

“Paying respect to the land”: Futures-making through land-based education in the face of climate change

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Abstract

An ancient mode of learning, Land-based education holds great potential for youth learning in the face of climate change through increased understanding of the Land as it changes due to warming temperatures, strengthening of Indigenous ontological systems and Land relations, and ultimately contributing to informed decision-making about the Land. Despite these possibilities, Land-based camps have not been robustly studied for their impacts on youth climate learning and visions for the future. Through research with youth in Łutsël K'é Dene First Nation, this paper traces how Land-based camps emphasize the importance of “paying respect to the Land” as a key climate response, one that is a collective and community endeavour. Sharing how Land-based camps foster Dene knowledge and language, enable youth contributions to community thriving, and provide spiritual connections with the Land, youth participants describe how Land-based education provides an integrative response to climate change.

Résumé

Dans le contexte des changements climatiques, la pratique ancestrale de l'éducation sur le territoire est très prometteuse, en ce qu'elle aide les jeunes à comprendre les transformations du milieu. Ce mode éducatif renforce les systèmes ontologiques autochtones et les liens au territoire, ce qui contribue à des prises de décisions éclairées concernant ce dernier. Malgré tout ce potentiel, les camps sur le territoire ont jusqu'ici fait l'objet de peu d'études quant à leurs retombées sur les jeunes, sur leur vision de l'avenir et sur leurs apprentissages sur le climat. Fruit d'une recherche menée auprès des jeunes de la Première Nation des Dénés de Łutsël K'é, l'article expose comment ces camps font valoir l'importance de « respecter la Terre » en réponse aux changements climatiques dans une optique collective et communautaire. Cet article fait également place à la parole des jeunes, qui décrivent comment ces camps leur permettent d'apprendre la langue et les savoirs dénés, de contribuer à leur communauté et de nouer un lien spirituel au territoire. Ils et elles expriment ainsi comment l'éducation sur le territoire offre une réponse holistique aux changements climatiques.

Keywords: climate change education, land-based education, stewardship camps, Indigenous knowledge, Dene

Introduction

Set on the East Arm of Tu Nedhé, also known as Great Slave Lake, the Indigenous Protected Area of Thaidene Nēné is fast changing in accompaniment to climatic shifts, but it remains deeply imbued with ancestral knowledge and care. Characterized by rivers and waterfalls, dramatic rock cliffs, a deep freshwater lake, and the migration of barren-ground caribou, the Land has sustained Dēnesų́nē for generations. Established by Łutsël K'édene First Nation (LKDFN), the vision for Thaidene Nēné is: *Nuwe néné, nuwe ch'aníé yunedhé xa*, which means “Our Land, our culture for the future in Dēnesų́nē” (*Our vision*, n.d.). With its future orientation, Thaidene Nēné is dedicated not only to care for the Land through climatic changes but also to education through Land-based camps. Through a suite of ongoing Land-based camps, ranging from culture and language revitalization camps to canoe trips and stewardship camps, LKDFN combines learning of traditional Dene knowledge with skills for scientific research and climate adaptation.

Land-based education is not a new mode of education; it is the way Indigenous communities have shared and developed knowledge for thousands of years (Steeves, 2023; Wildcat et al., 2014). In comparison with mainstream forms of climate change education, many of which aim to spur individual behavioral change by providing accurate knowledge about climate (Stein, 2024, p. 6), Land-based education begins from a fundamentally different starting point: Land and Land relations. As a longstanding way of knowing and learning, Land-based education holds great potential for youth learning in the face of climate change through increased understanding of the Land as it changes due to warming temperatures, strengthening of Indigenous ontological systems and Land relations, and ultimately contributing to informed decision-making about the Land.

Land-based camps hold great potential for climate learning, as they have already been shown to respond to climate change in relation to food security by supporting knowledge and harvest of wild food (Wesche et al., 2016), along with stewardship of resources (Parlee et al., 2021). By reconnecting young people to culture, traditional knowledge, and the Land itself, Land-based programs also support the health (Lines et al., 2019) and wellness (Ollier et al., 2022) of youth. Dene communities have long been involved in Land-based education, leading research and practice in support of resurgence and decolonization (Ballantyne, 2014; Datta et al., 2024; Woodworth et al., 2025). While each of these aspects is interconnected with climate change – as, for example, food systems change in response to shifting weather patterns and young people seek stability and wellbeing in the face of uncertain climate futures – Land-based camps have not been holistically studied for their impacts on youth climate learning and visions for the future (McDonald, 2023, p. 12). Due to ongoing colonial approaches to research, youth experiences are insufficiently attended to, as “Indigenous

people's stories are often implicitly positioned as anecdotes rather than legitimate knowledge that should inform policy" (p. 8). A few recent studies in Dene territories work directly with youth to explore the ways on-the-land camps support youth connections with the Land (Woodworth et al., 2025), and more specifically to foster adaptive capacities in response to climate change (Datta et al., 2024). Our work here builds on emerging research with youth by taking up a relational approach to a desire-based (Tuck, 2009, p. 417) and futures-oriented methodology grounded in Nuwé ch'aníe, the Dene knowledge system, to attend to the experiences and future visions of youth in the context of climate change. As Thaidene Néné and LKDFN are dedicated to "ensuring the well-being of the Land and our people long into the future" (*Our Vision*, n.d.), careful exploration of their programming may provide deep insights into the role of Land-based education in Indigenous futures-making as the climate changes.

