

# Bridging Local Concerns and Systemic Change: A Design-Based Approach to Transformative Climate Education

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## Abstract

This article presents the initial research and development phases of a transformative climate education program for adults in a semi-rural community on southern Vancouver Island. Using design-based research (DBR), we developed a workshop series informed by adult and lifelong education (ALE), transformative learning, and the theoretical frameworks of the Gesturing Towards Decolonial Futures Collective and its members, including Vanessa Machado de Oliveira. Our research began with a community needs assessment ( $n = 183$ ), identifying key concerns such as affordability, climate anxiety, and social cohesion. We articulate six design principles emerging from these insights, which highlight the importance of pedagogical entry points, the role of worldview transformation, and the integration of localized climate solutions with broader systemic critiques.

This study contributes to climate education by offering a model that moves beyond information dissemination, and instead cultivates critical, justice-oriented engagement with climate action in ways that are both locally relevant and globally situated.

*Keywords:* adult learning, transformative climate education, colonial modernity, design-based research

## Résumé

Cet article présente les premières phases de recherche et de développement d'un programme d'éducation climatique transformatrice destiné aux adultes dans une communauté semi-rurale du sud de l'île de Vancouver. En utilisant une approche de recherche fondée sur la conception (*design-based research* [DBR]), nous avons développé une série d'ateliers inspirés de l'éducation des adultes et de l'éducation permanente (*adult and lifelong education* [ALE]), de l'apprentissage transformateur et des cadres théoriques du collectif *Gesturing Towards Decolonial Futures* et de Vanessa Machado de Oliveira (2022). Notre recherche a commencé par une évaluation des besoins communautaires ( $n = 183$ ), identifiant des préoccupations majeures, comme l'accessibilité financière, l'écoanxiété et la cohésion sociale. Nous formulons six principes de conception issus de ces résultats, soulignant l'importance des points d'entrée pédagogiques, du rôle de la transformation des visions du monde et de l'intégration de solutions climatiques locales dans une critique systémique plus large. Cette étude contribue à l'éducation climatique en proposant un modèle qui dépasse la simple diffusion d'informations et favorise plutôt un engagement critique et axé sur la justice en matière d'action climatique, à la fois pertinent à l'échelle locale et inscrit dans un contexte global.

*Mots-clés:* apprentissage des adultes, éducation climatique transformatrice, modernité coloniale, recherche fondée sur la conception

## Introduction

Anthropogenic climate change is occurring at a nearly incomprehensible scale, arguably impacting all living systems on this planet (Intergovernmental Panel on Climate Change, 2022; National Oceanic and Atmospheric Administration, n.d.). For many, the consequent sense that the problem is too big, or in some ways too abstract, to meaningfully impact is a significant barrier to climate action (Mayer & Smith, 2018). Indeed, climate inaction is often exacerbated by the overwhelming scale at which climate change is framed—global crises, planetary tipping points, and systemic failures that can leave individuals feeling powerless (Mayer & Smith, 2018). However, research shows that shifting focus from an overwhelming global scale of effect to a more local, lived scale offers both hope and opportunity for action for individuals and communities (Ballard & Bratosin, 2024; Marschütz et al., 2020).

For this study, in line with this focus on the local as a pathway for climate action, we designed a place-based climate education program for adults in a semi-rural community on southern Vancouver Island. Informed by design-based research approaches, our goal was not just to help participants feel empowered to take climate action in the community, but to also help them understand the connections between climate change, power, and injustice, particularly as a function of the dominant colonial worldview in the West. The design of the program draws on established principles of adult and lifelong education (ALE) and transformative learning and is theoretically informed by the work of the Gesturing Towards Decolonial Futures Collective, and in particular the work of Vanessa Machado de Oliveira, as well as relational systems thinking. By using these frameworks, we aimed to create education that empowered people at the local level while situating them and their community within larger sociocultural systems and ways of being and knowing, which themselves are antecedent to climate change.

As part of a multiphase study, this article outlines one stage of a design-based research project on semi-rural climate education. This article's contribution is to highlight the theoretical frameworks and methodology used to develop design principles intended to cultivate and support relational, justice-oriented approaches to climate education specific to their communities. Our transformative approach was oriented toward challenging dominant narratives that frame climate change as a solely technical problem requiring policy and technological fixes. Instead, we argue that meaningful climate action necessi-

tates reimagining human relationships with land, community, and responsibility, and that confronting colonial modernity is part of this process. This is, in part, what we mean by a relationality approach.

Thus, we draw on Machado de Oliveira's concept of the "House of Modernity," to emphasize the need for critical reflection on how dominant worldviews shape climate responses and how this can be parlayed into local climate action. The first section of the article outlines the theoretical framework of the project. From there we describe our methods and the process behind developing the design principles, which emerge out of identifying pedagogical entry points for climate education workshops aligned with evidence-based adult learning practices. We conclude with reflections on how this work contributes to the broader field of climate education, emphasizing the need for pedagogies that not only support adaptation and mitigation but also foster the conditions for regenerative, life-affirming futures.

