

Local Weather Events: Stories of Pedagogical Practice as Possible Cultures of Exploration

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Abstract

Purpose: This article aims to describe and discuss what local weather landscapes mean to children and how weather implies exploring bodily sensations and capabilities. It does so by following the work of a community artist, working as a kindergarten teacher, over 1 year.

Design/Approach/Methods: Through a narrative inquiry approach, which also includes studies of archival data and field notes, we analyze how local and personally experienced weather events imply what we call “cultures of exploration” in institutional practices. The epistemologies cross the specter of cultural–historical, pragmatic, and deep ecological philosophy.

Findings: Through this study, we exemplify how experiencing weather is intertwined into pedagogical practices like habituating the body to cope with cold and wet weather, learning about danger in a wild natural landscape, and valuing species as a powerful practice. The descriptions exemplify “cultures of exploration” as a pedagogical approach.

Originality/Value: In this time of an increasing climate crisis on our planet, the value of our findings is to foreground new insights, awareness, and knowledge relevant to children; to early-

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childhood education; and to life and societies at large. We can thus develop methods to better care for, protect, and educate children. This article has the potential to show how weather events are intertwined with everyday institutional practices—as well as how children, through exploration, learn to cope with seasonal weather landscapes and local cultural adaptations.

Keywords

Cultures of exploration, narrative inquiry, pedagogical practice, weather events, weather landscapes

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Introduction and motivation

The aim of this inquiry is to point to possible new understandings and knowledge—relevant to children, to early-childhood education, and to life and societies at large—so that we can better care for, protect, and educate children in these times of increasing climate crisis. It is vital, in education, that we pay attention to the relationship between children and weather landscapes and increase our knowledge thereof. This will aid us to further plan for a sustainable future and to develop pedagogical approaches that aim toward cultures of sustainability (Siraj-Blatchford et al., 2016; Zhou et al., 2016).

Through a narrative inquiry approach, we will bring attention to practices in which we can identify habits, experiences, and practices of what we will call “cultures of exploration.” The accounts and stories we share will show how weather events and weather landscapes can be experienced, and we will investigate what these accounts and stories imply about exploration within the context of children’s early years.

It is not a new theme, in early education, to experience and explore weather and seasons. Yet educators today must renew their attention to the meaning of weather events, in the context of sustainable futures. This study is essential for two reasons: (a) it is of general interest, in early-childhood education, to study how local weather landscapes affect children’s lives and how children make meaning of and cope with weather landscapes; and (b) more extreme weather is expected in the future due to global warming. Children, the elderly, and people with impairments are the most vulnerable to extreme weather. Gaining an understanding of the relationship between weather and children in educational settings may contribute to new awareness and knowledge, which can then be utilized within educational practices. This has also been pointed out by Stibbe (2017). Such knowledge is also relevant to policymakers who aim to create policies focusing on sustainable futures.

Children born today are beginning their lives in the Anthropocene age (Steffen et al., 2011). Natural forces and human forces are now widely seen as intertwined and interdependent. The

Anthropocene age was proposed in 2000, as a new phase in the history of humankind and of the earth. Academics (Capra, 1982; Kagan, 2011) and the Intergovernmental Panel on Climate Change (Lee, 2018) agree that the world is close to a tipping point and that humans have had a damaging impact on planetary processes. On the west coast of Norway, where this narrative inquiry was carried out—as elsewhere on earth—we are already experiencing warmer, wetter, and wilder weather due to global warming and increasing climate changes. This impacts children’s future lives; thus, new conceptualizations and narratives that help us understand how cultures and practices relate to weather are clearly essential to early childhood education and care (ECEC).