We approach this research collaboratively, as the Dene Manager of Thaidene Néné, Iris Catholique, and as a settler researcher, Carrie Karsgaard. Living in Łutsël K'é since shortly after birth, Iris spent weeks and months living and learning on the Land with her adoptive mother and extended family – that is, when she was not sent away to school. Because of her experiences, she carries both Land-based and western academic knowledges, which she shares with her sons and brings to her work as Manager of Thaidene Néné. A hospitable host, she also welcomes visitors, such as Carrie, who is not original to Łutsël K'é but has worked in the region for several years. Carrie has supported youth across the Makenzie River Basin to inform climate policy grounded in Indigenous knowledges (MacKay et al., 2020) and co-developed teaching materials grounded in those knowledges (Karsgaard et al., 2024). Her dedication to reorienting education away from colonialism shapes her engagement with LKDFN and modes of sharing research.

Working together relationally across our two positions, we sought to attend to youth knowledges, in response to the following questions: what concerns and visions for a better future do young people have in the face of climate change, and how does the holistic education provided through Land-based camps contribute to young people's futures-building in the face of a shifting climate? Through a collaborative and multimodal workshop with youth from LKDFN who had previously attended various Land-based camps, we found that young people are concerned about climate change and its impacts on their community's way of life, despite that their contributions to causing climate change are relatively minimal. They also understand climate impacts as combining with intergenerational trauma stemming from colonization, which deeply impacts young people, including their wellbeing and future prospects. In light of these realities, Land-based camps reinforced for young people the importance of "paying respect to the Land" (as they put it) as a key climate response, one that is a collective and community endeavour. Sharing how Land-based camps foster Dene knowledge and language, enable youth contributions to community thriving, and provide spiritual connections with the Land, youth described how Land-based education provides an integrative response to climate change.

Land-based Education and Climate Change

Inherent to Indigenous knowledge systems, Land-based education begins from a fundamentally different place from dominant forms of education. This grounding potentially offers Indigenous young people methods of understanding changes to the Land and to community life in the face of climate change, ways to strengthen Land relations, and knowledge to contribute to decisions about their futures. Land-based education understands Land – including water and air (Styres et al., 2013, p. 37) – as the basis of life and “first teacher” (Bowra et al., 2021, p. 135; Simpson, 2014), who can speak directly to learners. Spending time on the Land, therefore, is central to learning, enabling experience and direct encounter with the dynamism of interconnected life, which is fundamental to Indigenous philosophy (Bowra et al., 2021, p. 135). Highly integrated with daily activities, such as hunting, gathering, and fishing, Land-based education holistically recognizes Land as woven into the fabric of life (Corntassel & Hardbarger, 2019). Such learning is not merely cognitive but also social, as learning occurs within inter- and intra-generational relationships on the Land, including in connection with ancestral knowledge (p. 136) and language (p. 138). Learning on the Land is also spiritual, as “simply being on the Land is seen as a spiritual process in itself” (p. 136), shaping the ways learners see themselves in relation to all beings. Holistic in nature (Steeves, 2023), Land-based education can therefore support healing and cultural regeneration (Corntassel, 2012).

Considering that many Indigenous peoples, including those in LDKFN, have been cut off from Land-based knowledges by colonial processes, Land-based education can contest and indeed transcend colonial education by resurging and sustaining Indigenous life and knowledge towards greater self-determination (Corntassel, 2012; Wildcat et al., 2014, p. 3). In comparison with the deleterious impacts of such colonial systems as the Indian Residential Schools, Land-based education can support:

sustainable self determination . . . focusing on individual, family and community responsibilities, regenerating local and regional indigenous economies, and recognizing the interconnection of social, spiritual, environmental and political aspects of self-determination. The ultimate goal is for indigenous people to have the freedom to practice indigenous livelihoods, maintain food security and apply natural laws on indigenous homeLands in a sustainable manner. Critical to this process is the long-term sustainability of indigenous livelihoods, which includes the transmission of these cultural practices to future generations. (Goodyear-Ka’ōpua, 2009, pp. 60–61)

By putting “Indigenous epistemological and ontological accounts of Land at the center, including Indigenous understandings of Land, Indigenous language in relation to Land, and Indigenous critiques of settler colonialism” (Tuck et al., 2014, p. 13), Land-based education can support Indigenous agency and Land rights, including for instance, LKDFN governance over Thaidene Nēné.

In the face of the profound impacts of climate change on communities, Land-based education may be a way to repair and transform relationships between young people and the Land, towards thriving futures (McDonald, 2023, p. 13). Indigenous scholars and activists are identifying the ways climate change compounds with colonial processes to profoundly affect communities and youth wellbeing specifically (Hill & Plume, 2024; Whyte, 2017). Many communities, including LKDFN, live in ways that are highly reliant on Lands exceedingly impacted by climate change. As a result, such communities face the loss of traditional knowledge due to rapidly changing ecological conditions, along with subsequent shifts in cultural practices and community make-up, as some people are driven to live elsewhere (Whyte, 2017). Such issues compound with intergenerational trauma and other forms of destabilization resulting from colonial processes (Bowra et al., 2021, p. 138; Hill & Plume, 2024). At the same time, Indigenous climate scholars resist victim framing, instead pointing to the origins of climate injustice in colonial displacement and erasure of Indigenous knowledge (e.g., Whyte, 2016, p. 15). Centring stories of abundance instead of crisis and scarcity narratives (Curley & Smith, 2023, p. 8), such folks look towards present and future possibilities grounded in the wisdom and agency of the Land and communities.