## **Background**

In previous decades, climate and environmental educators tended toward "simplistic, mechanistic, or deterministic assumptions" (González-Gaudiano & Meira-Cardesa, 2010, p. 15). For many years the goal of environmental education was to teach learners valid scientific information under the assumption that this would lead to attitude, value, and behaviour change. Such education relies on an information deficit model of behaviour change, which takes inaction as a function of lack of knowledge.

Extensive work in the growing and complex field of climate communication, however, highlights how commonly the "right" information is not enough to motivate behaviour change and action. Such a belief is itself premised on a rational choice worldview, which sees humans as entirely rational beings who make choices based entirely on logic. What research in health behaviour and health communication shows is that behaviour change is much more complex and the decisions we make often rely on heuristics, including heuristics based on identity and emotion, which have very little to do with reason ("How the information deficit model," 2018). This is why, for example, information about the scientific research on vaccines can have little impact on vaccine-hesitant people, as their concerns are not always rooted in science or the lack of certain types of information.

It is within this broader context that we can consider the tasks of climate education today, including the goals of preparing existing generations to meet future challenges, in relation to climate change and climate action. Ostensibly, climate education is essential for a future in which complex life continues, given that it is a prevailing present and future challenge. However, as Sterling (2024) explains, “conventional education systems perpetuate prevailing development models dependent on limitless production and consumption and the exploitation of human beings and the planet” (p. 35). The current educational paradigm is simply,

a sub-paradigm of the overall or meta-cultural paradigm shared in Western and Westernized society, [which] is the root of the polycrisis, and lastly, that this coupling between cultural and educational paradigms over time means that mainstream education is largely maladapted for the kind of world we inhabit and the world which lies ahead. (Sterling, 2024 p. 34)

Transforming education to be “fit-for-purpose” has led to dialogue around transforming, rethinking, and reimagining education, even at the international level, which calls for “a new social contract for education” (UNESCO, 2021, p. 2). There is still some way to go on this front, though transformation of climate education is happening.

Still, the context for such work is complex and sensitive. Climate education is a fraught and complex endeavour shaped by this civilizational transition moment and its polydimensionality, meaning it is not only about responding to climate change. Indeed, it is more accurately understood as part of the broader polycrisis—an overarching, systemic crisis in which interconnected failures across Earth’s essential natural and social systems compound, diminishing the long-term prospects for humanity (Lawrence et al., 2024). While it appears to call for urgent transformative action and citizen mobilization, this approach ultimately demands the broad dismantling of the dominant global system—one characterized by intertwined structures of modernity, colonialism, capitalism, and patriarchy (Kothari, 2019, as cited in Lange, 2023). Such a process will take time, and requires the space for people to engage in learning and unlearning through deep, transformative, and difficult ways.

## Theoretical Frameworks

### The House of Modernity and Climate Change

In the context of the polycrisis, to develop a climate education program that meaningfully engages with the local while recognizing the broader sociocultural forces shaping climate inaction, we turn to theoretical frameworks that interrogate and challenge the dominant worldviews underpinning the crisis. Indeed, climate change is not only a technical or environmental problem but also a deeply embedded sociocultural and epistemic one, shaped by histories of colonialism, capitalism, and modernity. Thus, effective climate education must engage critically with these structures, helping learners recognize how inherited ways of being and thinking sustain ecological destruction and social injustice.

In this section, we outline the key theoretical foundations that informed our approach, drawing on the work of the Gesturing Towards Decolonial Futures Collective and its member Vanessa Machado de Oliveira. Their concept of the House of Modernity provides a useful framework for understanding how dominant Western worldviews structure responses to climate change, often reinforcing the very logics that created the crisis. By engaging with these ideas, we aim to support learners in questioning, unlearning, and reimagining their relationships to climate action and responsibility in a way that is relevant to their community and actionable at the local scale.

What is the House of Modernity? Stein et al. (2017) explain that it

sits on a foundation of separability, which enables the production of categories and modes of valuation and measurement that divide, separate, and create the world as we know it inside the house, thereby foreclosing other possibilities (da Silva, 2014). The structure of the house is further formed by the load-bearing walls of Enlightenment humanism and the nation-state, and a roof of global capital. (p. 75)

Through these separations and divisions, the House of Modernity creates disconnection, which produces categories of difference to sustain hierarchies of power, and then violently exploits these hierarchies in the name of profit. That is, through capitalism (and especially industrialization and extractivism), which is fundamentally disconnective, it benefits those at the top of the hierarchy of difference. Importantly, the violence of the

house's production is externalized to its outside and all those who remain outside, though this externality and separability is in fact an illusion, and the violence and destruction actually bleeds across boundaries. This is becoming increasingly apparent through catastrophic climate events that know no artificially created boundary.

Still, if you are inside the house, there is some degree of privilege and protection, which varies according to social location (e.g., cis-hetero, White elite men), and also provides a sense of security and entitlement despite the ultimately false nature of that security, which is at once further evident in the instability of the capitalist economy, for example. To develop design principles for more holistic and even decolonial climate education, or climate education that takes the broader historical and contemporary colonial modern context in hand, means bearing in mind these larger structures and making them central themes for learners to entangle themselves with. This is, in part, what the notion of "hospicing" is meant to capture: the work of transitioning and allowing something to die that is ready and needing to go.

