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WORLDMAKING TOWARD THE SYMBIOCENE ERA: TRANSITION DESIGN IN COMMUNITY SUSTAINABILITY AND CLIMATE EDUCATION

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Abstract

With the pressing realities of climate change, biodiversity loss, and eco-anxiety, we reconceive community adult education in the service of sustainable and regenerative futures. We assert that the environmental crisis is, in part, a design crisis, and therefore, using transition design and relationality theory, we approach pedagogy as designing for the transition to the Symbiocene era. In our Canadian comparative case study involving a large urban city and a semi-rural community, we derived three pedagogy pathways from the first case, which have been adapted and studied in the second case. These pathways were the power of story, connecting individual and community needs, and fostering kinship with the natural world. The interpenetration of these pathways encouraged adult engagement, overcame resistance, and created openness to civic involvement. In this article, we first describe in detail how we developed the pedagogy in relation to the context of each case. We then offer a preliminary analysis of how designing for the identified pathways manifests transition design. We consider such learning to be worldmaking, in that interactive design unleashes self-organizing energies, fosters an ontological perceptual shift toward communal individuality, and alchemically transforms local stories as constitutive of a new world where we are designing ourselves back into the dance of life.

Résumé

Parmi les réalités que sont le changement climatique, la perte de biodiversité et l'éco-anxiété, nous repensons l'éducation des adultes au profit d'avenirs durables et régénératifs. La crise environnementale est liée au design. Notre approche à la pédagogie se base sur le design de transition et la théorie relationnelle afin de favoriser l'ère symbiocène. Dans notre étude de cas comparative, nous étudions une grande ville et une communauté semi-rurale pour développer trois parcours à partir du premier cas et les adapter pour le second : le pouvoir des récits, les

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liens entre les besoins des individus et ceux de la communauté, et le sentiment d'appartenance au monde naturel. Ils encouragent la participation des adultes, surmontent la résistance et favorisent la participation citoyenne. Nous décrivons le développement de la pédagogie dans chaque contexte et analysons les effets de ces parcours sur le design. Selon nous, cet apprentissage crée de nouveaux mondes : il donne naissance à une énergie autonome, influence les perceptions en faveur de l'individualité communautaire et nous permet de rejoindre la danse de la vie.

Keywords

climate education, relationality, transition design, Symbiocene era, regenerative futures

Mots clés

éducation sur le climat, relations, design favorisant la transition, ère symbiocène, avenirs régénératifs

Engagement Challenges in Environmental and Sustainability Education

Attracting adults to sustainability and climate education programs, as one part of the environmental and sustainability education (ESE) field, has always been a challenge. In our Canadian comparative case study of a large urban city and a semi-rural community, we derived three pedagogy pathways that address this challenge. These pathways are the power of story, connecting individual and community needs, and fostering kinship with the natural world. In this article, we describe in detail how we developed the pedagogy in relation to the context of each case. We then offer a first-level analysis of the three pathways, as well as a preliminary second-level analysis where these processes manifest transition design toward a sustainable and regenerative future, that some are now calling the Symbiocene era (Albrecht, 2019). The Symbiocene is a future era in which human societies are redesigned to live in mutualistic, regenerative harmony with natural systems, in deliberate contrast to the destructive legacy of the Anthropocene.

However, the challenge of engaging adults in sustainability and climate education must be understood in a much broader historical context. In the 1970s, environmental education (EE) had significant momentum to address the magnitude of emerging environmental crises by aiming to foster new attitudes, skills for problem solving, and behaviour change (United Nations Environment Programme, 1975, 1977). While generated initially by college educators, EE soon became school-centric (Lange, 2023). By 1989, the International Council of Adult Education (ICAE) had established the Learning for the Environment Programme (LEAP) to "articulate a theory and practice of environmental adult education" (ICAE, 2022).

However, with the 1980s rise of neoliberal globalization, a significant backlash ensued against liberal democracy and the social welfare state. Environmentalism was reframed as restricting the "freedom" of capital, the market, and private and corporate advantage. Individual rights were privileged over collective well-being and social solidarity. International economic policy began to diverge from the United Nations goals of sustainable development and climate policy agreements from the 2000s, slowing progress toward these goals (Lange, 2023).

In the face of persistent political inaction, environmentalists and scientists became increasingly strident about looming crises, trying to engage the public. Embattled, the corporate world determined "It takes a movement to fight a movement" (Rowell, 1996, p. 13) and fought back with climate denialism, greenwashing, and rollbacks of environmental legislation. In a perceptual "paradigm shift" (p. 127), environmentalists, no longer portrayed as actors for the common good, were instead framed as "rich elitists, left extremists, and terrorists," enemies of those working on the land or in natural resource extraction. Land and resource workers were now framed as "freedom fighters" taking on the "corrupt system" (p. 12). The result has been a culture war between liberal and conservative visions of Western society, with significant impacts on climate science, public dialogue, and adult education (Rowell, 1996; Thomson, 2010).