Land-based education, when oriented around life and survivance (Vizenor, 2008), may be a way to enact climate justice (McDonald, 2023, p. 13), centre the futurities of Indigenous youth (Tuck et al., 2014, p. 8), and open up alternative futures. Indigenous scholars and activists both point to how Land-based education can invigorate Indigenous knowledge systems (Pugh et al., 2019) and connect with the realities of young people who are not always recognized in education research (Karsgaard & Shultz, 2022, p. 8). For example, Land-based education might help young people connect with “Indigenous worldviews that centre interdependence, reciprocity and respect[, which] offer alternatives and act as a counterforce and antidote to the extractivist worldviews that are driving the climate crisis” (Decolonizing Climate Policy in Canada: Report from Phase One, 2021, p. 8). In other words, it may provide an antidote to dominant, colonial forms of climate change education by providing “embodied and affective immersion in and ethical commitments towards building alternative worlds and relations” (Nxumalo et al., 2022, p. 103). Youth are arguably well-positioned to reclaim Indigenous knowledge and ethics available through Land-based education, where the holistic nature of learning across ecological, spiritual, cultural, and linguistic spheres have been shown to support their wellbeing in the face of compounding climate and colonial impacts (Hill & Plume, 2024). In fact, some early empirical research is beginning to point to the ways Land-based education can, through a “holistic and experiential approach, [foster] a profound understanding of the environment, ecosystems, and the impacts of climate change on Indigenous territories” (Datta et al., 2024, p. 1). By learning on the Land, early studies show

how young people not only begin to witness the effects of climate change but also learn how to practically respond, drawing on the skills and knowledges of their communities. We are building on existing research by pointing to not only the adaptive but the futures-building potential of Land-based education in climate affected areas.

Land-based Education in Thaidene Nënë

Education through Land-based camps is central to the activities of Thaidene Nënë, which means “Land of the Ancestors” in Dënesųłiné. Across this Indigenous Protected Area, homeland of the Łutsël K'è Dene First Nation (LKDFN), camps take diverse forms in accordance with specific locations, including a language and culture camp at Old Snowdrift, a community hunt and culture camp at ʔedacho Tué (Artillery Lake), a spring camp at Tsa Kužúze (Little Beaver Pond), and a youth canoe trip along the Snowdrift River. Youth living in or visiting the community are welcome, regardless of whether they are members of LKDFN or whether they are Indigenous or non-Indigenous. While climate change is not the explicit focus of all camps, they all inevitably address emergent climate realities as participants of all ages spend time on a climate-changing Land. Elders are the prime teachers, sharing in a holistic way a blend of history, stories, language, and skills. For example, campers may spend a full day learning to identify and harvest traditional medicines, such as spruce boughs or labrador tea. Throughout the day, they may learn Dënesųłiné vocabulary, navigate safely to key harvesting locations, utilize both their senses and technology (such as plant identification apps) to locate medicines, listen to historical narratives, and notice changes to the Land. Practicing Dene culture together with Elders provides intergenerational connection, potentially contributing to cultural revitalization and continuance even through profound ecological shifts.

Camps are situated in Thaidene Nënë, which sits along the northeastern edge of Tu Nedhé, also known as Great Slave Lake. Climate change is having profound effects on Tu Nedhé from shifts in water and snow levels to changes in patterns of animal and fish life.¹ Snow levels are decreasing, and water levels are dropping across the region, shifting river currents, exposing sand bars, and ultimately impacting travel. Changes to ice freeze-up and break-up make it difficult to travel, impacting harvesting routes and cultural practices. As the Land changes, wildlife that has previously not been seen before, such as white-tailed deer, coyotes, cougars, magpies, and crows, are being spotted in the region. In the meantime, other wildlife are seeing shifts to migratory patterns and habitats, with more moose in the barren Lands and musk ox in the treeline. Caribou, who are profoundly significant to the Dënesųłiné, no longer follow the same migratory patterns (*ʔetthën (Caribou)*, n.d.). Such changes impact animal harvest, affecting community life, practices, food sources, and traditions.

As the Land changes, LKDFN cares for the Land through co-governance of Thaidene Nënë, which was established in 2019 as an Indigenous Protected Area according to Dene Law (*About*, n.d.). Spanning a vast area of boreal forest and tundra, Thaidene Nënë is governed by LKDFN in cooperation with Parks Canada and the Government of the Northwest Territories. On these vast Lands, LKDFN has long partnered with researchers to host Land-based camps outside of the formal education system that connects youth with Elders and harvesters and supports young people's learning about the Land in the face of intensifying changes. These camps are directly shaped by Thaidene Nënë's vision (*Our Vision*, n.d.) for strengthening Indigenous leadership and governance, fostering Dënesų́łné language and culture, building community capacities, and maintaining ecological and cultural integrity into the future. While the camps have important epistemological and cultural implications, they are also profoundly practical as spaces for youth to develop knowledge towards professional positions as Land Guardians with Thaidene Nënë. Land Guardians are hired into full-time positions to work on the Land; engage in harvesting; practice language, culture, and teachings; and give back to the community by passing on their knowledge (*Ni Hat'Ni Dene*, n.d.). Among other forms of training, from traditional knowledge development to various skills (e.g. wilderness first aid, navigation) and safety protocols (ice rescue, gun safety, bear safety), Guardians are expected to be knowledgeable about Land-based camps and ready to act as guides. Guardians are important ambassadors, who hold accurate knowledge of the Land and are responsible for sharing it within the community.

Thaidene Nënë's camps can be understood as expressions of Indigenous Land-based education grounded in Nuwé ch'anie, the all-encompassing knowledge that informs Dene ways of being. Here, Land-based education brings together Dene and western knowledge in a way that serves community wellbeing and sovereignty. Through an integration of skill-building and cultural healing, camps support holistic learning about climate change, while centering Dënesų́łné learners within their own communities, languages, cultures, knowledge systems, and territories.