### **Adult Education and the Need for Pedagogical Entry Points**

The other key framework we use is an evidence-based orientation to adult and lifelong education (ALE), which is generally considered non-formal education. Non-formal education is organized but non-credentialed learning opportunities, including programs for professional development, development of family or self, continuing education, community education, recreation or health, etc. In contrast to K–12 and higher education, adult education typically starts from different premises: that adults come with a tremendous amount of life experience and previous education; that they are more self-directed and internally motivated with specific educational goals; that they come ready to learn, usually with a problem to solve; and that learners have often been "wounded" by their experiences in formal education (Olson, 2009). The goal of adult and lifelong education is to not engage in pedagogy that mimics schooling, but instead which helps move adults from "teacher dependency" and imposter syndrome to self-directed learning and critical, autonomous thinking (Spencer & Lange, 2014).

Given this understanding, identifying pedagogical entry points—places to start with adult learners—is vital to adult and lifelong learning, so that learning is oriented toward solving a relevant problem or meeting an immediate need. This both attracts par-

ticipants and keeps them attending and motivated, as well as offers a pathway for adults toward resolving what is top of mind for them. These entry points can be either unique lived challenges for individuals in a city or region, or the current questions and timely concerns in potential learner minds.

When adult educators seek to find pedagogical entry points, this means finding pathways into the established concerns and interests of adults, recognizing that they are not empty vessels but wish to be self-directing, gain something of value from the educative experience, and enhance their daily living and working. This can be done in a variety of ways, including what Shor (1992) calls problem-posing with learners to find generative themes, which are “found in the unsettled intersections of personal life and society” (p. 55). Two other forms of problem-posing are topical themes, which ask an intriguing social question of current importance, or academic themes, which ask an intriguing question from the course content and the disciplinary body of knowledge. As Lange (2024) suggests, the goal is to co-create a curriculum that is both responsive and relevant to learners. Typically, once a constellation of concerns is identified for a group of learners, a pedagogy can develop from these starting points, slowly connecting to the workshop content.

In moving away from the behaviourism of the early 20th century, transformative learning became the dominant concept in the adult education field from the 1970s onward. Rather than living according to inherited and schooled beliefs and attitudes, transformative learning is a process of engaging adults in questioning the assumptions undergirding their perspectives, beliefs, and behaviours to develop more self-reflective, autonomous, socially responsible thinking (Mezirow, 1991). The transformative process is coming to understand one’s framework of thinking, not just the content of one’s thoughts. For this study, we were attempting to challenge the hegemonic assumptions of colonial, extractivist societies based on modernist notions of separation and mechanism.

## **Methodology: Small-Town Climate Education**

### **Design-Based Research**

Given our goal to develop transformative climate education appropriate for the specific community under study, we used design-based research (DBR) methods, sometimes called education design research (EDR). Whether called DBR or EDR, this is a research

process meant to address specific issues or problems in a group or community (Merrill, 2002; Wang & Hannafin, 2005). A problem is identified, often through a community need, studied through various means, and solutions are proposed, designed, and piloted by researchers, with the goal to evaluate and iterate until they are fit for purpose. Often, such research results in guiding or design principles, which can then be applied by others working on similar issues. It differs from participatory action research (PAR) in that PAR is more collaborative in the design stage of the research, in which participants become co-creators of knowledge (Cornish et al., 2023). In DBR, participants are involved as part of a study but do not actually design interventions. Instead, they are given opportunities to offer feedback for the iterative development of any intervention, such as in a pre-/post-evaluation of any intervention.

This approach aligns with the principles of adult learning, particularly in recognizing the expertise held by community members and municipal staff. Adult learners bring prior knowledge, clear goals, and lived experiences that inform the design process—elements crucial to ensuring that educational interventions are relevant and effective. Their engagement in iterative refinement supports self-directed learning and problem solving in real-world contexts, which are hallmarks of adult learning education.

At the same time, DBR's orientation around "problem solving" must be considered in relation to the House of Modernity framework. While DBR's iterative and participatory nature holds the potential to disrupt the rigid hierarchies of modernity—particularly in how it values situated knowledge and co-developed interventions—it also carries an embedded tension. The work of the Gesturing Towards Decolonial Futures Collective and its members critiques solutionism, emphasizing instead the importance of questioning, unsettling, and experimenting with alternatives rather than seeking definitive resolutions (Machado de Oliveira, 2022).

