022). In this second part of our 'seed package', we wanted the students to engage with each other – to come together by sharing their experiences and to find inspiration and see the potential for agency by imagining futures.

(Un)sustainability – especially when engaged with in relation to our own personal lives – often evokes strong emotional responses such as anxiety, insecurity and shame (Ojala et al., 2021; Pihkala, 2022). Furthermore, it is not always easy to engage constructively with emotions and enact critical pedagogies in the context of higher education. In part, this is due to organisational parameters and the physical spaces of campus and classrooms, as well as due to sociocultural aspects such as students' and teachers' implicit assumptions of what happens (and should happen) in class.

To carve out a space for critical engagement and cultivate a safe environment for vulnerable sharing, we started with a *warm-up exercise* (cf. Tilley, 2023). We chose the rose/bud/thorn prompt, which we learned from colleagues during a workshop on transformative listening (cf. Anderson Sathe et al., 2022). In essence, we asked everyone in the group to give voice to one emotion, thought or experience which they brought with

them into our shared space – something joyous or which they felt gratitude for (a 'rose'); something painful (a 'thorn') or some budding potential which is on the brink of happening and which they might view with anticipation. For the participants, the exercise leaves room to choose one's engagement, from sharing deeply affective concerns to small things such as appreciation for mundane encounters or minor irritations presently experienced. For us as educators, this helps us identify potential tensions or issues which might need to be resolved before moving on to the main activity. Last and most importantly, such exercises create presence and allow us to attune ourselves to each other, rendering us open to dialogue by seeing and hearing each other. They invite compassion and self-compassion, which help us feel connected to ourselves and others (Neff, 2011) and have been shown to be effective in promoting pro-environmental values, intentions and behaviours (Pisters et al., 2019).

Stage 3: Connecting with each other

Once warmed up and open to dialogue, we wanted the students to share and, consequently, be confronted with the emotions and embodied experiences elicited by the realization that life conditions in Sweden and the world are irreversibly changing. We asked the students to show their images and recount their reflexive wandering experiences and the discoveries they made during these experiences. This step involved acknowledging the challenges our students had been confronted with during stage 2 at home and reflecting on the practical implications of climate change for all of us present in the room.

We chose the medium of *images* as a sharing aid because images have the capacity to convey stories and can help us connect to each other by providing glimpses into each other's living spaces. Seeing someone's kitchen wall or the park they traverse on their way to work each Monday can strengthen the perception of the speaker as a whole person. Glimpsing each other's living spaces in this way also means that we are not reduced to projecting our own assumptions and imaginations onto the speaker. This can help drive home the message that, while we share in the common plight of our current planetary crises, we are not equally affected or positioned to respond. The act of sharing can thus be said to open a window or construct a bridge between lifeworlds and contribute to shaping a space of togetherness *in* the classroom which simultaneously stretches beyond the physical space of the classroom. Considering Rosa's (2013) argument that our lives are increasingly becoming disjunctive and episodic, it felt right to do something to link our classroom activities to our home environments. Here, we have included our own visual documentations as an example of what this can look like (see Figure 2).

Figure 2. The authors' photo documentations of their reflexive wanderings, shared with each other while trying out the proposed teaching and learning activities.

Diana's wondering reflections

Filippa's wondering reflections

In this stage, we *took our time*, giving each student the space they needed to tell their story and share the pictures or short videos they had recorded. We knew that this sharing process could lead to moments of silence, as students can find it difficult to speak about their experiences and emotions, and practical issues, such as how to share one's photos so that everyone in the room can see them, can arise and must be resolved. Instead of letting this stress us, we chose to embrace spontaneous moments of silence. *Waiting* is an activity and experience which can be both frustrating and productive. As a temporal experience, waiting has the potential to create 'moments where time can be "undone" and "reclaimed"' (Bailey & Suddaby, 2023, p. 1033) as a space to experience being human together rather than focusing on chronological time and rushing forward.