Researching with Nuwé ch'anie for Desire-based and Relational Futures-making

In keeping with Thaidene Nënë's vision for "Our Land, our culture for the future in Dënesų́łné," we grounded our methodology in a relational approach to desire-based and futures-oriented research with and for Dene youth, which we made concrete by ensuring our research followed Nuwé ch'anie, Dene values and knowledge systems. Research on climate change often begins with narratives of intensifying devastation and the resultant growing concern and fear among young people. However, by centering climate damage, including

how it compounds with colonial damage, we may lose sight of youth agency and future imaginings. By instead beginning with desire, we can “[account] for the loss and despair, but also the hope, the visions, the wisdom of lived lives and communities” (Tuck, 2009, p. 417). For young people learning from the deep time of the Land and the deep wisdom of their ancestors – even as they navigate present climate realities and look forward to an unknown future – desire provides an inter-temporal lens on youth insights, as desire is “about longing, about a present that is enriched by both the past and the future” (p. 417). Our methodology thus understands youth desires and visions as holding the past, present, and future together in relation to climate change, potentially containing loss, life, and learning at the same time.

Our methodology thus builds upon desire-based research to explore how desire and “anticipation of the future animate our relations to one another and the earth” (Curley & Smith, 2023, p. 6). Relations are central to the Dene worldview, and we therefore seek to understand young people’s experiences with the Land and Land-based education in connection with Land relations – both geographical and temporal. Such a grounded approach contrasts with the linear and global metanarrative often evoked by climate change, which prioritizes universalized solutions configured within the trajectory of modernity (Curley & Smith, 2023, p. 5; Stein et al., 2023, p. 990). Linear climate metanarratives problematically bypass relational rifts (Whyte, 2020) by instead prioritizing expert knowledge and technological innovations as solutions to climate change. Instead, our methodology attends to young people’s “relational worlding outside dominant epistemic apparatuses” (Jackson, 2021 as cited in Curley & Smith, 2023, p. 13), attending to the webs of relations that are part of their futures-making.

Research Design

To ensure our research supported the desires and futures-making of Dene youth, we followed the principles of Nuwé ch’anie – Dene knowledge and values – in our research methods. Nuwé ch’anie brings together past, present, and future by ensuring the wellbeing and cultural continuity of the people, while ensuring care for Land, water, and wildlife (*Relationship Plan*, n.d.). By prioritizing future generations, it emphasizes the importance of listening to youth voices. In LKDFN, Elders are dedicated to serving youth, but youth are often quiet and reserved in public places; Nuwé ch’anie reminds us that we need to create room for youth to speak. The Guiding Principles (Figure 1) central to good relationships and planning were woven throughout our research design, as described below: economic reconciliation, for future generation, consensus, collaboration, accountability, and cultural continuity. Research was also approved by Cape Breton University (File 2023101) and the Government of the Northwest Territories (Scientific Research License No. 17454).

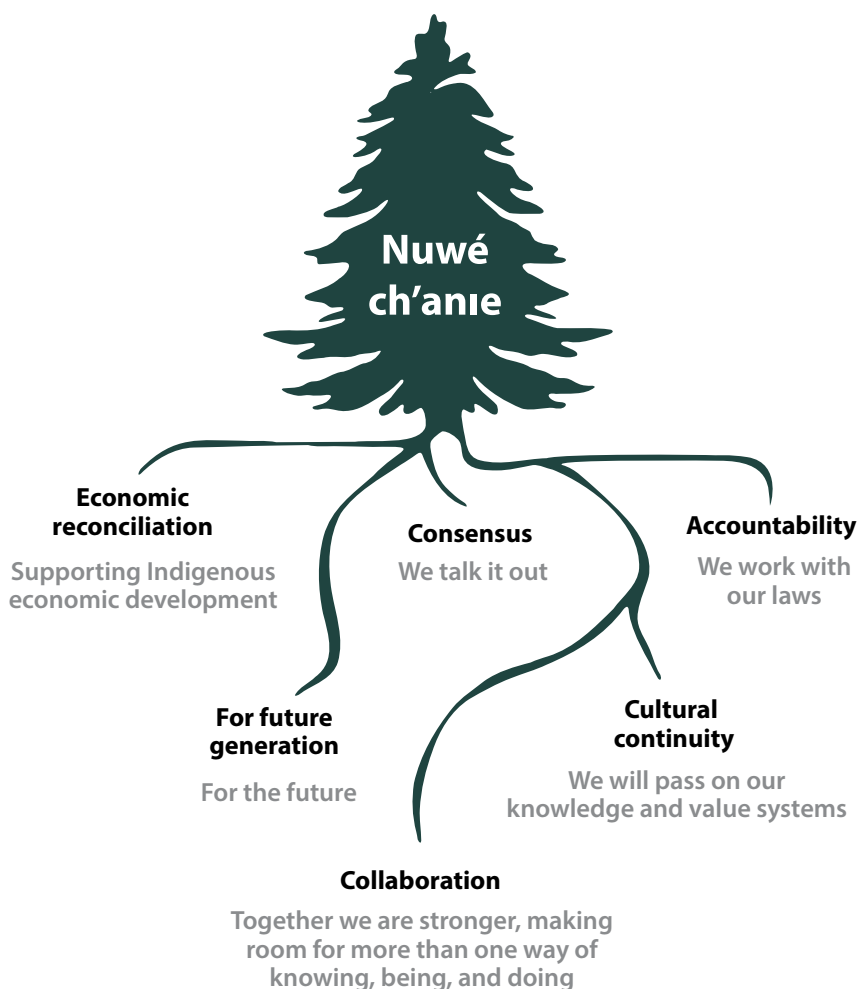


Figure 1. Nuwé ch'aníe Guiding Principles
Note: Used with permission from Thaidene Néné.