Since 1970, after nearly 40 years of effort, a crisis in EE emerged. Environmental education in schools had not made an appreciable difference to the environmental and climate crises (Hungerford & Volk, 1990). Not only was there a persistent lack of basic environmental understanding among adults, but EE had not been mainstreamed in schooling. Further, EE was considered anthropocentric in privileging human needs and needed "to be radically reconceived" (Sobel, 2004, p. 9; Saylan & Blumstein, 2011).

Environmental concerns remained tangential in the adult and lifelong education (ALE) sector until the 2000s, when a definitive shift began to occur. Environmental issues were no longer a scientific problem alone, but a social change and community mobilization issue (Lange, 2023). In 1997, the Hamburg Declaration committed to "promoting the competence and involvement of civil society in dealing with environmental and development problems" (UNESCO Institute for Education, 1997).

At the turn of the millennium, environmental adult education began to move beyond approaches that were school-based, science-focused, and oriented to behaviour change and information transmission, to focus on social justice, community mobilization, personal and social transformation, and social movement learning (Hill & Clover, 2003; Lange, 2004; Walter, 2007). This led to the linking of ESE as one field (Corcoran et al., 2017). Yet, within the adult education field, community education, ESE, and emerging climate education remained secondary to the focus on education for neoliberal workplace training and labour market priorities. Today, the polarized public dialogue continues to shape ongoing challenges to engaging adults in sustainability and climate education.

Theoretical Framework: Transition Design and Relationality

Many assert we are in a time of transition, beyond the Enlightenment and Anthropocene, with any number of possible civilizational pathways forward (Escobar, 2017; Raskin et al., 2002).

> The global transition has begun . . . But its outcome is in question. [. . .] While it may seem improbable, a transition to a future of enriched lives, human solidarity and a healthy planet is possible. (Raskin et al., 2002, p. ix)

Some consider this "one of the great adult education projects of our time" (Sumner & Dobrich, 2026), and others consider it as "Great Work," connecting our educational work to the fate of the human species, the history and dynamics of the Earth, and the cosmos (Berry, 1999). Albrecht (2019) suggested that a transition can anticipate the Symbiocene

era, a direction in which our structures and systems are transformed toward balance, or symbiosis, with ecological ones.

As an interdisciplinary team made up of an adult educator and a cultural theorist, following the work of Arturo Escobar (2017), we assert that "the environmental crisis is a design crisis and that humans need to change their practices to radically avert it" (p. 44). According to transition design, we are at an in-between state, moving from "a known present state" to an anticipated future, with the goal of "intentional or managed change" guided by an ethics of care (Willis, 2015, p. 73; Drinkwater & Waghid, 2025; Escobar, 2017). No longer are conventional and technical fixes possible or adequate, but "theories of power, social structures, and social change" can help us critique and imagine beyond "institutional and epistemic boundaries" (Willis, 2015, p. 71). Through relationality theory, which emerged from diverse sources such as quantum theory and Indigenous philosophy, perceptions can be transformed to understand that all things—humans, non-humans, elements, and the cosmos—are connected by energy at the subatomic level (Lange, 2018).

Building a regenerative culture means that we "put life at the centre of every action and decision" (Hawken, 2021, p. 9). This is design work. "Design is a culture and practice concerning how things ought to be in order to attain desired functions and meanings" (Manzini, 2015, p. 53). As Escobar (2017) has asserted, we need "ontologically oriented design" as we strive for a wiser civilization (p. 33). Thus, rather than engaging adults as individuals in formal education settings, we conceive our project as community adult education embracing critically oriented transition design work that is a process of culture-making. It uses "diffuse design" that engages the community rather than "expert design" (Manzini, 2015). This generates the self-organizing energies of a living system, in this case a place-based human and biotic community, and a new mode of "being—knowing—doing" (Escobar, 2017, p. 45). Instead of solution making, it is "thinkering," where you think with your hands or do hands-on conceptual work in an interactive, place-based way (p. 34).

With this approach in mind, the question guiding our educational research work became: With the realities of climate change and eco-anxiety now clearly visible in our local communities, can we identify consistently impactful aspects of transition design in community-based sustainability and climate education that are effective for mobilizing self-organizing, sustainable, regenerative cultures?

Study Design

Our approach was comparative case study, comparing an older case study in an urban metropolitan area to a newer case study in a semi-rural area, in two different ecoregions of western Canada and two different decades. Case study methodology is preferred in instances where *how* and *why* questions are posed and the site is a real-life context in which the investigators have little control over events and influences (Yin, 2009, p. 2). It is often considered most effective in studies of educational programs where learning is in constant motion (Stake, 1995).

Case study affords the opportunity to probe the "particularity and complexity of a single case" (Stake, 1995, p. xi), even when compared to another case. Comparative case study enabled us to isolate some processes and related impacts from an original study and examine them in a different decade, polity, and geography. Using similar pedagogical

processes adapted to a new context, could we identify persistent impactful elements? We also drew from other traditions, such as participatory action research and ethnography.