A line can be drawn between the motivation for this study and global concerns with risk reduction. The United Nations declared the first International Decade for Natural Disaster Reduction back in the 1990s (Siraj-Blatchford et al., 2016, p. 203). Although the global and national discourse today, in the field of education, is often aimed toward education for sustainability—and though sustainability as a concept has gained in strength and popularity since the 1980s—*unsustainability* has deep cultural roots (Kagan, 2011, p. 23). A cultural–pedagogical perspective represents the search for insights and knowledge that can point to ways to escape this unsustainability. While we connect this theme to children and teachers in the context of early childhood education, our agenda is *not* to teach children about global warming, changes in climate, or crises. Instead, it is to raise awareness—in the context of ECEC—to children’s rights, including both their right to protection from danger and their right to be recognized and encouraged as explorative and creative agents in their own “weather worlds.” As such, we aim to give examples of longstanding historical practices of introducing children to local weather landscapes and of how children—through exploration, adaptation, and cultural formation—can form part of local practices.

This article is comprised of four parts: First, we will outline the concept of “weather event” by introducing the Norwegian and local context as well as the epistemological underpinnings for highlighting weather in an ECEC context. As narrative inquirers, we will include personal stories and memories. By walking alongside André for a year while he worked with kindergarten children and staff at the intersection of arts and education for sustainability, this narrative inquiry brings knowledge and insights into how local weather events create conditions for children’s cultural formation. It does so by eliciting stories, by listening to memories, and by discussing the challenges faced within this ECEC setting. The study includes André’s notebook for the year as well as archival data of the 4-year-old kindergarteners’ own documentation and reports.

The personal is also cultural, according to Clandinin (2013), Ingold (2011), and Mollenhauer (1983). We introduce a pedagogical thinking tool of “cultures of exploration,” grounded in cultural–historical and nonhuman awareness epistemology, to develop relevant knowledge within a frame of sustainable futures.

Conceptual underpinnings and arguments for establishing “cultures of exploration” through a study of experiencing weather events

Cultures of exploration, in early childhood education, introduce the promise of a pedagogy where the teacher cocreates kindergarten content when operating in practice; in planning and meeting children and families in their local community; and in considering activities, relations, place, and space (Ødegaard, in press). Cultures of exploration, in research, need to consider *time*, *relation*, and *place*; these aspects are also crucial to narrative inquiry (Clandinin, 2013). Time is both the “here and now” and the future (i.e., being and becoming). It is, at the same time, connected to the social (relation) and physical (nonhuman) worlds as weather landscapes and weather worlds. Time as “becoming” indicates “changing to,” “moving toward,” and “formative development” and actualizes personal stories. Dialogical engagement is seen as the most crucial moment in pedagogical practice, which can open the space for “cultures of exploration.” Here, we draw on concepts like heteroglossia, speech genres, and Mikhail Bakhtin’s (1981, 1986) loophole, among others. The conceptual underpinnings cross the epistemological perspectives of cultural–historical (“cultures of exploration,” as grounded in, e.g., Hedegaard and Ødegaard, in press), pragmatics (as grounded in narrative inquiry by Clandinin, 2013), and an anthropological approach, giving attention to humans’ relationships with the nonhuman, and to geographical weather landscapes (grounded in Ingold, 2011).

We use the central concept of “local weather events” to underpin the inquiry. Such events refer to experiences where the weather is the driving force in an analytic narrative description of what takes place within excursions. We anticipate that weather events condition children’s meaning-making. This is shown, for example, in how the children and staff in the study work collaboratively to build a new habitat in the woods or in how they express themselves through drawing and storytelling. Weather events also condition children’s cultural formation—for example, how institutional practices discipline children to live, explore, and cope in their weather worlds. As Ingold (2001, 2018, pp. 20–31) has pointed out, education is fundamentally a matter of attention, not transmission. While transmission shuts out life, paying attention (Latin *attendere*, meaning to stretch) includes listening to meaning, being present, and getting along with others by caring for people, things, and nonhuman conditions alike (Rytzler, 2017).