Through processes that follow Nuwé ch'aníe (Figure 2), we brought together a group of six young people in a two-day, collaborative workshop hosted in LKDFN in May 2024. Using LKDFN's channels (posters around the community, Facebook and Instagram posts, and word of mouth), we put an open call to former camp participants between the ages of 18-30 to participate in a two-day workshop. To ensure we could contribute to young people's economic wellbeing – and to ensure that we did not only hear from the most climate-focused youth – we compensated participants for their time. A challenge to recruiting participants is that many young people leave the community for work or family

responsibilities elsewhere, so we were limited to those who were present in Łutsël K'ê. The youth who generously shared their knowledge with us and have consented to sharing their names are Ashton, Dacho, Dennay, Madison, Nalze, and Robin. While we had intended to host the workshop out on the Land, ice on the lake prevented travel. So, we hosted the bulk of the workshop at a community hall, with one afternoon spent at a fish camp close by in order to connect with the Land.

Guiding Principle	Research Practice
Economic reconciliation	The bulk of external funding directly supported LKDFN, through hiring of a youth researcher, provision of supplies (e.g. laptop for youth researcher, workshop materials), and payment of youth participants.
For future generation	Explicitly oriented around youth futures-making, this research responded to a key question determined by Thaidene Nënë about what young people are learning at Land-based stewardship camps.
Consensus	Research was designed and run in partnership between Thaidene Nënë leadership (Iris), LKDFN organizers, and an education researcher (Carrie). Planned over a period of months, partners discussed and collectively determined research methods, locations, and funding, before together carrying out a youth workshop in May 2024 according to agreed-upon methods.
Collaboration	Land-based camps in Thaidene Nënë welcome dialogue between Dene and western knowledges, and both were also brought into this project. For example, Land-based education is put into dialogue with mainstream education research.
Accountability	Research followed OCAP principles in data collection and sharing, which ensured LKDFN and Thaidene Nënë maintained ownership, control, access, and possession (OCAP) of the research data and dissemination. The first output of this research was a youth-designed mural, and Thaidene Nënë also received a practical report to inform future planning for Land-based stewardship camps.
Cultural Continuity	Research questions and methodology are grounded in Dene knowledge and visions for the future. As a concrete example, the visual documentation of knowledge, both directly by the youth during the workshop and through their collaborative creation of a mural, reflects the holistic nature of Dene knowledge and a desire to share this knowledge in an accessible way with current community members and future generations.

Figure 2. Examples of Nuwé ch'aníe put into research practice

Collaboratively developed according to Nuwé ch'aníe's principle of consensus, workshop activities were designed to ensure the participants felt comfortable expressing their knowledge in verbal, written, and artistic forms (Figure 3). Following Indigenous storywork (Archibald, 2007; Archibald et al.,

2019) methodologies, we encouraged youth to share stories through prompts. For instance, while collectively exploring a map of Thaidene Nënë, youth drew their fingers along locations where they had travelled during camps and shared memories of what had occurred along the way. Activities moved through three phases, sharing and documenting (a) knowledge of climate change impacts in the region, (b) experiences with Land camps, and (c) recommendations for future Land camps based on the young people's knowledge of climate realities. During the interactive workshop, participants shared stories, documented their knowledge themselves through written text and imagery, and discussed what they wanted to share with both the organizers and participants of future Land camps. Their discussions and deliberations were audio recorded and illustrated by Dene artist Cody Fennell.



Figure 3. Workshop photos, clockwise from top left: a sign welcoming visitors to Thaidene Nënë; workshop participants beside Tu Nedhé, at the site of the fish camp; a youth participant and Elder working together to clean a fish; youth mapping their camp experiences during the workshop; youth hiking back to town from the fish camp; participants at the community hall, documenting their experiences.

The final stage of the workshop involved youth collaboratively determining, with Cody, how to visualize their discussions in a mural which has been posted publicly in LKDFN (Figure 4). Created after an image from a culture camp at Fort Reliance, this mural can be understood as a first, youth-articulated summary of the workshop findings. Under the heading, “Paying respect to the Land,”

Findings: Paying Respect to the Land

Dacho's words centre the role of the Land in shaping knowledge, relations (across time and beings), and future visions:

PAYING RESPECT TO THE LAND

THERE IS SNOW ON THE GROUND WHILE FOREST FIRE SMOKE IS IN THE AIR

WHEN THE ELDERS GO TO HARVEST THEY NO LONGER HAVE FURTHER TO TRAVEL FOR MOOSE OR CARIBOU THAN ICE EARLIER IN THE SPRING CAN BE DANGEROUS AND UNPREDICTABLE