In this study, we attempted to navigate this tension by approaching DBR not merely as a means to solve specific problems, but as a way to engage with complexity, fostering reflexivity and adaptability within the learning process. Rather than presenting fixed solutions, we sought to create learning opportunities that could evolve alongside the community's needs. We approached the municipality staff with a shared interest in facilitating climate action in the community, partially in response to the development of the town's climate action plan, which was developed after decades of ongoing citizen concern and with input from three annual volunteer citizen committees. The plan itself

was structured holistically around transforming how the community moves, grows, leads, and relates (District of Sooke, 2022). Key climate actions pertain to the local challenges of a dramatically growing community amidst a housing crisis and the 70% of residents who commute daily into a nearby city for work. Thus, the two pivotal actions for reducing citizen emissions were identified by the municipality as reducing fossil fuel transportation and working toward zero-emission buildings. The municipality, which at the time lacked the capacity for additional community outreach and education on climate change, agreed to support our work. By integrating DBR within this context, our work aimed to not only facilitate climate action education but also engage with the broader complexities and systemic constraints shaping the community's response to climate change.

### **Context and Community Needs Assessment**

Understanding context is key to develop effective interventions in DBR, as solutions are initially intended to be specific to particular problems under study. The context for this research is a community situated in the abundant Coast Salish territories in the Pacific Northwest of Canada. First Nations here, including the T'Sou-ke and Scia'new (Beecher Bay), have tended these lands and waters since time immemorial. Since the mid-1700s, after the settler influx, the area has been a close-knit marine community where much of community life happens on the water or in the forests. While First Nations and settlers have revolved in their own communities, there have been significant points of interaction, such as schooling, work in the resource sector, and community celebrations. Nevertheless, racism, discrimination, and misunderstanding persist.

True to adult education best practices, our goal was to contact and engage adults following the nerve pathways of communication in the community. In practice, this meant first designing a needs assessment in the form of an online survey, which was shared with the community through municipal communication channels, business channels, health networks, non-formal learning organizations, churches, voluntary organizations, and recreation clubs. The goal of this survey was to identify the relevant pedagogical entry points that would draw community members into the workshops as well as relate to them through top-of-mind concerns, thereby enhancing their engagement.

Rather than focus exclusively on understanding climate change and its impact on respondents, we inquired about a wide range of possible concerns, including cost of

living, work-life balance, commuting, childcare, health, family, and anxiety about the future. The value of this approach is that it opens up a familiar, meaningful point of departure for any teaching and learning. For example, if someone is primarily concerned about housing, program design might start there and trace the relationship between housing instability or cost of living and climate change.

To deliver the survey we used Survey Monkey, which included informed consent and the option to decline participation. Before collecting data, the research underwent ethical review and approval at Royal Roads University in the fall of 2023.

## **Participants**

The sample consisted of 182 respondents across different age groups. Responses were not required, so in some cases, response totals do not align with participant total. The minimum age for participation was 18 years old; the first group, ages 18–29, was comprised of three respondents. The second group, ages 30–49, included 64 respondents. The largest group was those aged 50 and older, representing 102 participants. Regarding gender distribution, the majority of respondents identified as “woman” ( $n = 97$ ), followed by “man” ( $n = 62$ ), “I prefer not to answer” ( $n = 9$ ), and “In another way” in case none of the listed genders matched their identity ( $n = 4$ ).

In terms of racial identity, participants identified with various population groups. Participants were asked to select any groups they identified with, thus there are more responses to this question than number of participants in the survey. The most frequently reported racial identity was White ( $n = 130$ ), then Métis ( $n = 9$ ), with additional representation from First Nations ( $n = 2$ ), Chinese ( $n = 2$ ), Arab ( $n = 1$ ), Black ( $n = 1$ ), and Japanese ( $n = 1$ ). There were 16 participants who preferred not to answer, while “Other” was selected by 22 people who wrote in their own terms, including “mutt,” “mixed-race,” and “Canadian” ( $n = 6$ ), as well as more resistant comments about race, including, for example: “I detest the terms ‘white’ and ‘black’ used when referring to people. It perpetuates the myth of ‘good’ and ‘bad,’ them and us.”

## **Data Collection**

Data were collected from October 23 to December 4, 2023. In total, 183 people completed the survey, with a resident population of over 15,000 at the last census (Statistics Canada, 2023). While the survey was not designed to be statistically representative, the trends around climate concerns that emerged were consistent with national and continental survey findings.

## **Limitations**

Our data, as noted, is not statistically representative of the community. Thus, it must only be taken as a starting point, one which can be used to iterate and support further research in and with the community. While we aimed to reach a diverse group of participants through community-sourced online channels, our data was limited to those who could participate in that way, which is certainly not everyone in a semi-rural community with varying degrees of access to technology and varying literacy rates, particularly in older populations. Similarly, we did not have any participants in the age range of 18–29, highlighting the fact that the use of community channels was ineffective for accessing that group.

The demographic composition of this sample has implications for how participants might be positioned in relation to the House of Modernity and to climate action. Most respondents, particularly those who identified as White and middle-aged or older, can be understood as largely situated within the structures of the House of Modernity—beneficiaries of its systems and, in many cases, socialized into its dominant logics. This positionality shapes how these respondents engage with climate action, as well as the kinds of solutions they might find desirable or feasible. While their participation in this study suggests concern for climate change, their approaches may still be informed by the same extractive, managerial, and technocratic tendencies that House of Modernity reproduces. The presence of Indigenous and racialized respondents—albeit in small numbers—raises important questions about how those who bear the brunt of climate injustices were represented in this process, and whether their perspectives were marginalized or engaged in ways that reinforced existing power hierarchies.