For both cases, the research entailed three stages. The *first stage* was studying the context through informants and media documents. A formal or informal survey was executed to understand the range of public opinion and knowledge in the community, including attitudes and perceptions of environmental and climate issues. These findings helped identify pedagogical entry points from which to engage the community and shape the content. The findings from the first case study revealed three pedagogy pathways to adult engagement in sustainability education that overcame resistance and manifested social engagement. These pathways were replicated and enriched in the newer case study using climate education, in an effort to study efficacy.

The *second stage* was educational engagement and a study of impact. To generate data on impact, a pre- and post-survey as well as individual interviews were executed. The *third stage* comprised first-level analysis of survey findings augmented by an observational description of learner engagement. In triangulating data streams and juxtaposing related literature, we carried out a second-level analysis. The second case study is still ongoing. This paper describes the preparatory stages and pedagogical design in each case, offering preliminary first- and second-level analyses.

Aspen Prairie and Glacier River: An Urban Sustainability Case

Context

This first case study was carried out in a large urban Canadian prairie city where a sustainability course was offered in a university extension adult education program (Lange, 2001). The city population was then about 900,000, set in the aspen parkland ecoregion. This was the land of the Plains Cree and their bioregional form of habitation along a Rocky Mountain glacier rivershed. In the late 1990s, neoliberal restructuring in both the public and private sectors led to significant wage rollbacks and unemployment. Social programs like unemployment insurance and social welfare were drastically cut, many public services were deregulated and privatized, and union power was actively undermined. The rates of homelessness, hunger, and poverty dramatically increased to levels not seen since the 1930s Great Depression. Many adults were compelled to turn to continuing education to either prepare for a different job, survive job cutbacks by embracing expanded workloads, or become self-employed as part of the drive toward new entrepreneurism.

Preparation Processes

The first step in pedagogy preparation was deriving generative themes that could lead to deeper-level questions about social reality. Discussion activities in other courses helped identify unresolved lived social issues shared collectively (Shor, 1992)—in this case, mass job loss and work intensification. Learners expressed overwhelming fear, anger, stress, and in some cases defiance, naming the irrationality of political rationalizations. Freire (1968/1970) identified this as perceiving "limit-situations," which constrain the choices and decisions of individuals (p. 92).

The first generative theme that emerged was job dependence and the job tenuousness that saw the learners as economic units needing to stay marketable in an altered job

market. The second generative theme was their loyalty to and reliance on a job for identity and meaning, when there was little employer loyalty. Workplace structural changes had led to an erosion in well-being, quality of family life, and job autonomy. If they resisted the changes, they feared being considered "lazy" or "dead weights" and being "tossed out the door," forms of domination and silencing (Lange, 2004). The third generative theme was an increasing sense of powerlessness to "keep up" with all the changes and "stay competitive." Learners felt deep anxiety, panic, and even despair.

The generative themes enabled the second step of finding pedagogical entry points that would attract learners. In the late 1990s, "sustainability" was not well understood. Many could not define it, considering it more about "keeping things the same" rather than countering environmental degradation or sustaining the forces of life indefinitely. To attract learners, then, the course was entitled "transforming living and working" rather than using sustainability language. The course description indicated that participants would be addressing workplace displacement and stress but through an unconventional approach that went "beyond training" to "transform conceptions of work" (Lange, 2001) and find balance between living and working. The course ran six times, four months each, reaching almost 100 learners.

The third step was a pre- and post-survey and then oral interviews of registrants before, during, and after the course. Interviews before the course enabled the researcher to become immersed in learner realities through an autobiographical interview method. Personal journals traced the occurrence and processes of transformative learning. Two primary themes emerged that also shaped course content: disillusionment with work/life and a lived sense of fragmentation. Participants expressed three desires: the yearning to make a difference, the yearning for balance, and the yearning for transformation in their lives. These served as pedagogical entry points for engaging learners, ensuring the course was highly relevant and met a pressing need.

Course Design

The fourth step was designing a course of 14 three-hour sessions over a semester. The course itself was designed around the concept of sustainability. The early part of the course focused on individual and personal sustainability, the middle part on community and ecological sustainability, and the latter part linked global sustainability. The course used arts-based pedagogy as well as experiential learning through study tours, personal reflection, and collective critical analysis. The flow of the course included the following:

Introductory Sessions. Six introductory sessions immersed participants in problem posing using pictorial collages. They depicted how they felt about their living and working conditions, offering their own analyses. In a subsequent session, they drew the river of their working life, examining their work choices and opportunities. These activities built strong, non-judgmental relations among the learner community as they shared their reflections, seeing common dilemmas.

Sustainability was then introduced as an organizing principle. To illustrate this, community tours enabled participants to visit and witness impressive community leaders *in situ*, who were creating sustainable forms of work: sustainable agriculture, organic food, holistic health, healthy home construction, sustainable industry, and environmental advocacy. From these exemplars, learners derived their own principles of sustainability.

Rather than starting with a given socio-economic analysis (moving from problem to solution), the learning began from felt realities and immersion into alternative forms of work from which they themselves defined sustainability.