CLIMATE CHANGE MAY STOP MY NEPHEW AND NIECE FROM DOING THE SAME THINGS THAT I WAS ABLE TO DO

GET OUT ON THE LAND & GET YOUR HANDS DIRTY

THE LAND CONNECTS YOU SPIRITUALLY

LEARN THE MEANING OF THINGS AND MIND WHERE YOU WALK

UNDERSTAND THAT YOU WALK IN TWO DIFFERENT WORLDS

IT FEELS GOOD TO KNOW YOUR WORK CONTRIBUTES TO OTHER PEOPLE

IT CAN MAKE YOU FEEL AS A PART OF A WHOLE

WE MAY BE THE LAST GENERATION TO GROW OLD EVERYTHING LEARNED ON THE LAND WILL HELP PREPARE FOR THE FUTURE

PASS ON THE TEACHINGS

WHITE CATHOLICS, AMERICAN INDIANS, AFRICAN CATHOLICS, ASIAN CATHOLICS, DEAF CATHOLICS, GAY CATHOLICS, HISPANIC CATHOLICS, JEWISH CATHOLICS, LGBQ CATHOLICS, MUSLIM CATHOLICS, NON-CATHOLIC CATHOLICS, PASTOR CATHOLICS, PRIEST CATHOLICS, RABBI CATHOLICS, SIKH CATHOLICS, UNIDENTIFIED CATHOLICS

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As theorized in Land-based education, youth experienced the Land as central to learning, and that learning was deeply implicated with respect. For the youth, respect is both a value and a practice, a blend of material and spiritual. Practically speaking, it may involve everything from cleaning up after yourself to ensuring against over-harvesting. Spiritually, it involves repaying the Land through prayer, along with offerings of spruce boughs and tobacco. In the face of climate change, paying respect means learning to “read the Land” and adapt to changes according to Dene knowledge, shared on the Land and through Elders’ stories. Camps helped young people read the Land through climate change and learn to care for it.

Concerns About Climate Change (pink/purple)

Familiar with the effects of climate change in the Lands around LKDFN, youth expressed concern about the future of their community, discussing their fears about climate change in conjunction with intergenerational trauma stemming from colonization (e.g., Hill & Plume, 2024). Learning about climate change throughout their young lives has been profoundly unsettling, as Dacho described: “When we were first taught about climate change, we were just kids. . . . And now we are watching it unfold in front of us. It’s not a good feeling.” While changes are concerning, they are not unexpected; for a long time, “Elders kept telling us that everything was going to change, that nothing would be the same” (Dacho). In this sense, climate change is not a new or unpredicted shift to life in LKDFN but anticipated within the longstanding knowledge of the community.

Based on Elder stories and their own experiences on the Land, youth are familiar with climate impacts associated with rising heat and changing seasons, which have resulted in lower water levels, changes to permafrost, and thinning ice, in an overall drying of the Land. Less water has in turn resulted in increased fires, along with changes to animal and fish migration patterns. In the winter, climatic changes create dangerous conditions for travelling on the ice and hunting caribou; in the summer, shifts in animal migration have resulted in difficulties harvesting. The young people understand these changes as impacting their community’s entire way of life with unknown impacts reverberating into the future: “It’s frightening to me at night thinking my nephew won’t be able to do the things that I did or that my father did” (Dacho). Since their community understands themselves as “Caribou People,” Madison wondered about their community identity once the caribou leave the region, expressing fear for subsequent generations who may not have the same experiences that have been important to them.

In expressing concern for fellow young people, participants wove into their discussion of climate change a very deep concern for the inheritance of colonial histories, from natural resource development and colonial conservation policies to youth experiences of intergenerational trauma and neglect. They are very familiar with the impacts of extractive projects like diamond mines,

which they describe as “disruptive to the environment” (Nalze), with impacts on caribou migration (Madison). They also pointed to colonial conservation practices that curtail Dene rights and stewardship of caribou. This complexity of colonial impacts not only compounds with climatic changes but also limits Dene sovereignty and cultural continuance into the future.

Youth also alluded to the Indian Residential School system and its residual impacts among present and future generations. As young people face the twinned challenges of climate change and colonial legacies, they have few healthy ways to spend their time in Łutsël K’ë. Whether at school or in their spare time, young people have “nothing to do” and “no way to remove this internal feeling that they are so caught up with all the time” (Ashton). As a result, young people are prone to getting “angry and upset, and they break things” (Ashton). Such struggles make thinking about the future difficult; as Nalze described, as a “coping mechanism” he allows himself to think “only two days ahead.” At the same time, the young people expressed care for fellow youth and hope that their younger friends and relatives will learn “not only just to survive [but] to live” (Nalze). Recognizing that other youth “want to do things [and] their bodies are made to do things” (Ashton), Dacho therefore turned to Land connection as a method of healing, recommending “taking them out into the field, getting their hands dirty.” In fact, throughout their discussion of Land-based camps, youth addressed climate impacts and colonial injustices together as they envisioned healthier futures for other young people. Throughout, they continued to reiterate that their community has “adhered in the face of adversity” (Dacho) and are capable of doing so again.

Land-based Camps and Youth Futures (green/blue)

Holistic in nature, Land-based camps supported youth to connect with community knowledge and language grounded in the Land, along with skills to maintain community life, towards spiritual integration and hopefulness for resilient futures. While many of these community connections are already recognized as benefits of Land-based education (Fast et al., 2021; Lines et al., 2019; Redvers, 2020; Woodworth et al., 2025; Ximiq (Paul) & Gunn, n.d.), youth explicitly link them with futuring in the face of climate change.

Connecting with Elder Knowledge and Dënesųłiné Language

Elder knowledge and Dënesųłiné *language are central to young people’s memories of the camps. Elder teachings are central at all camps, with oral knowledge and stories shared as young people are out on the Land* (e.g. Antoine et al., 2018, p. 72). Such storytelling stood out to Robin as the most important aspect of the camps, as it enabled a “different perspective” on how to live off a climate-affected Land without all of the modern technologies that pervade young people’s lives today. In addition, Elders’ historical knowledge is how young people come to

understand climate change and learn to read the Land. They listen to “Elders talk about how it used to be, the ice used to be thicker, there used to be caribou crossing right in front of here” (Ashton), establishing baseline knowledge for the changes that have already happened and instilling curiosity about what changes are yet to come. Grounded in Elder knowledge, young people can now “kinda see what’s being affected. You’re able to notice it more” (Ashton).