Additionally, as White, cisgendered women of Western European descent, trained primarily in Western knowledge systems, we acknowledge the positionality we bring to this research. Our academic backgrounds span media studies, critical and sustainabi-

lity education, and technology studies, and we employed mixed methods—quantitative, qualitative, and theoretical—to engage both local knowledge and broader pedagogical frameworks. Over many years, we both have engaged in significant unlearning, which means we approach this work with humility and a willingness to receive constructive feedback and critique and offer reciprocity in whatever ways are available to us.

Our positionality inevitably shaped both the research process and the design of the climate education program. While we sought to integrate relational and transformative approaches, our lens remains shaped by the structures of the House of Modernity—particularly in how we interpret data, frame problems, and conceptualize educational interventions. Recognizing this, we see future opportunities to deepen engagement with Indigenous perspectives and knowledge systems in ways that move beyond inclusion toward co-development of climate learning frameworks. Indigenous ways of knowing, particularly those centred on land-based relationality, challenge many of the dominant logics of climate education that remain embedded in Western epistemologies, such as individual behaviour change, technological solutions, and policy-driven approaches. More explicit engagement with Indigenous-led climate action and governance frameworks could strengthen the decolonial dimensions of this project and further unsettle the Eurocentric assumptions that shape climate education.

## Results

The survey was intended to capture and understand a range of attitudes and concerns relevant to adult climate education. To develop meaningful engagement strategies means understanding these attitudes and concerns. When asked what causes the most challenges in their daily life, participants were invited to select any that apply from a range of options (Table 1), as well as to indicate anything missing as “Other,” followed by a text box in which they could provide more detail. Cost of living ( $n = 97$ ) and anxiety about the future ( $n = 62$ ) ranked the highest. “Other” had 35 responses, which were then coded to identify themes.

Many “Other” responses, in fact, fit into the given selections. For example, one person indicated concern for their children’s future, which could be categorized as either “family concerns” or “anxiety about the future.” Of the “Other” responses, seven fit in that latter category, two into “family concerns,” one into “stress,” one into “balancing fa-

mily and work,” and one into “health concerns.” Additional themes in these data included concerns about geopolitics ( $n = 1$ ), climate change and environment ( $n = 3$ ), traffic ( $n = 3$ ), social issues ( $n = 3$ ), loneliness ( $n = 1$ ), changes to the town ( $n = 1$ ), and government ( $n = 6$ ). Three people indicated they had no challenges to report.

**Table 1**

*What Causes Participants the Most Challenges in Their Daily Lives?*

	Responses	
	<i>N</i>	%
Cost of living	97	53.3
Anxiety about the future	62	34.1
Stress	45	24.7
Health concerns	44	24.2
Balancing family and work	37	20.3
Family concerns	27	14.8
Commuting	17	9.3
Childcare	7	3.8
Other	34	18.7

In an open-ended optional question to further probe concerns, participants were also asked what issues about their future they worried about most, with 159 responses collected. Some responses indicated more than one concern, for a total of 199 references. These qualitative data were coded using NVivo by one researcher to identify patterns and categories, then verified by a second researcher to assess for agreement. While there were a wide range of concerns, cost of living and retirement were tied for the number one concern.

The categories included: (1) financial and economic concerns, which encompasses worries about affordability, cost of living, inflation, housing costs, and financial stability (31.7% of responses); (2) climate change and environment, which covers factors like climate catastrophes and ecological destruction (23.6%); (3) health, aging, and death, which covers concerns about healthcare access, chronic conditions, aging, long-term care, death, and mental health (16.1%); (4) personal and family concerns, including worries about children’s futures, personal well-being, family security, and work-life balance (10.1%); (5) global uncertainty and conflict, which encompasses broader anxieties such as war, migra-

tion, societal collapse, and geopolitical instability (7.5%); (6) social and community issues, such as lack of public services, lack of community support, transit problems, and planning failures (5.5%); and finally (7) government and political concerns, including fears related to government policies, political instability, corruption, and public spending (5.0%).

**Table 2***Which Issues Do Participants Worry About?*

	Responses		Example response
	n	%	
Financial and economic concerns	63	31.7	“Affordability of everyday things like food, transportation, housing”
Climate change and environment	47	23.6	“Climate change and its impacts”
Health, aging, and death	33	16.6	“My health and the health of my loved ones”
Personal and family concerns	20	10.1	“The future of my adult children”
Global uncertainty and conflict	15	7.5	“World turmoil”
Social and community issues	11	5.5	“Poverty”
Government and political concerns	10	5.0	“Government corruption”

We also wanted to understand not just what participants worried about, but also what they desired. Thus, in a second open-ended question, respondents were asked what they hoped for regarding the future of their community. We received a total of 154 responses, with five key themes identified in the coding process: (1) sustainable growth, infrastructure, and amenities; (2) community well-being and self-sufficiency; (3) climate resilience and environmental stewardship; (4) traffic and transportation reform; and (5) community identity and social cohesion. The breakdown of responses by theme can be seen in Table 3. As some of the responses contained more than one theme, there were a total of 181 references coded.