Waking up to the meaning and implications of the Anthropocene can be tough and can elicit multifaceted, complex reactions. Tension and conflict may, therefore, easily arise as 'the hydra-headed monster of fear, distrust, and contentiousness [rears] its head, sowing dissent in a seemingly zero-sum game' (Thomas, 2022, p. 5). The act of sharing and being vulnerable together, however, can open a space to 'sit with the trouble' and practice *conviviality*, or an ethic of care (Martinsson & Mulinari, 2023), as well as the type of *dialogue* which is central to critical adult education. From a psychological perspective, Neff (2011) shows that *compassion* and *self-compassion* help us feel connected to ourselves and others, while Nicholls (2011) argues that, pedagogically and politically, *empathy* invites us to stand with others and make the dismantling of oppression a common cause. Critically, empathy and compassion are competences which must be trained and practised, not only understood, and accepted on an intellectual level. Therefore, providing students with opportunities to practise conviviality, dialogue, empathy and compassion is essential from the perspective of education for sustainability.

A further crucial competency to train is the ability to dream or imagine possible futures that would be worth pursuing. We turn to this in the next step.

Stage 4: Connecting to sustainable futures

Societal transformation towards sustainable futures requires imagination and creativity (Glăveanu, 2017; Moore & Milkoreit, 2020; Rasmussen, 2021). Therefore, in this stage, we wanted to turn our gazes to the future and imagine sustainable alternatives. Artistic expression is a particularly powerful tool for inviting and practising creativity, not least

when developing social consciousness and imagining social change (cf. Ammentorp, 2007; von Kotze, 2019). Again, inspired by Maksimovic et al. (2020), we devised a creative activity in which we asked the students to edit one of the photographs from their reflexive wandering. We invited them to look at their chosen picture and contemplate 'What are my dreams and wishes for this place?'. We then asked them to intervene in the image of the present and change it – to draw over it, add stickers or clippings as they saw fit – so that it would represent their envisioned place-based dreams and wishes. We included our own place-anchored dreams as an example of what this can look like (see Figure 3).

Figure 3. The authors' edited photos, shared with each other while trying out the teaching and learning activities. Diana edited her image on her computer using Microsoft Paint and by inserting images found through google image search. Filippa edited her photo on her phone by using the phone's picture editing function.

| Diana's place-anchored future imagining | Filippa's place-anchored future imagining |

Encouraging the participants to imagine and wish was intended to create a space for the realisation that there exist multiple pathways forward. By *intervening in places* and *re-imagining them*, we acknowledged their socially constructed nature and inherent malleability without denying their biophysical properties. This invited hope and a willingness to change and could expand our capacity to think radically about different futures. Exploring contrasting perspectives and actively seeking out diverse ideas and influences beyond our immediate cultural contexts can also enhance our creative, imaginative capacity (Jickling & Blenkinsop, 2021).

Anchoring future imaginations in the present draws attention to the fact that all potential futures originate in the present and what is being done now (Sharpe et al., 2016). To convey this, we started with images representing existing places and encouraged the students to dream 'on top of' them. The process of aesthetic creation by building on top of an image of the place-as-is invites attention to detail and to 'step into' the place-as-it-could-be. Establishing a connection between what-is and what-could-be is important because 'imagining and enacting are paired: it doesn't do us much good to invent fantastic new worlds if we can't see ourselves … being in them' (Jickling & Blenkinsop, 2021, p. 59).

While our *capacity for imagining futures* is crucial for both sustainability (Gyberg et al., 2020) and democracy (Rasmussen, 2021), it can also be challenging. As modern subjects, we are generally not accustomed to such practices, nor to 'sitting with the trouble' and vulnerability that creative processes elicit (Pisters et al., 2019). Therefore, providing students with opportunities to practice and become accustomed to imagining

their futures is important. A further challenge is that imagination is not boundless but rather constrained by our cultural, experiential and creative histories (Jickling & Blenkinsop, 2021, p. 58). Put simply, we become imaginatively limited to the cultural and experiential realities of our lifeworlds. To move beyond these limitations, we can turn to margins and liminal places. Sought out by choice, margins can be *places of hope* (Gruenewald, 2003, p. 632) that invite a 'radical perspective from which to see and create, to imagine alternatives, new worlds' (hooks, 1990/2014, p. 150). In nature, margins, such as the border between forest and meadow, are particularly vibrant, generative places.