Weather, especially extreme weather, creates important sensory experiences in children’s lives and has crucial impacts on their living and survival conditions. While this sensory condition is crucial to the Nordic way of life, the condition is often overlooked, as shown by the cultural saying “It’s not a matter of bad weather but of bad clothing” when referring to outdoor living in the cold and wet North. Norwegians with a local family history, like the research team behind this article, have traditionally taken for granted that experiencing nature—going outside, taking walks in

nature landscapes, and getting fresh air—is important for a healthy life. This cultural belief is also evident in the national curriculum and is regulated by Norwegian law. The first sentence under the headline “Sustainable Development” states: *The children shall learn to look after themselves, each other and nature* (Ministry of Education and Research [MER], 2017, p. 10). Since sleeping outdoors in strollers, or in shelters equipped for outdoor sleeping, is a common practice for toddlers aged 1–3, low-temperature guidelines are provided to the owners of these items. For example, children should not be outdoors when effective temperatures are below -10°C . Various nongovernmental organisations and the health directorate have pointed out the danger of getting too much sun and have provided advice on how to protect children from sunburn. With new weather landscape of more extreme weather, protection guidelines will be important.

Because we already live in a weather world, climate change is a reality, and adult societies have the responsibility to reflect on—and act upon—this reality as it affects our children’s development and well-being. We thus need to create new pedagogical knowledge that will study nature–culture binaries in the context of education (Wells & Lekies, 2006). When children make sense of the weather, we consider this sense-making to be both a habitual and an explorative practice as well as a situated local landscape practice. When these practices take place within an institutional setting such as a kindergarten, we consider these practices to be formative: Children will experience more than just the sensation of wind, cold, water, and snow. Their teachers will introduce them to educational practices based on local landscapes and cultural habits, which will provide more or less reflective awareness.

While today the general population has a higher general awareness of climate, the use of weather conditions in educational settings is not a new theme. Historical–philosophical writings on children’s lives, such as those of Comenius (1887/2012) and Fröbel (1885), highlight the cyclic nature of living on earth. Comenius presented the holistic weather world, which included landscapes for children, in his *Orbis Sensualium Pictus* (Comenius, 1887/2012; Ødegaard, 2018). Fröbel (1885) highlighted how humans are part of nature’s whole life cycle, with seasons for gardening and changes in nature (Eikset & Ødegaard, in press). These historical–philosophical roots of early childhood education can also be seen today through traditional kindergarten curricula, such as learning about the seasons and the experience of planting seeds, both of which imply learning about nature’s cycles and the conditions necessary for growth.

We agree with Elliot’s (2016) argument in a recent editorial note: Children’s rights should include active/agentive rights, collective rights, intergenerational rights, and eco/biocentric rights. We also agree with recent post-human and nomad thoughts that highlight awareness of how “more-than-human” ways of knowing, being, and acting are worth taking up (Bignall & Rigney, 2019; Ingold, 2010). These thoughts align living with a holistic ecological understanding—as can be identified in early human history, indigenous nomad traditions, and the philosophy of deep

ecology. Arne Næss—the Norwegian philosopher of deep ecology who was inspired by eastern philosophy and was an important agent of ecological thinking in Norwegian society—urged us to think holistically and in a future-oriented way. He stated that one of the characteristics of a human being is the ability to imagine and create alternative solutions and that these human characteristics give us a greater responsibility than any other living organism (Næss & Mejlender, 2007). Following on this statement, we further argue that the romanticized image of the child in nature, long-held in early-childhood education, should be both challenged and expanded by current studies. Nature is both rewarding and harsh; as such, its role in children’s lives is paradoxical.

While most children in Norway live regulated and habitual lives within families and early-year institutions, they also live in unpredictable weather worlds. Until the unusually warm summer of 2018, growing up on the western coast of Norway meant living in a weather world where most days were cold, wet, and windy. Landscapes here can be rough, with rocky mountains and uncultivated woods and a coastline marked by fjords and openings to the North Sea. Childhood experiences, memories, and habits are created as part of a child’s formative development. During a 1-year kindergarten cycle, where the culture prioritizes outdoor living for many hours each day, children will experience a variety of weather events. Some of these are pleasant and temperate. Others are extremely cold or hot and potentially dangerous—with strong winds, icy external landscapes, or a burning sun. Weather forms part of the local landscapes of kindergartens in ways that connect to ECEC policies, curriculum and design, and regulations for outdoor activities.