Sustainable Living Sessions. The next three sessions examined how participants spent their time and money over several weeks. With growing self-awareness, they reflected on habitual personal patterns and re-evaluated where they were investing their money and life energy. Further, they examined their ecological footprint and explored the notion of simple living. Their self-analysis was followed by a cultural analysis of norms that discourage reflection on or questions about the consumer lifestyle and industrial model of work. This self-audit heightened consciousness of new choices.

Sustainable Working Sessions. With this groundwork, the next two sessions offered a socio-economic analysis of neoliberal globalization and its impacts on work, including who benefits and who does not. The socio-ecological impact became apparent by tracing the journey of one food or consumer item . . . such as a tomato or a pair of jeans. Historical conceptions of work and vocation, especially since the Industrial Revolution, and definitions of "good work" were recounted. Bioregionalism and sustainable economies were introduced for comparison. Finally, learners researched kinds of work needed in their community relating to their skill sets.

Action Planning Sessions. During a weekend retreat, individuals spent time outside, learning about the concept of dynamic balance in living systems, key ecological principles, and ecology as a model for living. They created an action plan that included a vision statement for transformed working and living, including goals and timelines, as a process of setting intention.

Celebration Sessions. In the final two sessions, participants identified supportive resources and inner strength to negotiate the resistance of family and friends. In celebration, they each retold their learning story and reflected on their collective journey together.

Findings from Case One

This section offers a first-level analysis that derives entry points to attract learners and pedagogy to maintain their interest and motivation, while implementing transition design.

Pedagogical Entry Points That Overcome Resistance and Barriers

In an individualist society, learning most effectively starts from *individual* felt needs. When a concept such as sustainability or regeneration is not well known by the public, laddering toward understanding is vital. Further, a political economic analysis is best undertaken *after* personal reflection and community immersion experiences in order to maintain relevance. The strength of this approach is that it bypasses resistance to learning about environmental and sustainability themes, especially the fear of threats to and judgments about personal choices (Lange, 2001). The use of Freirean generative themes attracted participants, increased the relevance of the learning to immediate needs, and demonstrated collectively shared experiences. The initial focus on the self helped create the openness to community needs, local and global.

Rather than something to resist, sustainability became something for participants to embrace, especially to meet their individual needs. It also expanded their ethical framework. One participant explained:

> When I began this course, I thought sustainability was way outside what I was looking at . . . I could not see the relevance. However, as it developed further, I grasped where it was taking me, and I now believe that a new awareness of many facets of my life has been heightened.

Another said: "We cannot continue to live this way . . . How this impacts the world and ecosystems has been important in shaping my vision." In a follow-up survey six years after the course, one participant reported:

> This course absolutely changed my life. The course opened my eyes to the many facets of sustainability. I am much more aware of the "big" picture, the interconnectedness of people, nature, and energy. The biggest change in "my way of being" is being grateful.

After four years, another participant said:

> My way of thinking has changed because of becoming more mindful of the connectedness of issues. What I consume, how I live, how I spend my money and my time affect the environment, other people sharing the planet, and sustainability in general.

The next section offers a first-level analysis of the pedagogical pathways that emerged from this first case study and how design work, in turn, shaped learning engagement as participants redesigned their work and citizen involvement.

Pathway One: Designing for the Power of Story

As narrative theory proposes, "the link between learning and experience lies at the core of adult education" (Clark, 2010, p. 5). Humans are intrinsically meaning-making beings. Using a Western understanding of story as socially produced, "events perceived by the speaker are selected, organized, connected, and evaluated as meaningful for a particular audience" (Riessman, 2008 in Clark, 2010, p. 4). Further, Western society is a "narrative-saturated world," in which story conveys cultural meanings, social norms, and ideological frameworks.

Part of the design work of sustainability, then, is for participants to listen deeply to their own lived story while hearing common threads among learners. Together, they search for deeper, more encompassing explanations that make sense of the chaos, pain, and frustration in their working and living. Through class exercises, journals, and a listening stance, they pay attention not only to functional problems regarding their work but also to inner questions, complex emotions, ethical conflicts, and deep desires (Lange, 2001). Reflective attentiveness to deeper story generated energy, momentum, and determination for new choices. As one participant described:

> My personal values conflict with my work which is making me so dissatisfied . . . I know I need to make a change because my work is not consistent with who I am . . . Soulless work is causing us all sorts of problems such as tendencies toward depression . . . The other two purposes of work [beyond money to buy goods and services]—to use and perfect our gifts and to do service for and in cooperation with others—is missing.

Many of the participants went on to make substantial changes in their work or their workplaces and volunteer involvements, and likewise shifted the role and design of work in their family life.

Another aspect of designing for story is that of re-storying. When a new conceptual framework such as sustainability is introduced, learners rethink their personal narratives and community realities from within this new perspective. Two dynamics occur: positioning one's biography within the social, and connecting the dots for a stronger socio-economic analysis of Western society.