Stage 5: Connecting to hope and agency

In this final phase, our endeavour was, again, to come together and share – to invite a sense of a *community of resistance* (hooks, 1990/2014, p. 149). We, therefore, invited students to present and narrate their creations from stage 4. *Voicing one's dreams in front of others* can inspire a sense of empowerment and agency, while *witnessing* those of others can remind us of the differences in both our positions and circumstances and of our shared humanity. Gathering examples of place-anchored transformations in this way can also emphasise that the modernistic notion of *progress as linear, rational and inevitable* is a social construct rather than a self-evident conclusion. Since 'our arrival at this new epoch [the Anthropocene] was not foreordained' (Thomas, 2022, p. 4) and there is more than one possible way to proceed from here, sharing imaginations of potential futures can help make this plurality visible for learners. Each future imaginary dreamt on top of a present actuality also highlights the connection between present choices or actions and the actualisation of possible futures. To perceive agency, it is also helpful to gauge that the future which will become actualised, though not inevitable, nevertheless emerges from the present (Sharpe et al., 2016). Such 'future consciousness' encourages learners to perceive themselves as subjects in the world and thus as capable of acting without assuming a deterministic view of the future.

Additionally, sharing can foster *community* and *hope* – both of which are crucial prerequisites for mobilisation. In relation to sustainability Arias-Maldonado (2022, p. 162) argues that 'in order to facilitate the pivot towards the future, we need a hopeful game plan', and that, without downplaying the seriousness of the situation, we should also encourage each other towards *radical openness* (i.e. towards perceiving the present 'as an opportunity to build a better future for human societies'). Such critical engagement is difficult yet necessary (Gruenewald, 2003; hooks, 2010) and requires room for collaboration (Lange, 2023, p. 223). Echoing hooks (1990/2014), Gruenewald argues that the proponents of sustainability need allies and *communities of resistance* to persist in the prevailing unsustainable system. As educators, we think that we are well-positioned to carve such *homeplaces.*

Teaching for sustainable futures: Take-aways and challenges

In this article, we showed how adult educators can draw on adult education theory to design teaching that *carves out a space for deep, personal and meaningful engagement with sustainability.* Drawing on theory to design teaching is important as it allows educators to gauge the complexity of teaching and make deliberate choices. By drawing on theory, we can argue on how activities that emancipate students to critical awareness and engaged citizenship need to be designed (Gouthro, 2019). At the same time, theory and seed packages like the one we have outlined here are not enough to support the type of education we need. Teaching is also a practice; it means being immersed in the world

and in relationships with others, and therefore, also requires a *capacity for imagination* and *practical wisdom* (Tyson, 2016).

Since unsustainability is intertwined with conceptualisations of time and pace (Rosa, 2013), we believe that adult educators must pay particular attention to these dimensions both in relation to teaching preparation and to the temporalities of students' learning experiences (Berg & Seeber, 2016; Swirski & Simpson, 2012). A key feature of our work was *paying attention to time* – making time and taking the time to think on what our students' most pressing needs might be; to read and reflect on the great challenges of our present and how they might be tackled and to meet, talk about and create activities which are worth the effort – both for us to spend time on carving and for our students to engage with. Our commitment to slowing down and taking time should, however, not be read as an endorsement of slowness as an antidote to modernity and unsustainability. As Rosa (2013) and Vostal (2019) point out, slowing down can be used to serve capitalism and the project of modernity if commodified, as in the case of relaxing retreats aimed at allowing us to accelerate more effectively after the break. Furthermore, while slowness can be radical, it is also a defining feature of parochialism and other oppressive political projects (Vostal, 2019). Even on an individual, experiential level, it would be highly excluding to assume that slow is (always) more enjoyable or conductive to learning than fast, or that the pace at which exploitation and unsustainability affect us is the same for everyone everywhere (Thomas, 2022). In short, neither acceleration nor slowdown is implicitly desirable. Instead, their necessity should be interrogated as a contextually framed question of fit. In our teaching design, we chose to provide learners with opportunities to slow down not as an end goal but rather as a necessary prerequisite for thinking and relinking, having identified speed as a barrier to this for our learners.