Ingold has clarified how air and weather are part of human lives. Ingold (2010) concludes, in *footprints through the weather-world: Walking, breathing, knowing*, that weather is a critical factor for the relationship between bodily movement and the knowledge that develops from that movement. Myrstad and Sverdrup (2018) reference Ingold by stating that—although weather conditions, landscapes, and seasons are guiding elements for kindergarten activities and although we recognize that weather conditions play an active role in learning processes—these themes are mostly ignored, both in early-childhood research and in practice. The authors provide detailed insights in their up-to-date descriptive research into how temperatures and the snowy outdoor landscape are inter-related and how changing temperatures and snow qualities condition young children’s movements in outdoor activities in the northern parts of Norway.

In this frame of understanding, which explores how formative practices take place in an institutional setting located in a specific place, weather events are one aspect of the cultures in which children live, adjust, and protest. In this study, “place” is considered dynamic (Massey, 1991, 2003) and “formative practices” are understood to be cultural and habitual experiences. We follow Mollenhauer’s critical thinking, in this context, which views education as *Bildung* (Cultural formation/Becoming; Mollenhauer, 1983). In line with Ingold (2018), mentioned earlier, Mollenhauer also emphasizes the value of “attention” in education. Mollenhauer (1983), more explicitly

than Ingold, has developed an educational language and arguments for cultural awareness around how we present and represent culture to children by living with them.

“Culture” in this context means art, habits, values, and human relations. Mollenhauer suggests that “pointing out” is a fundamental educational act through which children’s attention is both directed and formed. In everyday practice, children—along with staff who, in different ways, point out and embody different ways of living—will acknowledge the existence of and the uniqueness of these, in interpersonal and intergenerational relations. Ingold (2001, 2011, 2018) agrees with Mollenhauer regarding habits and the generational perspective of human culture. Yet, he goes beyond the view of culture as human-centered by paying attention to more-than-human worlds such as landscape, weather, and biological human heritage. These philosophical inspirations help us to understand practices as formative, habituated, explored, and experienced. As Mollenhauer (1983) has pointed out, some of these values and ways of behaving are articulated and carefully planned for. Meanwhile, others, which may be more embodied, habituated, and subtle, are rarely articulated or analyzed systematically. Educational institutions—following national and international frameworks and laws—discipline children in ways that are anchored within a broad common agreement about the values and rules of what we consider children’s best interests, in the cultural context in which they live. But everyday habitual practices also follow hidden and often forgotten or ignored practices.

It may seem obvious, but weather conditions may affect what is possible for children to do; previous researchers (e.g., Chan & Ryan, 2009; Myrstad & Sverdrup, 2018; Somerville, 2013, 2015; Somerville et al., 2011) have also documented this notion. High or low temperatures, heavy rain, heavy snow, or strong wind may allow for short explorative events and may be fascinating from a distance. But being in extreme weather for an extended period of time can serve to decrease one’s pleasure and can be unsafe, especially for children. On the other hand, participation in some activities—such as sledding, skiing, skating, or swimming in natural outdoor environments—is only made possible by specific weather conditions.

Elin Meeting André in dialogues of exploring landscapes, children’s arts, and sustainability

In the initial phase, I¹ searched for possible articulations of sustainability and weather events in public online reports and in annual documents for the year 2017, provided by 242 kindergartens in Bergen, the second-largest city in Norway. By word-search in these documents, we found a small sample of projects and themes that were framed and articulated as “sustainability” projects, but none were also articulated as relating to “weather” or “climate.” The most common keywords we found connected to outdoor activities were physical activities, nature, explore, outdoor play, meals,

and activities. Nevertheless, I found examples of themes reported indirectly, with weather-related words like “water” and many photos portraying outdoor activities.²

At the same time, André, a community artist, was seeking collaborating partners for a research project. He found me and asked that we look for opportunities to partner in common areas, for future research. André had years of experience working with municipality kindergartens in the city of Bergen to strengthen the quality, especially in the intersecting areas of arts and sustainability. To develop new research projects, we agreed to carry out a pilot study through dialogues and shared inquiries.