Re-storying of self within the collective weakens the hold of conventional scripts for adult life and provokes an assessment of ethical conflicts, emotional and physiological responses, and psychological dynamics embedded in norms of achievement, purpose, success, the Protestant work ethic, and professionalism, to name a few. One participant was able to "open many little boxes that have been painful for me to do," indicating the grieving and loss that occurs. Learners went on to transform cultural messages into messages that were life-giving instead of life-draining. One realized her limit-situation:

> I've always wanted to work [in nursing] for idealistic reasons . . . [but] no, there are some things wrong here, and that's okay. It's not good that they're wrong, but it's not my fault that they're wrong either. And I maybe can't change all the wrong stuff, but I can sure build on the right and try to not be so diminished by system things.

Thus, they contended with the negative encroachment of the "systems world" into their "lifeworld" (Welton, 1994). Many identified that certain ethics may be acceptable at the systems level but are rarely acceptable on a personal level. In this, they began identifying the ethical contradictions at the heart of capitalism, where one takes advantage of others or ignores human need or fairness to make money.

Stories of hope emerged from the community visits and countered disillusionment and the sense of fragmentation. One participant said:

> I found the visits to be very inspiring, both from the point of listening to the commitment, integrity, and choices made by these people, and in my own thinking and reflection after being with them. Truly reflecting on the broad issues of purpose for work and "does work fit with my values?" will be helpful in planning next steps.

One participant saw these community exemplars as "living hope . . . we *can* make a difference." Later she reported, "I feel I have a high-quality lifestyle now. I have a flexible work schedule that allows me family and personal time."

Further, hearing how community leaders chose to address community needs through their unique skills provided a powerful example of contributing to the common good and contesting modern values that were not in alignment with their own principles. As Schugurensky (2002) argued, paralysis, hopelessness, and cynicism can be avoided by linking classroom consciousness-raising to social movement actors. Many participants did join a social movement—from unions to the LGBTQ+2S movement to sustainability groups—that offered an opportunity for social action and a source of belonging beyond the classroom.

Pathway Two: Designing for Connectivity of the Personal and the Social

The central dynamic of a modern liberal democratic industrial society is separation and alienation, such as the division of labour, separation of work and home life, and alienation from the living world. The central morality is humanist, individualist, and anthropocentric. Therefore, working back and forth pedagogically between reflection on personal life, family life, work life, social life, political life, relationship life, and spiritual life helped to counteract the narcissistic focus on the expressive self.

Counteracting the illusion of separation through the practice of deep listening created a "new sense of [societal] belonging" (Schugurensky, 2002, p. 70). Using a *sociological imagination* (Mills, 1959), participants could assess how their daily work and daily living patterns collectively constituted the design of our societal system. They understood how their lived reality was situated and shaped within global realities. Out of a clarifying of life purpose, they moved beyond individualist ends toward service to the community. Some began to see their life purpose in a spiritual context, reducing a focus on conventional success, status, and security for an inner sense of spiritual purpose. They were driven by their ontological desires for a different way of being, progressively building toward a *Nested-I* (Bollier & Helfrich, 2019) or *communal individuality* (Gould, 1978), transforming individualism toward relationality. Instead, life was understood as revolving around interconnectedness of all human and natural relationships. One participant said, "I need to work out my life, so my needs are met internally rather than trying to meet them externally through consumption" with all the ecological impacts (Lange, 2001).

Pathway Three: Designing for Kinship with the Living World

Fostering kinship with the natural world through homework over the duration of the course built awareness of, understanding of, and experience with a much larger non-human world with its own agency (Topa & Narvaez, 2022). The living world was first considered *living*; then it was a considered a place of learning and kinship relations; finally, its ecosystem processes were considered a model for a different way of living that harmonizes with Earth. Perceiving reality as relational was profoundly transformative (Lange, 2004). Many participants reported reliving the freedom, awe, deep connectedness, and embodied knowledge they experienced as children. One exclaimed, "It appeals to my belief in the connectedness of all things, but I haven't thought about looking at this on a smaller, perhaps more practical scale through nature . . . yet it invites me every day!"

In sum, three pedagogical pathways emerged: the power of story, connectivity between the personal and the social, and kinship with the living world. Participants engaged in transition design by redesigning their ways of being and working, anticipating a sustainable society. Yet it was unclear if designing for these pedagogical pathways would be effective in another locale, with differently motivated participants and another historical time frame.

Salmon, Ocean, and Big Trees: A Semi-Rural Climate Action Case

Context

Our second case used climate education in a semi-rural town on Vancouver Island. In this place of abundance, the Coast Salish Indigenous Peoples hunted, gathered, and fished,

while relating to their whale, salmon, and cedar relatives, working in harmony. With European settlement, this small town was long considered a remote and self-reliant locale, drawing sustenance from fishing and logging, supplemented by marginal agriculture. After 150 years of colonial overextraction, unsustainability was evident as timber stands and fish stocks dwindled.