In this article, we argue that teaching for sustainable futures requires us to *pay attention to place.* As adult educators engaged in academic settings, we also have to consider how higher education contributes (or could and should contribute) to the production of (un)sustainable places and (un)just power relationships. To teach for sustainable futures, educators in university contexts must seek to emancipate students to a critical awareness of place, in the sense of 'learning to listen to what places are telling us – and to respond as informed, engaged citizens' (Gruenewald, 2003, p. 645). To facilitate and encourage such connections, we think it is necessary to *move education outside* – outside the classroom, the campus, the semester, the timetable and our comfort zones. Such re-location, re-rooting and re-pacing can help un-fragment our episodic existence and create meaningful connections between and within the places we inhabit, with the people we share our spaces with, with ourselves and with issues and values worth our attention. It can also help us bring attention to gaps and invite engagement with margins and transitory places to develop our imagination and expand our horizons.

We recognise that this is an ambitious project. As with any creative work, we encountered moments of hesitation, uncertainty and setbacks, as well as sparks of clarity and inspiration. We read research from (for us) foreign academic fields and engaged with new theories, discussing and trying them out to see if they would fit together and whether they could contribute to furthering our project. Working together allowed us to engage in dialogue and act as critical friends. We compared and shared our own previous teaching experiences and drew on these to think together about what activities would be appropriate and engaging for our students. We considered how our teaching offer might be received by potential students, what could go wrong or what 'failure' might look like and how we would like to respond if any of these scenarios arose during teaching. These conversations were both stimulating and challenging. While we believe that our collaborative approach to designing teaching activities resulted in a high-quality 'seed

package', we also acknowledge that no teaching is perfect and that what worked for us (this time) will not necessarily be successful in other situations. Learning is a lived process that is co-experienced by those involved, embedded in place, entangled and messy. As educators, we see it as our role to carve out spaces that invite learners to grow in directions that are emancipatory and liberating. Whether such learning actually occurs is another question. Learners will engage, perceive and experience such spaces in various ways, depending, for example, on who they are, how they are situated and what their own learning agendas are. The 'seed package' we present here will work better for some learners than others and might not be a good fit for adult learners in other contexts.

Both design teaching for sustainable futures and writing about it theoretically are challenging. In our work, we brought in strands from environmental research, sociology, pedagogy, political science and art and tried to put theory and practice in conversation with each other. Writing this article, we had to balance comprehensiveness and complexity and could, therefore, not delve deeply into any single aspect. Nevertheless, we tried to stay true to our understanding of sustainability as both hyper-complex and essential. Additionally, we recognise that the academic institutions we are embedded in, as well as the stories and language which surround us in our everyday lives, stifle and limit our imaginaries. To counter the hegemonies of our own contexts, we carefully considered our own *modes of engagement* with time, place and meaningfulness and how these shape our work, as we know that imaginative capacity *can* be expanded and agency *is* possible. We adopted small practices such as checking in with each other regularly to make sure we were staying mindful of what mattered to us, to support each other through tough days and to remind each other to stay patient and work deliberatively while focusing on meaningful work.

Concluding thoughts

Responding to the wicked unsustainability of the present requires new thinking in terms of both scale and modality. The growing awareness of our current situation challenges established world views such as those promoted by modernity. The required paradigmatic shifts can either be dreaded or embraced as an opportunity to dream seriously and work towards better, more liveable futures. Here, we tried to show how adult educators can use theory to reimagine education beyond the confines of modernity, creating space for the participants to feel more deeply connected to knowledge, values, people and the planet.