**Table 3***What Do Participants Hope for the Future of Their Town?*

	Responses		Example response
	n	%	
Sustainable growth, infrastructure, and amenities	77	42.5	“Careful infrastructure design to meet the needs of a growing community”
Community identity and social cohesion	30	16.6	“A vibrant community that is safe for all its residents and visitors”
Traffic and transportation reform	29	16.0	“Find a better way to deal with the traffic volume and flow”
Climate resilience and environmental stewardship	25	18.9	“That folks will learn to understand how and why to steward the ecosystem/environment”
Community wellbeing and self-sufficiency	20	11.0	“A close-knit, self-sustaining community”

Given the growth in recent years of the town, it is unsurprising that “sustainable growth,” which was articulated in diverse ways—from no growth to slowed or strategic growth—was something participants hoped for. Hope for improved infrastructure and hope for transportation reform are related desires, which reflect a broad understanding in the community of both the value of the town and its region, as well as the appeal to newcomers. People also desire a future in which the community is strong, resilient, and well-connected, in which its needs are met locally, and in which there remains a focus on retaining the “small town” or semi-rural feel that is highlighted in the town’s motto: “A small town with a big heart.”

## Discussion

### Exploring Design Principles and Pedagogical Entry Points

There are two major theoretical threads running through this ongoing effort to develop local transformative climate action education. The first is grounded in evidence-based ALE strategies. The second aims for transformative learning oriented toward the notion of hospicing modernity, or facilitating an understanding of the worldview represented by the House of Modernity, and then demonstrating the worldview’s relationship to climate change and climate action (or lack thereof).

A key starting point with designing education for adults is understanding what concerns and interests adults have in their lives. Because we understand climate change to be part of a polycrisis, which is interconnected with many issues, starting with what people are worried about is a way to support interest, engagement, and action on climate change, as those concerns and worries are already connected to climate change. This understanding results in our first design principle: Transformative climate education requires identifying the primary lived concerns of learners. Thus, we designed a survey to determine just this—that is, not just how people feel about climate change, but what the primary stresses in their lives are more generally, which then become the entry points for engagement.

The demographic composition of our survey respondents has important implications for the way climate education is designed and the perspectives that shape it. As noted in the Limitations section, most participants fall squarely within the House of Modernity, which orients how they understand both climate change and climate action. The framework highlighted by Stein et al. (2020) of “low stakes” or “low intensity” and “high stakes” or “high intensity” actors in climate action further illuminates these dynamics. Many of the participants in our study—particularly those who were White and financially stable—likely experience climate change as a distant or abstract concern rather than an immediate existential threat, positioning them as “low stakes” actors. As such, they may be more inclined to support climate solutions that do not fundamentally disrupt their ways of life. Conversely, Indigenous respondents—if engaging from a perspective rooted in sovereignty and lived climate impacts—would likely occupy a “high stakes” position, understanding climate change as inseparable from ongoing colonial dispossession. However, given the demographic skew of our respondent pool, these perspectives were not dominant in the dataset, potentially shaping the scope of solutions explored in this study.

It is within this context that the results of our survey revealed these key entry points for engaging the community in transformative climate education. The top two issues among local citizens were affordability and cost of living, as well as climate change and its impact on their homes, families, health, and communities. Thus, our second pedagogical entry point was identifying actions that simultaneously address both the affordability crisis and climate anxiety. This translates to the following design principle for adult climate education: Transformative climate education for adults needs to meaningfully address primary lived concerns of learners to be relevant and engaging. In other words, adults are learning for a purpose; this learning is often less exploratory and more targeted, so designing transformative climate education means bringing that level of practicality into the content.

Applied to our workshop designs, this meant framing climate action as not just a tool for addressing climate change, but also for creating a higher quality of life for individuals, their families, and collectively for the community. For example, rather than simply focus on heat pumps as a tool for reducing carbon emissions, heat pumps can be framed as improving home cooling and heating efficiency and, most importantly for many, reducing costs in the long term as well as enhancing home comfort

Similarly, given that impacts of climate change did in fact figure prominently in people's concerns, and that many of the impacts were local in nature (e.g., risks of forest fires and drought within the community), climate preparedness offered another entry point. This fear of local impacts translates to the third design principle: Transformative climate education for adults needs to provide immediate actionable tools and strategies. For example, our workshops offered participants a chance to take actions that will prepare them for the highest risks in this locale, including wildfire, extreme heat and smoke, and extreme winter storms, as well as addressing water, food, and energy security. By providing guidance on key elements of local preparedness, such as grab-and-go bags, a home emergency plan, a household preparedness plan, and joining the emergency alert system, workshops were designed to offer participants actionable steps for local climate action.

A fourth design principle emerged in relation to making climate education *transformative* for adult learners in our community, who bring with them strong senses of self and worldviews: To create effective transformative climate education under these parameters, design needs to tap into the familiar to bridge toward new ways of thinking and being. That is, it's not about rejecting or dismissing where learners are at but is instead about honouring and proceeding from there. Machado de Oliveira (2022), for example, in the early pages of *Hospicing Modernity*, warns readers about the existential challenges presented by the book's contents and suggests that one proceed only if one is willing to reckon with difficult realities.