In the late 1990s, with better roads and municipal governance, the town began to grow as mainlanders flocked toward the beauty and affordability. In 2009, the local First Nation led sustainability initiatives by installing solar panels on their band offices and solar hot water heating in all their homes, and building a commercial greenhouse, reaching for energy and food sustainability (Schmucker & Lorimer, 2018). After 2010, surging growth and climate impacts demanded better policy making. The municipality struck annual citizen-populated Climate Action Committees to identify how the district could better meet its climate and sustainability goals, involving both authors.

Preparation Processes

Listening Teams

To construct a community climate action plan, the climate education subcommittee met with the municipal communications coordinator and a professional communications specialist. The first step was using a multi-step, iterative story design methodology to determine what narrative might best engage the community. The work unfolded in stages. First, listening teams carried out informal street corner conversations with questions on what climate action people were already taking and what thoughts and concerns they had about climate change. With this feedback, the committee identified values that could be leveraged to engage the community around climate action.

Story Design

These values were carefully constructed into a community narrative for climate action using the method of story design. Story design is a communications strategy that uses narrative to engage and mobilize. The group wanted to create a community-informed story that would speak across the spectrum of opinion, and that could be mobilized through the district's climate communications. The four phases of story design were: the *problem story*, or that which needs to be solved; the *success story*, the future image or vision of what is possible; the *blocking stories*, the narratives blocking change; and the *change story*, which counters blocking stories and names solutions for desired change (Withers, 2017).

A master change story was developed and tested with dozens of people, continuously adapted until it resonated. In brief, the *problem story* began with the problem of "spending too much" money, time, and personal energy on commuting, home heating, and worrying about the future.

Rather than "feeling spent," the *success story* conveyed how one could become richer in the things that they value most, such as less commuting, affordable housing, time with family and friends, more time in nature and recreation, and a supportive community. The *blocking stories* talked about where money, fatigue, convenience, confusion, and hopelessness were blocking the vision. The *change story* was climate actions that could save money, increase enjoyment time, conserve energy, build climate security, and offer more life meaning.

The climate committee identified the highest-impact carbon reduction actions for townspeople. The top two were reducing commuting into the adjacent city using fossil fuel vehicles (68% to 75% of residents) and switching to heat pumps for home heating to save money and reduce household emissions. The success story was enabling the town to reach its goal of reducing 50% of emissions by 2030. The story was further iterated for municipal councillors and staff in the climate plan policy, detailing actions for "rethinking how we move, how we grow, how we build, how we lead, and how we relate." Thus, climate action was tied to concerns expressed by citizens on the street, and it met various needs including "not knowing what to do."

Public Survey

As two of the committee members, we wished to mobilize this story further by forming a new non-profit dedicated to climate education that could augment municipal activities. We embraced the three pedagogy pathways from the first case study to test their efficacy in a new community workshop series dedicated to climate action. Our next step was a public survey to more deeply assess community levels of knowledge and the range of viewpoints on climate change. In part, this was to more clearly understand the opinion spectrum, investigate levels of interest in and knowledge of climate action, gather more detail on climate actions currently taken, and determine barriers to taking action. Again, as generative issues, we sought to determine not only citizen worries and concerns about climate change, but also the most pressing challenges and priorities for individuals that would generate engagement.

In contrast to the first case study, we found understandings of sustainability were now advanced and accurate, a dramatic shift in understanding over 20 years. Both educators and media communicators can take some credit for this knowledge shift.

While social media in the town exhibited polarization, we were surprised to find that climate change was "important to some degree" for 88% of the town's respondents, with 70% of the respondents considering it "very or extremely important." The "extremely worried" were nearly 45%, with a total of 78% "very or somewhat worried," strong evidence of climate anxiety. Interestingly, 84% indicated that future generations will experience the effects of climate change. This was much higher than expected, as it was clear this number included those who were "not worried" for themselves or were "dismissive" of climate change (Fireweed Learning Commons, 2024b).

In mapping population segments using Hayhoe's work (2021), we found these groupings: Alarmed (45%–54%), Concerned (25%), Cautious/Not Worried (15%–25%), and Deniers/Dismissives (6%–7%). We were surprised to find that the polarization in the town was much less than we expected, with the climate denier/dismissive group relatively small at 6% to 7%. The majority of survey respondents called for more climate dialogue.

Our findings parallel a Canadian survey by Learning for Sustainable Futures (Schwartzberg et al., 2022), who found that 81% of Canadians are certain climate change is happening. Further, a Carleton University survey (Hatch et al., 2024) found 63% to 70% believe climate change is a crisis requiring immediate action, and 57% believe governments are not doing enough to address it. Overall, our local survey was consistent with these national findings, including the size of the denier/dismissive group.

We found that the most pressing concern among residents is the cost of living/affordability crisis (58%). However, the second personal challenge was anxiety about the future, for self and children (37%). While climate change has fallen from the top issue, it is still the second most important issue behind the affordability crisis. Stress about major life challenges, health concerns, and quality of life in terms of balancing living and working were other pressing concerns. Respondents then described a preferred future with an enhanced quality of life, preservation of natural areas, a self-sustaining community with more local jobs, and access to basic needs such as food and health care. They imagined a community that had minimal climate impact, contributing to a more predictable future.