As we navigate this 'era of awakening', we have the responsibility to act (Arias-Maldonado, 2022). Despite the seriousness of the socioecological crisis, all is not yet lost. Reviewing scholarly literature on sustainability transformations and the democracy–environment nexus published between 2011 and 2021, Pickering et al. (2022) find substantial evidence that societal transformation for sustainable futures can be achieved through democratic processes and citizen engagement. This presents us with an ethical imperative to act. Universities cannot exempt themselves from this duty. As academics, adult educators and human beings alive today, it is our responsibility to both sit with the trouble and be hopeful, creative and brave.

Notes

1   We would like to extend our gratitude to Silke Schreiber-Barsch and the two anonymous reviewers for their thorough and helpful comments on this submission.

2   Sustainability is a slippery concept that can mean many things – from business as usual with an added care for the environment to a paradigmatically different way of seeing and being in the world,

where social and ecological justice are foundational (cf Engelman, 2013; Lange, 2023). We define sustainability as liveability or a commitment to sustaining life on Earth (including human life) indefinitely (Lange, 2023).

3   Folk high schools are one of several adult education institutions in the Swedish context. Originating in social movements in the 19th century, they skirt the line of formal and independent education. Further, this adult education institution encompasses a high level of diversity both pedagogically and content wise (cf. Lövgren & Nordvall, 2017). Adult participants can enrol in compensatory basic level programmes and/or a broad range of specialised civic, arts and vocational courses. Some folk-high schools are in rural areas and offer lodging, while others operate in urban locations. While there is a strong Bildung and democracy ethos in the Swedish folk high school context, this institution also includes prestigious, highly selective art programmes.

4   We chose the term 'seed package' to refer to the education offer we designed. Metaphorically the term suggests that this is a cohesive collection of instructions designed to support a specific pedagogical agenda – a package – but that it also must be translated and adapted depending on the context. Further, we chose this metaphor to convey that this is an example of a starting point rather than the full 'solution' to carving out a space for emancipation and learning for sustainable futures.

Declaration of conflicting interests

The authors declare no potential conflicts of interest with respect to the research, authorship or publication of this article.

References

Alestig, P. (2022). *Världen som väntar: Vårt liv i klimatförändringarnas Sverige [The world that awaits us: Our lives in a climate changed Sweden]*. Mondial.

Ammentorp, L. (2007). Imagining social change: Developing social consciousness in an arts-based pedagogy. *Outlines. Critical Practice Studies*, *9*(1), 38-52. https://doi.org/10.7146/ocps.v9i1.2085

Anderson Sathe, L., Zakrzewski, T. C., Longmore, A.-L., Romano, A., Kramlich, D., Brunstein, J., Cunliff, E., & Marsick, V. J. (2022). Listening for Transformation: Discovering Third Space and Connection Using a Listening Protocol. In A. Nicolaides, S. Eschenbacher, P. T. Buergelt, Y. Gilpin-Jackson, M. Welch, & M. Misawa (Eds.), *The Palgrave Handbook of Learning for Transformation* (pp. 429-445). Springer.

Angus, I. (2016). *Facing the Anthropocene: Fossil capitalism and the crisis of the earth system*. Monthly Review Press.

Arias-Maldonado, M. (2022). Politics in the Anthropocene. In J. A. Thomas (Ed.), *Altered Earth: Getting the Anthropocene right* (pp. 160-181). Cambridge University Press.

Bailey, C., & Suddaby, R. (2023). When Time Falls Apart: Re-centring human time in organisations through the lived experience of waiting. *Organization Studies*, *44*(7), 1033-1053. https://doi.org/10.1177/01708406231166807

Berg, M., & Seeber, B. K. (2016). *The slow professor: Challenging the culture of speed in the academy*. University of Toronto Press.

Bianchi, G., Pisiotis, U., & Cabrera Giraldez, M. (2022). *GreenComp – The European sustainability competence framework* (EUR 30955 EN). European Commission.