Knowing that not everyone is immediately open to this kind of decolonial work means approaching adult education that challenges worldviews with sensitivity and a strategic plan. This involves not only demonstrating alternative worldviews that may better explain and respond to climate change as a polycrisis but also engaging in the necessary deconstructive work of examining how certain dominant worldviews sustain the structures of the House of Modernity. This translates to the fifth design principle: Designing transformative climate education that undertakes worldview transformation requires

valuing learner perspectives while bridging toward alternative views and critically examining the complicity of dominant worldviews in maintaining existing systems. In other words, transformative climate education is not about simply telling a learner that their worldview is incorrect. Instead, it's about showing both relationships and disjunctures between the learner's differing internal perspectives—while also fostering an awareness of how certain worldviews uphold extractive, hierarchical, and colonial systems. This is key to avoiding alienation or the triggering of defensive reactions that might ultimately prevent learners from engaging with climate change as a sociocultural and systemic phenomenon. However, confronting complicity must be done in a way that invites reflection rather than shame, offering pathways for learners to grapple with the tensions between their values, lived experiences, and the structural forces that shape them.

Applied to our workshop designs, this again meant considering what concerned participants most in their lives. By focusing on deeply felt concerns such as affordability, we could guide learners through an exploration of the broader systemic forces at play. For example, tracing the relationship between housing affordability and economic precarity reveals how modernity not only produces but depends on these conditions—creating divisions between those inside and outside the economic “house,” between those who have more and those who have less. This, in turn, can open up conversations about wealth inequality, capitalism, and the environmental harm these structures perpetuate. For many adult learners in semi-rural communities such as our own, these can be new and sometimes unsettling conversations. Thus, they must be facilitated with care, balancing critical engagement with a pedagogical approach that fosters curiosity, relational accountability, and the possibility of imagining otherwise.

A further pedagogical entry point concerns fostering and maintaining connection to the town, its community members, and the environment. For example, when asked about what they hoped for regarding the future of their town, many participants identified sustainable growth as a key desire. Rather than focus on what growth might be considered sustainable or not, we interpreted much of the remaining results of that question as being related to particular ideas about growth, including improving infrastructure, developing self-sufficiency, and cultivating connection between people.

These hopes offer an entry point into exploring the relational nature of life with learners as they can all be framed through connection, particularly connection to each other and the land (or environment, as many participants described). An opportunity is

created to engage with worldviews and to challenge colonial modernity as a force of disconnection, and instead facilitate living systems thinking in understanding our place as an integrated whole embedded in a larger integrated whole, held together by the organizational properties and self-maintenance of the balance of forces—both human and beyond human life. In this way, participants can understand how their small, individual actions are part of global dynamics with life-giving intentionality. This understanding can then be anchored in climate action; that is, creating the community people hope for is actually very much related to mitigating and adapting to climate change. The sixth design principle, then, is: Designing transformative climate education requires understanding what people hope for and desire and demonstrating the connections between their hopes and taking climate action. For example, because respondents to our survey indicated that they wanted moderated and strategic growth, we could highlight the relationship between extractivism, unlimited growth, and colonial modernity, and offer alternative ways of thinking about growth and what it means to be in community together with other humans and non-humans alike.

## **Conclusion**

As a local non-profit, we have presented the above findings to municipal leaders while highlighting priorities for climate action that are especially equity-focused. The final powerful message that respondents provided was that they highly valued community cohesion and quality of life. Many respondents did not want people left behind, and instead desired an inclusive and sustainable community that cares for those among them. As a relatively small, isolated community in which people have historically cared for each other in the absence of government services, there are rising worries about increasing poverty and homelessness, lack of supports for youth and elders, increasing dangers for visible minorities, and a rise in crime. Therefore, finding actions that address climate change but also universally increase the quality of life is an ongoing goal. Some respondents described a “life first” approach that promotes the rural feel of the community, including focusing on kindness, safety, and peacefulness, especially through work-life balance.

Climate education that seeks to help people understand climate change and the stakes of climate inaction cannot simply address the climate crisis as an information deficit problem. Rather, given the scale of the polycrisis and its antecedents in colonial modernity,

climate education that gets to the heart of why we are where we are and what is required of people today (most particularly those who benefit from the conditions inside the House of Modernity) necessitates a holistic, deep, and often difficult process requiring humility, experimentation, and courage, both from educators and learners alike. We have attempted that work by focusing on a local context, and hope our experiences as described here can support others seeking to do similar work and iterate as appropriate to their context.