Most respondents indicated they wanted to know what actions would make the most difference. While many respondents were taking some climate actions (about 30%), the primary barriers were financial (48%) and lack of reliable information. Residents were especially ready to undertake climate action when it yielded financial savings in addition to carbon reductions.

Course Design

Informed by the first case study and the findings described above, we developed a workshop series to attract broad participation and bypass resistance.

Framing the Workshop

Given that 70% of the town expressed significant climate worry as well as worry about the cost of living, we linked the concerns in our workshop title: Liveable Futures: A Climate Action Workshop Series. Given that 88% of the community was concerned about climate change to some degree, we used the outcomes of the survey in the workshop description. This was our initial step in helping to build community solidarity regarding climate action and to legitimize climate as a topic of conversation. We also publicized that participants would learn reliable science, identify mis/disinformation, and choose from a suite of the most impactful actions for self and community. Finally, we publicized participants would design a climate action plan to build a higher quality of life for themselves and their households, and would also choose climate actions that fit their needs, time, and budget. We assured participants they would have access to excellent technical information, grants, and products, which were all compiled in *Climate Field Guide* (Fireweed Learning Commons, 2024a).

Design of Workshop Sessions

The climate action series had three workshops:

- What in the World is Going On? Putting Climate Change into Perspective
- Building a Higher Quality of Life for You and for [Our Town]
- The Nuts and Bolts of Climate Action . . . Acts of Hope

Workshop One began by describing the epochal shift and changing of stories from modernity to relationality, identifying climate action as our Great Work in this historical moment. We provided an overview of climate science, explained the impacts of climate change generally, and described the global energy transition. We then engaged participants in calculating their carbon footprint while emotionally supporting an honest

reckoning with their carbon output. Workshop One ended by considering a more intentional life and encouraging participants to think about how their individual gifts might be of service to this time. As homework, participants were asked to begin reconnecting with the living world by finding a "sit spot," preferably in a wildish area, where they could observe the life around them and let themselves be taught for at least 20 minutes. This would build awareness of the modern patterning of mind, body, and spirit, especially the challenge of sitting still and observing.

Workshop Two debriefed the sit spot, then taught living systems thinking. We engaged imaginal work in how our future town could look and, most importantly, what was needed for that to emerge. We introduced the climate plan, the climate risks for this area, and the reductions in the district's carbon footprint to date. We introduced other local climate initiatives, including local Indigenous initiatives, to build participant commitment to local goals. We discussed climate mis/disinformation, the agents and goals of polarization, and how to find and judge credible information. To address the key concern of how to engage family and friends, we role-played each perspective on the climate spectrum (inspired by Hatch et al., 2024). Finally, we discussed conversation entry points and listening strategies for engaging others in climate conversations.

Workshop Three helped participants build their climate action plan by identifying actions for three components: their *carbon footprint*, with actions to reduce it; *well-being*, including living simply, living consciously, living relationally, and living spiritually; and *emergency preparedness* in developing an emergency plan, household kits, and risk reductions. Participants chose priorities for different time frames, attentive to their abilities and finances (see Fireweed Learning Commons, 2024a). We shared and celebrated their achievements.

Preliminary Analysis: Transition Design Using Story, Connectivity, and Kinship

While it is too early to report extensively on comparative impact, we offer a preliminary second-level analysis of using transition design across both case studies, exploring the deep interpenetration of story, connectivity, and kinship in sustainability and climate education.

We know that the conventional capitalist, extractivist, neocolonialist economy and the separateness of individualism and anthropocentrism cannot be harmonized with the needs of the living, agentic world. This is evidenced by the fact that seven of the nine boundaries of key living systems have been exceeded, and these systems are now operating outside their normal parameters in the zone of risk (Richardson et al., 2023; Rockstrom, 2025). If we wish to design toward transition, from the Anthropocene toward the anticipated Symbiocene (Albrecht, 2019), then our model of social change, the design of life systems, and our associated educational pedagogies must also transition.

This is less about designing *for* transition than designing the conditions for the emergence of transition, the shape of which "cannot be predicted in advance" (Escobar, 2017, p. 152).

> Designing for life is about giving direction rather than specifying end points. [. . .] Design, in this sense, does not transform the world, it is rather part of the world transforming itself. (Gatt & Ingold, 2013, p. 145)

Early environmental education focused on prescriptive pedagogy and desires for the reconstruction of behaviour and technocratic solutions, which were still rooted in modern, industrial assumptions. For climate education, such expertism contributes to class-based polarization, as the educated are considered part of the distrusted elite (Rowell, 1996).