When I first met André, I was studying the concept of exploration and searching for literature. It struck me at once that he was an explorative practitioner, highly engaged in understanding and supporting children’s meaning-making and exploration—their living in the world—especially in the weather landscape world (Hedegaard & Ødegaard, in press). André’s portfolio included many community arts projects, financed by the Norwegian Ministry of Arts and Culture and the municipality of Bergen. He was also attractive to local kindergartens because his support and collaborative pedagogical work with children and staff had been experienced as productive, in processes to enhance the qualities of kindergartens. His expertise had earned national awards for kindergartens documenting arts projects.

We agreed to explore his experience and engagement in greater depth, through a year of work in one kindergarten. We began by selecting his report from 2017, conducted in and with a local kindergarten. We met 14 times over the year for dialogues and inquiries, to understand more about the impact of weather landscapes and early years’ institutions. We started out with stimulated recall (Dempsey, 2010) of stories about weather events. André’s ideas were inspired by a Norwegian novelist, Knut Hamsun,³ and his book *Growth of the Soil* [*Markens grøde*]⁴—a novel about how man habituates to the landscape, about how the landscape creates certain harsh conditions, and about how life itself is complicated. The framing was an arts and nature project exploring “habitation.” In it, we observed how two kindergarten groups experienced new landscapes and how they explored the habituation of a place in a neighboring nature landscape that was considered “wild.” This report was rich, illustrated by photos and children’s drawings to document and describe a series of projects aiming to elicit and encourage children’s meaning-making, exploration, and creativity in diverse artistic expressions—both while habituating the place and afterwards in storytelling and drawing sessions. The parents and staff had given their consent to the arts project, including the documentation thereof. Photos of landscapes and of children’s activities⁴ when working with the process of habituation, along with the children’s drawings in the report, provided a source for the stimulated recall and, later, for the analysis of André’s stories.

We decided to expand the data sources by adding André’s notebook to our analysis.⁵ The notebook consisted of a detailed account for each day of the project. This account gave descriptions

of the landscape the groups approached and the process of settling in and habituating the place. The report triggered memories and stories about weather events in much greater detail than as stated in the report.

The background for the notebook was André's work to supplement the kindergarten curriculum. The documentation was produced in a series of 16 excursions, with 60 written pages altogether. The notebook consisted of stories about André's dialogues, observations, and reflections. For the project work in the kindergarten, photos and children's drawings were included. For research purposes, only the already public photos and drawings were included. André's personal notebook was also used to stimulate remembrance (Dempsey, 2010) and elicit elaborate narratives about weather events. To help trigger memory, the YR⁶ application was helpful for establishing the exact local weather at the time (as also seen in Myrstad's and Sverdrup's, 2018, methodological approach to studying the impact of weather for kindergarten practices).

Stimulated narrative recall helped André to describe, in richer detail, his remembrance of his experience with the weather landscapes and how this created conditions for children's movements and their experience with excursions. Telling stories based on memories is a means by which human beings represent and restructure the world. Stories reveal a specific cultural system, the "organizing principle" by which "people organize their experience in, knowledge about, and transactions with the social world." (Bruner, 1990, p. 35) By studying written and oral accounts of personal experience, we can examine the tellers' ways of representing and articulating practices concerning weather events.