Chakrabarty, D. (2022). Planetary Humanities: Straddling the Decolonial/Postcolonial Divide. *Daedalus*, *151*(3), 222-233. https://doi.org/10.1162/daed_a_01940

Cowie, R. H., Bouchet, P., & Fontaine, B. (2022). The Sixth Mass Extinction: fact, fiction or speculation? *Biological Reviews*, *97*(2), 640-663. https://doi.org/https://doi.org/10.1111/brv.12816

Engelman, R. (2013). Beyond Sustainababble. In *State of the world 2013: Is sustainability still possible?* (pp. 3-16). Island Press. https://doi.org/10.5822/978-1-61091-458-1_1

Galaz, V., & Collste, D. (Eds.). (2022). *Economy and Finance for a Just Future on a Thriving Planet. Report for Stockholm+50.* Beijer Institute of Ecological Economics (Royal Swedish Academy of Sciences) and the Stockholm Resilience Centre (Stockholm University). https://doi.org/10.17045/sthlmuni.19792957

Glăveanu, V. P. (2017). Art and Social Change: The Role of Creativity and Wonder. In S. H. Awad & B. Wagoner (Eds.), *Street Art of Resistance* (pp. 19-37). Springer International Publishing. https://doi.org/10.1007/978-3-319-63330-5_2

Gouthro, P. A. (2019). Taking Time to Learn: The Importance of Theory for Adult Education. *Adult Education Quarterly*, *69*(1), 60-76. https://doi.org/10.1177/0741713618815656

Graeber, D., & Wengrow, D. (2021). *The dawn of everything: A new history of humanity*. Penguin UK.

Grauer, C., Fischer, D., & Frank, P. (2022). Time and sustainability: A missing link in formal education curricula. *The Journal of Environmental Education*, *53*(1), 22-41. https://doi.org/10.1080/00958964.2021.2009429

Gruenewald, D. A. (2003). Foundations of Place: A Multidisciplinary Framework for Place-Conscious Education. *American Educational Research Journal*, *40*(3), 619-654. https://doi.org/10.3102/00028312040003619

Gupta, J., Liverman, D., Prodani, K., Aldunce, P., Bai, X., Broadgate, W., Ciobanu, D., Gifford, L., Gordon, C., Hurlbet, M., Inoue, C. Y. A., Jacobson, L., Kanie, N., Lade, S. J., Lenton, T. M., Obura, D., Okereke, C., Otto, I. M., Pereira, L., . . . Verburg, P. H. (2023). Earth system justice needed to identify and live within Earth system boundaries. *Nature Sustainability*, *6*(6), 630-638. https://doi.org/10.1038/s41893-023-01064-1

Gyberg, P., Anshelm, J., & Hallström, J. (2020). Making the Unsustainable Sustainable: How Swedish Secondary School Teachers Deal with Sustainable Development in Their Teaching. *Sustainability*, *12*(19), 8271. https://doi.org/10.3390/su12198271

Hamilton, C. (2017). *Defiant Earth: The fate of humans in the Anthropocene*. Polity Press.

Hertz, N. (2020). *"The" Lonely Century: Coming Together in a World That's Pulling Apart*. Sceptre.

hooks, b. (2010). *Teaching critical thinking: practical wisdom*. Routledge.

hooks, b. (2014). *Yearning: Race, gender, and cultural politics*. Routledge. (Original work published 1990). https://doi.org/10.4324/9781315743110

Jickling, B., & Blenkinsop, S. (2021). Wild pedagogies and the promise of a different education: Challenges to change. In D. Wright & S. B. Hill (Eds.), *Social ecology and education: Transforming worldviews and practices* (pp. 55-64). Routledge.

Lange, E. A. (2023). *Transformative sustainability education: Reimagining our future*. Taylor & Francis.