The first transition is away from expert planning, as executed by professionals, toward interactive design with adult learners (Escobar, 2017). In this way, education practice becomes localized, contextualized, and leans toward community autonomy. Both case studies concentrated effort on assessing what learners and a community wanted for themselves and naming the blockages. While sustainability or climate change framework might be offered in terms of a design direction, each learner and community group determined how best to move toward their preferred futures. Not only participatory and democratic, interactive design repositions learners *within* their communities beyond the personal, manifesting the Nested-I as part of both a human and non-human commons (Bollier & Helfrich, 2019). Transition design requires their creativity and deepest moral intuitions, unleashing the self-organizing energies of a living system—in this case, of a human community.

The second transition is beyond behaviour change and citizen mobilization approaches. These case studies designed for a relational way of being in the world rather than a separation way of being in the world. This is considered "ontological design," in that it is designing not just new materiality and social practices, but also a different way of being in the world . . . how we are being/becoming human (Ehrenfeld, 2009). Ontologically, this approach does not understand the relation between the self and the social as it is in modern liberal political theory, where self and social are external to each other—separate, distinct, and autonomous. Classical liberal political theory is vital for capitalism by limiting government to the maximization of individual rights and freedoms, especially property rights. Relationality is in part derived from a Marxian social ontoepistemology, where conceptions of reality are socially derived and shaped by material activities. Individuals are fundamentally "individuals-in-social relations" with "communal individuality"; individuals who see themselves not as relating to "alien external others" but to others as part of themselves (Gould, 1978, pp. 3, 5, 9). Thus, the self and social are internally related, differentiated aspects of the whole. They are not objects, but subjects who can "freely create and change their nature through their activity" (p. xiv). Once this is experienced, it has potential to overcome multiple facets of alienation and is anticipatory of deeper democracy and communality.

Going deeper into kinship, the third transition is toward relationality as a perceptual transformation regarding the nature of reality, with a view of "the cosmos connected as a vast sea of energy, and all things connected within a living system" (Lange, 2023, p. 259). In this alchemical understanding of learning, all elements and beings are connected by energy fields from the micro quantum level to the macro cosmic level. In this view, "relations *are* [emphasis added] the very condition for education," constantly moving and *making* us (Ceder, 2016, p. 27). In other words, "we are *of* the universe—there is no inside, no outside" (Barad, 2007, p. 396). Kinship activities provide the conditions for experiencing this relationality and the energy moving through self, community, and the local ecosystem, feeling our embodied entanglement in the whole.

Further, the design process of storytelling is an alchemical process open to the underlying movement of energy, emotion, imagination, and spirit as it unfolds an alternative epistemological stance. The pedagogy sought to consider the "mystical nature of the relationship they [educators] enter into with their learners . . . a creative space . . . the sphere of the imagination . . . the realm of the sacred . . . it is in this encounter with others that we continuously awaken to the meaning of life" (Schapiro, 1995, p. 45). This pedagogy followed intuitive approaches attuning to the larger intelligibility that flows through the energetic fabric of the universe and through all living beings. We also used arts-based pedagogies, such as storytelling, that opened non-cognitive portals and sought to foster compassion rather than transactionalism. "When you relate to others, not as parts, problems, or useful commodities, but from a connectionist view, compassion triggers transformation" (Escobar, 2017, p. 201). This is deep worldmaking.

Conclusion: Transition Design as Worldmaking for the Symbiocene Era

Through transition design, sustainability and climate education become a process of designing ourselves back into the dance of life (Sahtouris, 2000), becoming conscious participants in a participatory universe. For Indigenous Peoples, this is in part carried out through storytelling. This is not instrumental storytelling or an easily digestible narrative process for conveying science or social science, but a sharing of the Traditional Knowledge that taps our mythologic mind. As Indigenous artists and scholars have said, it is about *making worlds* (Bollier & Helfrich, 2019).

In other words, the power of stories is ontological: it makes the worlds we live in. This isn't magical or wishful thinking; rather, story shifts perception, so the stories we tell fundamentally *matter* (in both senses of that word). Stories are worldmaking in terms of the language, frames, and metaphors used for perceiving and interacting with the world. Further, the stories we ponder influence what is and is not thought to be possible. If, for example, we believe the story that we as individuals are powerless to do much about climate change, or that we have no responsibility to future generations or to the planet, our in/actions emerge from this story and make this world. If, however, we believe that we live in a web of relations that sustains us, that makes our very sense of self possible and our communities livable, our understanding of our responsibilities and the world will be different. In other words, stories create and act as worldviews. Similarly, it is through stories that the perceptual and embodied systems of worldviews are shifted, part of transition design.

If the environmental crisis is in part a design crisis, then transition design holds significant potential for educators. Within the current crisis in the environmental and sustainability education field, this comparative case study explored how transition design could be conceived as a community-based approach to sustainability and climate education for transitioning toward a possible Symbiocene era. In this research, we found three pedagogy pathways to overcome resistance and encourage adult education and social action engagement. We detailed how designing for story, connectivity of the individual within the social, and kinship interpenetrated. This constitutes worldmaking away from an extractivist, colonial materiality and a separation ontology toward worlding that is connected, whole, and grounded in the life base of the planet and energetic fabric of the cosmos. This challenges conventional educational approaches founded on instrumentalist and separation epistemologies, part of the modern Western story.

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