Several items were identified as stepping-stones for the narrative recall. We worked on narrowing down a broad field of possible angles, into our common interest: How weather as a natural condition intersects with everyday institutional practice. We looked into connections between the children's meaning-making and agency in finding a place and building a shelter with the material they found in place as well as other material conditions such as landscape and weather. André emphasized his pedagogical approach when doing excursions with children. He describes his own ambitions and the frame for the pedagogical explorative approach with the children, as follows:

I wanted the project to develop as organically as possible, so I tried to be open both within the project and in the process we used. We did use a structure, however: we wished to explore a place located on the outskirts of the kindergarten, and we wished to work together on a process of building, using natural materials. The children, staff, and researcher experienced the chosen place as "wilderness:" it had no previous paths or other obvious signs of human interference. Instead, it was an uncultivated rocky area with trees, bushes, a stream, and some steep hills—a typical area in Norway's west coast. (Edited excerpt from André's field notes.)

As the second author, the leader of the kindergarten arts project, and the creator of the field notes and stories, André was highly aware—as he expresses in this excerpt and repeats many times during our dialogues—of how the children explored and experienced the landscape. He took the project step by step, as he wanted the project to develop as “organically as possible.” Still, he had a plan and a structure in place, in an effort to grasp the children’s meaning-making. He did this by walking alongside the children when they went into the wilderness and built a shelter, and while sitting on the floor beside the children while they drew after each excursion. André established a long-term relationship with both staff and children as he walked alongside them at excursions and worked with them during the arts project—both when habituating a place in the wilderness and when drawing and recounting their experiences after the excursions.

These excursions took place once a week for 9 weeks. The children involved were all 4 years old and were divided into two groups. The first group had 10 children, 1 teacher, and André. The second group had eight children, one teacher, and André. The structure of the working process was as follows:

1. In the woods: 09:45–11:45
2. Outdoor meal: 12:30–13:00
3. Artist workshop: 13:00–13:45
4. Adult meeting: 14:00–15:00

The steps in the collaborative process (children, teachers, and André) were:

1. finding the place, studying a map of the area to find a place to explore, searching along the stream/river to find a place to build a shelter, experiencing cold and wet weather for several hours, marking the place, establishing a drawing book, and establishing a place for the documenting camera;
2. exploring the place, finding samples from the land (stone, grass, etc.), walking across the land, fishing in the stream, and drawing the place;
3. establishing functions, building a shelter, bending large branches and stripping and marking them with rope and thread, and braiding the branches for walls;
4. continuing with the building;
5. living and being; exploring how to stay protected and to live in cold, wet weather; and finding materials from the juniper trees, to sit and rest on;
6. establishing more functions: a fireplace, reconstructing a place by the river for better access to the river and digging for a place to grow potatoes; and
7. living and preparing for a more comfortable life by further building and making improvements, both within and outside the shelter.

Narrative inquiry and the analytic commonplace of time, relation, and place

According to Clandinin, we all live in personal stories—stories that are planted in us in our early years or along the way—and we also live by the stories we have planted in ourselves (Clandinin, 2013, p. 22). Narrative inquiry is a relational inquiry. This means, for me, that the study was a collaborative inquiry into the research puzzle⁷ to explore the impact of weather events, which could be unpacked when entering dialogues. My role was to coexplore whether the analysis of weather events could be a fruitful way to acquire new and relevant knowledge in the context of future sustainability research. I later organized, for our dialogues, a series of stimulated recall sessions for remembering and developing understandings. Over the course of the year, in 14 meetings, we developed a collaborative partnership and shaped a joint understanding. I wrote up new narratives and presented drafts of the analysis for further discussions and changes with André.

The data analysis consisted of three levels of analysis. First, the two authors collaborated on a common-sense analysis based on the second author's (André's) own field notes from the kindergarten project. We saw that weather events and the weather world itself were scarcely mentioned, explicitly, in the field notes. Yet we discovered that if we isolated the narrative descriptions of how weather events conditioned the children's actions, explorations, and expressions, then weather events could be read between the lines. Most of all, the field notes provided descriptions where the children took the weather world for granted. For example, when the weather was notably cold, snowy, icy, and wet, the notes informed us of these conditions indirectly. André could vividly remember more details when going through the field notes. He told stories of children while they were moving, playing, and building in the snowy, icy, and wet landscape. We, therefore, could build a next level of narrative analysis including a new set of more focused notes, creating new narratives based on stimulated recall.