Lozano, R., Barreiro-Gen, M., Pietikäinen, J., Gago-Cortes, C., Favi, C., Jimenez Munguia, M. T., Monus, F., Simão, J., Benayas, J., Desha, C., Bostanci, S., Djekic, I., Moneva, J. M., Sáenz, O., Awuzie, B., & Gladysz, B. (2022). Adopting sustainability competence-based education in academic disciplines: Insights from 13 higher education institutions. *Sustainable Development*, *30*(4), 620-635. https://doi.org/10.1002/sd.2253

Lövgren, J., & Nordvall, H. (2017). A short introduction to research on the Nordic folk high schools. *Nordic Studies in Education*, *37*(2), 61-66. http://doi.org/10.18261/issn.1891-5949-2017-02-01

Maksimovic, M., Joksimović, J., & Utvić, M. (2020). Haptic Exploration of Urban Belgrade—Uniting Female Gazes through the Project Wa(o)ndering Women. *Revista Educação, Artes e Inclusão*, *16*(4), 216-241. http://doi.org/10.5965/1984317781642020216

Martinsson, L., & Mulinari, D. (Eds.). (2023). *Feminism och konvivialitet: Samexistens, oenighet, hopp [Feminism and convivilaity: Coexistance, dissagreement, hope]*. Gleerups.

Merleau-Ponty, M. (2012). *Phenomenology of Perception* (D. Landes, Trans.). Routledge. (Original work published 1945)

Millenberg, F. (2023). *Att mötas på folkhögskola: En studie om folkhögskollärares pedagogiska hållning [Encounters in folk high school: A study on folk high school teachers' pedagogical stance]* (Publication No. 250) [Doctoral dissertation, Linköping University]. Linköping University Electronic Press. https://doi.org/10.3384/9789180750547

Millican, R. (2022). A rounder sense of purpose: Competences for educators in search of transformation. In P. Vare, N. Lausselet, & M. Rieckmann (Eds.), *Competences in education for sustainable development : Critical perspectives* (pp. 35-43). Springer International Publishing AG. https://doi.org/10.1007/978-3-030-91055-6_5

Moore, M.-L., & Milkoreit, M. (2020). Imagination and transformations to sustainable and just futures. *Elementa: Science of the Anthropocene*, *8*(1). https://doi.org/10.1525/elementa.2020.081

Nagoski, E., & Nagoski, A. (2020). *Burnout: The secret to unlocking the stress cycle*. Ballantine Books.

Neff, K. D. (2011). Self-Compassion, Self-Esteem, and Well-Being. *Social and Personality Psychology Compass*, *5*(1), 1-12. https://doi.org/10.1111/j.1751-9004.2010.00330.x

Nicholls, T. (2011). Pedagogy of the Privileged. *The CLR James Journal*, *17*(1), 10-36. https://doi.org/10.5840/clrjames20111713

Ojala, M., Cunsolo, A., Ogunbode, C. A., & Middleton, J. (2021). Anxiety, Worry, and Grief in a Time of Environmental and Climate Crisis: A Narrative Review. *Annual Review of Environment and Resources*, *46*(1), 35-58. https://doi.org/10.1146/annurev-environ-012220-022716

Pickering, J., Hickmann, T., Bäckstrand, K., Kalfagianni, A., Bloomfield, M., Mert, A., Ransan-Cooper, H., & Lo, A. Y. (2022). Democratising sustainability transformations: Assessing the

transformative potential of democratic practices in environmental governance. *Earth System Governance*, *11*, Article 100131. https://doi.org/https://doi.org/10.1016/j.esg.2021.100131

Pihkala, P. (2022). Toward a Taxonomy of Climate Emotions [Original Research]. *Frontiers in Climate*, *3*. https://doi.org/10.3389/fclim.2021.738154

Pisters, S. R., Vihinen, H., & Figueiredo, E. (2019). Place based transformative learning: a framework to explore consciousness in sustainability initiatives. *Emotion, Space and Society*, *32*, Article 100578. https://doi.org/10.1016/j.emospa.2019.04.007

Rasmussen, P. (2021). Public Reason, Adult Education and Social Imagination. *European Journal for Research on the Education and Learning of Adults*, *12*(1), 15-29. https://doi.org/10.3384/rela.2000-7426.ojs3465

Rau, H. (2015). Time Use and Resource Consumption. In J. D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences* (2nd ed., pp. 373-378). Elsevier. https://doi.org/10.1016/B978-0-08-097086-8.91090-0

Relph, E. (1976). *Place and placelessness*. Pion.