## References

- Ballard, H., & Bratosin, T. (2024). *Why local action is crucial to addressing global climate change*. World Economic Forum. <https://www.weforum.org/stories/2024/08/local-action-crucial-to-global-climate-change/>
- Cornish, F., Breton, N., Moreno-Tabarez, U., Delgado, J., Rua, M., de-Graft Aikins, A., & Hodgetts, D. (2023). Participatory action research. *Nature Reviews Methods Primers*, 3(1). <https://doi.org/10.1038/s43586-023-00214-1>
- District of Sooke. (2022). *Sooke 2030: Climate action plan*. [https://sooke.ca/wp-content/uploads/2022/12/Climate\\_Action\\_Plan-Final\\_12-Dec.pdf](https://sooke.ca/wp-content/uploads/2022/12/Climate_Action_Plan-Final_12-Dec.pdf)
- González-Gaudiano, E., & Meira-Cartea, P. (2010). Climate change education and communication: A critical perspective on obstacles and resistance. In F. Kagaway & D. Selby (Eds.), *Education and climate change: Living and learning in interesting times* (pp. 13–34). Routledge.
- How the information deficit model helps create unidirectional and paternalistic mode of healthcare communication. (2018). *Journal of Communication in Healthcare*, 11(4), 239–240. <https://doi.org/10.1080/17538068.2018.1567026>
- Intergovernmental Panel on Climate Change. (2022). Summary for policymakers. In H.-O. Pörtner, D. C. Roberts, E. S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, & A. Okem (Eds.), *Climate change 2022: Impacts, adaptation, and vulnerability. Working group II contribution to the sixth assessment report of the intergovernmental panel on climate change* (pp. 3–36). Cambridge University Press. [https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FullReport.pdf)

- Lange, E. A. (2023). *Transformative sustainability education: Reimagining our future*. Routledge.
- Lange, E. A. (2024). A transition imagination for higher education leaders: Towards relationality. In M. Drinkwater & Y. Waghid (Eds.), *The Bloomsbury handbook of ethics of care in transformative leadership in higher education* (pp. 254–277). Bloomsbury Publishing.
- Lawrence, M., Homer-Dixon, T., Janzwood, S., Rockstöm, J., Renn, O., & Donges, J. F. (2024). Global polycrisis: The causal mechanisms of crisis entanglement. *Global Sustainability*, 7(e6), 1–16. <https://doi.org/10.1017/sus.2024.1>
- Machado de Oliveira, V. (2022). *Hospicing modernity: Facing humanity's wrongs and the implications for social activism*. Penguin Random House.
- Marschütz, B., Bremer, S., Runhaar, H., Hegger, D., Mees, H., Vervoort, J., & Wardekker, A. (2020). Local narratives of change as an entry point for building urban climate resilience. *Climate Risk Management*, 28, 100223. <https://doi.org/10.1016/j.crm.2020.100223>
- Mayer, A., & Smith, E. K. (2018). Unstoppable climate change? The influence of fatalistic beliefs about climate change on behavioural change and willingness to pay cross-nationally. *Climate Policy*, 19(4), 511–523. <https://doi.org/10.1080/14693062.2018.1532872>
- Merrill, M. D. (2002). First principles of instruction. *Education Technology, Research and Development*, 50(3), 43–59. <https://doi.org/10.1007/BF02505024>
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass.
- Mundy, K., & Murphy, K. (2006). Transnational advocacy, global civil society? Emerging evidence from the field of education. In H. Lauder, P. Brown, J. Dillabough, and A. H. Halsey (Eds.), *Education, globalization & social change* (pp. 991–1015). Oxford University Press.
- National Oceanic and Atmospheric Administration. (n.d.). *Climate change impacts*. Retrieved February 12, 2025, from <https://www.noaa.gov/education/resource-collections/climate/climate-change-impacts>
- Olson, K. (2009). *Wounded by school*. Teachers College Press.

- Shor, I. (1992). *Empowering education*. University of Chicago Press.
- da Silva, D. F. (2014). Toward a Black feminist poethics: The quest(ion) of Blackness toward the end of the world. *The Black Scholar*, 44(2), 81–97. <https://www.jstor.org/stable/10.5816/blackscholar.44.2.0081>
- Spencer, B., & Lange, E. (2014). *The purposes of adult education: An introduction*. Thompson Educational Publishing.
- Statistics Canada. (2023). *Census profile, 2021 census of population* [Statistics Canada Catalogue no. 98-316-X2021001]. <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=Sooke&DGUIDlist=2021A00055917052&GENDERlist=1,2,3&STATISTIClist=1&HEADERlist=0>
- Stein, S., Andreotti, V., Suša, R., Ahenakew, C., & Čajková, T. (2020). 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>
- Stein, S., Hunt, D., Suša, R., & de Oliveira Andreotti, V. (2017). The educational challenge of unraveling the fantasies of ontological security. *Diaspora, Indigenous, and Minority Education*, 11(2), 69–79. <http://dx.doi.org/10.1080/15595692.2017.1291501>
- Sterling, S. (1996). *Education for sustainability*. Earthscan.
- Sterling, S. (2024). *Learning and sustainability in dangerous times*. Agenda Publishing.
- UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. UNESCO Publishing. <https://unesdoc.unesco.org/ark:/48223/pf0000379707.locale=en>
- Wang, F., & Hannafin, M. J. (2005). Design-based research and technology-enhanced learning environments. *Educational Technology Research and Development*, 53(4), 5–23. <https://doi.org/10.1007/BF02504682>