Elder knowledge is typically shared orally, on the Land, and in the Dēnesų́nē language. While the youth are not (yet) all fluent, they appreciate the importance of immersive language learning, emphasizing that all Land-based camps should involve “zero English” (Nalze), being instead characterized by “total immersion” (Dacho). Remembering the learnings she was offered during Land-based camps, Dennay shared: “what I wish impacted more with me is my language.” Language is tied with traditional knowledge of locations, plant identification for foraging medicines and food, and maintaining cultures of respect for the Land that are central to Nuwé ch’aníe and continuity into the future. Because of the importance of language, Robin recommended translators be present to guide those who are still learning Dēnesų́nē. Overall, the youth were comfortable with the fact that since they do not fully understand the language, learning might be slow. For them, learning the language and listening to Elders were more important than the pace of learning.

Contributing to Community Life

Learning from Elders and the Land, and within the context of community, gave youth a strong sense of their role in supporting mutual aid, or helping one another in the face of climate change (e.g., Cunsolo et al., 2017). Practical, hands-on learning is central to the Land-based camps, and youth excitedly shared their favorite activities, such as learning how to fix fishnets, chop wood, make drums, identify medicines, dry fish, tell stories, play Dene hand games, harvest, and make traditional food. In relation to regional climatic shifts, some had learned skills of western science, such as reading tree rings for signs of wildfires (dendochronology) or reading roots for shifts in caribou migration patterns. In describing camp activities, they did not isolate different types of learning but clustered practical skills for survival with scientific learning and cultural activities such as drum-making and language-learning, reflecting the holistic nature of the Dene knowledge system and openness to western science where it is helpful (e.g., Desmoulins et al., 2023).

When asked about why they enjoy learning this holistic range of skills for community survival and cultural maintenance in the face of climate change, youth emphasized how they were developing confidence as contributing members of the community. They proudly shared what they could offer to the community, celebrating their learning. Madison, for example, described her capability to filet fish – and the nice “wiggly feeling” she gets when the knife passes skillfully

through the flesh. Ashton gave a play-by-play of setting fishnets in winter, expressing his knowledge of both traditional jiggers and modern fish locators. Such learning instilled in youth a meaningful sense of community contribution: “Feeling good about it. Being able to do that stuff confidently. That’s what it’s all about. Building confidence. Like your ability to do something” (Nalze). Linked with confidence was a sense of purpose and understanding that action is not an individual matter but a collective and community endeavour. As Ashton described, it is “nice just feeling helpful. Like a sense of purpose. Knowing that your work contributes to other people. Makes you feel good. Makes you feel like you are part of a whole.” For them, skills development helped them “pay respect to the Land” and protect the water in the face of climate change, responsibilities they understood were shared by all people.

Experiencing Spiritual and Emotional Integration

While Land-based camps enabled concrete contributions to community thriving, the camps also nurtured spiritual and emotional connections with the Land, which gave the youth a sense of peace (e.g., Sawatzky et al., 2019), even in the face of climate crisis. When he is on the Land, Ashton likes to “enjoy the scenery, the peace, the serenity that it brings.” Similarly, Robin describes the Land as “very therapeutic,” making him feel “very connected, spiritually.” This sense of spiritual connection strengthens Madison’s sense of self:

I felt more connected with my mind and my body when I was out on the Land. And when I got disconnected with the Land I felt like I didn’t know who I was. So that’s what the camps did to me. It made me feel like I was more of a bigger person.

For these young people, the Land is not a setting for learning but is deeply enmeshed in who they are. Following the camps, therefore, they found opportunities to get out on the Land when they could, especially when life was overwhelming. They might go harvesting with family members or simply walk or drive out of town for a bit of peace.

Connected with their sense of identity, spending time on the Land also helped the youth feel more spiritually integrated. For them, the Land was a place for prayer – and prayer was a way of responding not only to climate realities but also to other struggles. When life gets “a little overwhelming,” therefore, Dacho follows his Elders’ guidance to head out on the Land, pray, and make an offering – a process that he says “works wonders.” Similarly, when watching climate change unfold around him, Ashton shares that he responds with “strong prayer.” Prayer and “repaying the Land through forms of appreciation [such as] spruce boughs, tobacco” (Dacho) are ways to return the respect and care that the Land has shown for them. For the youth, connection with the Land is mutual: “as long as you take care of the Land, the Land will take care of you” (Dacho).

Recognizing Community Resilience in Creating Futures

Across various types of learning – spiritual, practical, and cultural – young people learned how their community has been resilient in the past, which provided them a vision to not only survive but to “live,” long into a climate-affected future. An exchange between Dacho and Nalze evokes this vision:

Dacho: To learn to live on the Land is to be self-sufficient. To help others who need help without question. So if things are going to change and maybe one day a fire blows through here or for some god knows reason we would have to move, I feel like everything I have learned from grandparents, parents, uncles, aunts, will help me survive, as it did for them. As it did for my people.

Nalze: Not only just to survive; to live.

Dacho: Yeah, to live. Like I say, as humans we adhere in the face of adversity. So I still have hope.