The second level of analysis was inspired by the perspective of narrative inquiry (Clandinin, 2013), where time, place, main characters, and problems are interconnected. This coexploration continued along a narrative view of weather relations. Narrative inquiry uses temporal order to organize information about events; in this way, a weather event is a "moment" when the weather is taking place. We call this the *temporality commonplace* (Clandinin, 2013, p. 39). In our context, this notion of moments supported our analysis. The narrative analysis, in short, was a reconstruction of events based on field notes, the public report that included photos and children's drawings. By identifying the small narratives that contained articulated or indirect relationships between weather worlds, the landscape, and the children's activities, we were able to gain richer material. At the same time, the material was more focused—as a process of experience, moment by moment.

Such a procedure will not present experience as it was. Rather, it shows an experience as André remembers it, on the basis of his own field notes and visual material. Narrative inquiry attends also to the personal dimensions of stories. We call this level of analysis the *sociality commonplace* (Clandinin, 2013, p. 40). By recalling events, we explored how André remembered them—both going inwards to his motives and value positions and going outward to unfold the particular events. The specific physical place was of special interest here. Therefore, we also included a narrative recall that we call *place commonplace* (Clandinin, 2013, p. 41). The experience of place, in this project, meant the experience of nature, landscape, and weather sensations. By exploring place, we were able to access more detailed memories of the temperature, rocks, water, plants, and surfaces André had experienced. This procedure of memory and reconstruction allowed us to move to the third analytic step: A construct of analysis, inspired by Ødegaard’s conception of how “cultures of exploration” (Ødegaard, in press) can be constituted and further conceptualized, by systematically analyzing and describing dialogical engagement, here found in the teacher’s practices. This inquiry gave rich examples of how a teacher engaged in children’s experiences via a dialogical pedagogical approach, as seen below.

Finding cultural practices constituting “cultures of exploration” in excursion

Upon reviewing the collection of material created throughout the year of 2018, I found several core descriptions in André’s oral recall stories, his notebook, and his reports (archival data), which also included photo documentation.

1. Habituating the body—to cope with, adapt to, and manage weather sensations.
2. Encouraging agency and imaginative expressions.
3. Valuing local weather landscapes and species.

Habituating the body to weather sensations

Reading André’s notebook, I could see how the cold and icy weather dominated several excursions and how the roots, grass, and rocks on the wild terrain made it slippery and difficult for the children to walk without falling. André encouraged the children to take small steps and to concentrate, so they would not fall on the slippery stones and roots. He also wrote about incidents where children cried; they were wet, cold, and tired. When expanding the experience of the event, André recalls:

One of the low-voiced children told me that the rocks were too icy to stand on. At the same time, I saw another child with tears in his eyes. I then encouraged him—“You might want to try smaller steps”—and I suggested: “Watch out for branches, you can stick to them.” It was not easy for them, so I went to a child who lay on the ground—he had fallen over—and I helped him on his feet again. I noticed that he was

unfamiliar with such terrain. I showed him how he could bend his knees a little more in order to keep his balance. I held his hand the first steps and then I said encouragingly, “Now you do it.”