Richardson, K., Steffen, W., Lucht, W., Bendtsen, J., Cornell, S. E., Donges, J. F., Drüke, M., Fetzer, I., Bala, G., von Bloh, W., Feulner, G., Fiedler, S., Gerten, D., Gleeson, T., Hofmann, M., Huiskamp, W., Kummu, M., Mohan, C., Nogués-Bravo, . . . Rockström, J. (2023). Earth beyond six of nine planetary boundaries. *Science Advances*, *9*(37). https://doi.org/doi:10.1126/sciadv.adh2458

Rosa, H. (2013). *Social acceleration: A new theory of modernity*. Columbia University Press.

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

Sharpe, B., Hodgson, A., Leicester, G., Lyon, A., & Fazey, I. (2016). Three horizons: a pathways practice for transformation. *Ecology and Society*, *21*(2), Article 47. https://doi.org/10.5751/ES-08388-210247

Sheridan, J. (2002). My name is Walker: An environmental resistance exodus. *Canadian Journal of Environmental Education (CJEE)*, *7*(2), 193-206.

Smetschka, B., Gaube, V., & Mader, K. (2023). Time to care—Care for time—How spending more time for care than consumption helps to mitigate climate change. *Frontiers in Sustainability*, *4*. https://doi.org/10.3389/frsus.2023.1070253

Stein, S., Andreotti, V., Suša, R., Ahenakew, C., & Čajková, T. (2022). From "education for sustainable development" to "education for the end of the world as we know it". *Educational Philosophy and Theory*, *54*(3), 274-287. https://doi.org/10.1080/00131857.2020.1835646

Swillens, V., Decuypere, M., Vandenabeele, J., & Vlieghe, J. (2023). Towards a post-humanist design for educational inclusion: Proposing a study pedagogy for litter polluted critical zones. *European Journal for Research on the Education and Learning of Adults*, *14*(3), 379-395. https://doi.org/10.3384/rela.2000-7426.4660

Swirski, T., & Simpson, M. (2012). Re-imagining work-integrated learning through slow innovation in higher education. *Asia-Pacific Journal of Cooperative Education*, *13*(4), 239-253.

Thomas, J. A. (2022). Introduction: The growing Anthropocene consensus. In J. A. Thomas (Ed.), *Altered Earth: Getting the Anthropocene right* (pp. 1-20). Cambridge University Press. https://doi.org/10.1017/9781009042369

Tilley, E. (2023). "Laughter that Shatters": Improve Techniques for Social Justice Comedy Playwriting. In H. Haft Bucs & C. Menefee (Eds.), *Embodied Playwriting: Improv and Acting Exercises for Writing and Devising* (pp. 143-159). Routledge.

Tyson, R. (2016). Pedagogical imagination and practical wisdom: The role of success-narratives in teacher education and professional development. *Reflective Practice*, *17*(4), 456-471. https://doi.org/10.1080/14623943.2016.1172479

von Kotze, A. (2019). Making beauty necessary and necessity beautiful. *European Journal for Research on the Education and Learning of Adults*, *10*(2), 171-184. https://doi.org/10.3384/rela.2000-7426.RELA9143

von Kotze, A., & Walters, S. (2023). Taking risks: Exploring ecofeminist, climate-just popular education. *European Journal for Research on the Education and Learning of Adults*, *14*(1), 17-33. https://doi.org/10.3384/rela.2000-7426.4324

Vostal, F. (2019). Slowing down modernity: A critique. *Time & Society*, *28*(3), 1039-1060. https://doi.org/10.1177/0961463x17702163

Walsh, Z., Böhme, J., Lavelle, B. D., & Wamsler, C. (2020). Transformative education: towards a relational, justice-oriented approach to sustainability. *International Journal of Sustainability in Higher Education*, *21*(7), 1587-1606. https://doi.org/10.1108/IJSHE-05-2020-0176