Part of living involves not only facing adversity but also working proactively to “prevent the changes that are happening by providing alternatives” (Robin). While he recognizes the community cannot stop climate change, Robin recommends shifts to local energy systems and practices of care for the Land that can “be a really big help to the ecosystem.” In this way, the community will not only look backwards but be “prepared for whatever may come” (Nalze).

Finally, while they described multiple ways of facing challenges of climate change and colonial legacies, youth also expressed in a most concrete way the importance of fun. If given the opportunity to design their own camp, they would ensure they had time to relax by the water and play hand games. Youth described how Dene games like snow snake, finger pull, and ear pull provide a fun way to connect with Dene culture while featuring Land-based skills like strength, memory, and accuracy. Games are also a way to include young people who may be struggling with neglect and boredom, providing them a way to connect. As Dacho stated, “I need them to know that there is still hope here.”

Discussion and Conclusion

Youth participation in the research workshop was willing and active, demonstrating their dedication to Land-based camps as a valuable method for futures-building at the intersection of the climate crisis and intergenerational trauma. As Dacho said during our final minutes together: “what we’re trying to do in this community [is that] we’re trying to get as many camps, get as much youth involved as we can. We are going to keep trying.” It is the vision and agency of these youth that we are carrying into the final paragraphs of this article.

While young people in LKDFN are concerned about the impacts of climate change on both the Land and their community, the integrative learning offered through Land-based camps strengthened their confidence and spiritual

identities in relation to their communities, helping them see future possibilities for collective living – not merely surviving – on the Land. Grounded in Dene knowledge and the importance of paying respect to the Land, youth expressed how their learning integrated cultural, linguistic, practical, spiritual, and social knowledges. Youth learning took place on the Land and water – not in a classroom – in a multiplicity of ways: beside campfires, in canoes, and in the bush, and as young people listened to stories, practiced Dēnesųłíné language, harvested fish and caribou, prayed, played hand games, and ultimately contributed to the wellbeing of their community. Their learning was intergenerational and inter-temporal, with their imagined futures being infused with stories from the past, Elder knowledges, and Land relations that extend deep into history. Importantly, it also provided a sense of contributing to mutual aid, where climate action is not an individual matter but a collective and community endeavour.

While Land-based camps foster youth learning about climate change and contribute to youth wellbeing, they may also contribute to informed decision-making and Indigenous sovereignty as youth develop knowledge and confidence that can serve their communities. Following his participation in Land-based camps, for example, Dacho became employed in Thaidene Nēné by Parks Canada as an Operations Trainee, where he hopes to contribute to preserving his people's Lands and resources long into the future. By extension, others like Dacho may become involved in Thaidene Nēné's governance. Dēnesųłíné are primarily responsible for the Indigenous Protected Area but work together with the Government of the Northwest Territories and Parks Canada. Where young people develop knowledge about climate change through Land-based camps, they may be better equipped to exercise their rights and take an active and informed role in decision-making that supports their dignity, wellbeing, life, and rights in the face of climate change, including as expressed in the United Nations Declaration on the Rights of Indigenous Peoples (2007). In this way, Thaidene Nēné may provide an example for how education and governance can work in a nation-to-nation relationship, in keeping with the broader "Principles respecting the Government of Canada's relationship with Indigenous peoples" (Government of Canada, 2017). Such efforts may indeed be crucial to the healthy futures of young people as climate impacts intensify in Indigenous communities not only across Canada but also globally, as Indigenous youth seek to inform climate governance (MacKay et al., 2020).

In addition to supporting Indigenous governance, Land-based education as expressed by the young people in this study may also inform Indigenous as well as formal education systems in keeping with the "potential for Indigenous-led Land-based programming to effect social change for the benefit of all people and living beings in the context of reconciliation and global climate justice" (McDonald, 2023, p. 5). Where some Indigenous communities already integrate Land-based education, this research supports their efforts in youth futures-making in the face of the intersecting realities of climate change and

colonization. Such communities could conceptualize Land-based climate education in relation to their own knowledge systems, local climate impacts, and future goals. In addition, as climate change education is increasingly prioritized in relation to hard-to-ignore climate realities (Canada, 2024), formal education systems are beginning to integrate Land-based climate education (Ximiq (Paul) & Gunn, n.d.). In Canada, for example, the Yukon territory has created an interdisciplinary climate unit grounded in Indigenous knowledge (Yukon Grade 8-9 Cross-Curricular Unit: Climate Change, 2017), and the province of Nova Scotia is integrating a course on Netukulimk, the Mi'kmaw concept of sustainability. While the Land-based education enacted by Thaidene Néné cannot be replicated across diverse locations, learning from the youth and the methodology of Nuwé ch'anie may inform how Land-based education can work against appropriation of Indigenous knowledge for its use-value by dominant groups, instead supporting careful and accountable work across knowledge systems as education is reimagined.

As we stated at the outset of this paper: Land-based education is not a new mode of education but a longstanding form of knowledge generation and sharing within Indigenous communities. However, climate change is shifting the context, requiring deepened understanding of how Land-based education can support young people in the face of uncertain futures. Thanks to the contributions of young people as part of this research, we can see how Land-based education can support deep learning of the Land, spiritual health and practical capacities. It enabled youth participation in the collective futures-making of the community, and the strengthening of Indigenous knowledge systems and Land relations, or “paying respect to the Land.”

Notes

- ¹ Community knowledge of the changing Land can be found at Tracking Change (<https://trackingchange.ca/indicators/>) by selecting the Great Slave Lake watershed for each of the various questions. Community knowledge of the changing Land can be found at Tracking Change (<https://trackingchange.ca/indicators/>) by selecting the Great Slave Lake watershed for each of the various questions.

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