He continues:

We are far into the forest and the children are tired. “Shall we not eat?” One says. “We need a place to eat,” says another and they begin to look around. Encouraged by finding a place to eat, they are spreading a bit in the terrain and soon fervent exclamations about nice places are coming. “Here is a very nice view,” says two who have found a small mountain shelf. I come up to them and we sit. “Is there room for everyone here?” I ask. They look at each other and shake their heads. “But it’s a nice place; from here we can see all the others,” I say encouragingly. Two larger groups stand out on the plains and I see them discussing between themselves. I go down to look at each of the places. They fit both well and I call everyone together so we can take a vote. The eager debater for her place loses her case and becomes very frustrated. “I’m sitting here anyway,” she says stubbornly with her face turned away. I sit down with her a bit to show solidarity. I see that it is a huge loss of prestige for her, and after all she has added that she does not intend to give up on this. “Shall we go away together?” I suggest. She shakes her head in despair. “What if I carry you away?” I suggest. She doesn’t say anything, but I see that this could be the way out of the trap. I lift her gently and carry her away to the others. It seems that several in the group recognize themselves in this, and there are no comments on the appearance.

Encouraging children’s agency and imaginative expressions

André expressed—in the reports, in the field notes, and in his recalled stories of events—a deep respect for children’s initiatives, their intuitive expressions, their play imaginations, and their understandings of the world around them. He also showed a deep interest in their artistic expression through the way they built with natural materials found in the woods as well as in their photos and drawings. He vividly recalled dialogues he had engaged in with the children, stimulated by his field notes and reports, which also included photos and children’s drawings. André’s personal engagement in the pedagogical practice was evident in the way he went and sat alongside children or walked beside them, as well as later, in the drawing activity sessions. He would sometimes point to the level of engagement of the staff (here referred to as adults) he worked with. Here, we will present a stimulated recall story where André enhances children’s initiatives; we can then study how he follows up in dialogical practices. This next narrative unfolds around the stimulated recall of a drawing from the archival data (a report). André explains how, after each excursion, the children work with their individual “Forest-green-book”—a book where they express themselves through art, often in drawings. These art-making events are arranged in a room in the kindergarten, where the children work on a floor that is decorated as a natural wild environment. In this narrative, André, the group of children, and an additional adult are working with the children’s Forest green books.

“See that odd hole?” The child said and pointed to a spot on her drawing. “Does anyone live there?” One of the adults asks. The adult places his hand towards the opening of the hole in the drawing. “Don’t do that,” says the child. “Maybe you will disturb, I might rather take a picture,” the child says. The child who discovered the hole in her drawing explains more. “It’s dark in the middle—completely dark,” she says, and the pencil runs quickly in circular motions of deep purple colour. “It looks so dark that you can’t see what’s there,” I suggest. “The edge is brighter,” the child took an orange pencil and drew a gentle circle around the deep purple hole. “It’s almost like a light,” I say, remembering how the sunlight had made an optical narrow ray, like a luminous ring under the leaves of the tree. The sun was low this day, due to the autumn season. I imagined the child explored how to express that in her drawing.

I recall how this child, earlier this day, came up with a suggestion that inspired me. I recall this day, in particular. The weather was unusually warm for the season here, it was late autumn. It had been a nice day for building shelters in the woods and we had been talking about what man needs for survival and one of the things we agreed upon was the need of a shelter. We had made a shelter by bending the tops of the small trees together into a kind of hut, using a thin rope for the purpose of collecting the branches so they would stick together. We sat down admiring our construction. Then one of the adults asked, “What do we need for the cabin?” “I don’t know,” one of the children replied. Then another child suggested: “Close your eyes.” I could see that everyone closed their eyes, so I followed up of course. Then eventually suggestions for a bed and a kitchen came up. “What else do you see?” I asked. Then one of the children sincerely said: “I don’t see anything when I have my eyes closed—it’s completely dark.” Others followed up with more suggestions about what they could imagine. I found this event so inspiring, and since this day this idea of closing our eyes to think better became a common way when we talked about how we could arrange shelters, survive, and live in the forest.

The narrative describes how André notices children’s suggestions and follows up on them, both “there and then” and later on, as new practices. André had more narratives about how children came up with suggestions and how he, and the other children and adults, followed up. He continues:

We were way past the children’s usual mealtime and several children suggested settling down to eat. Other children would like to go further in order to find a better place for sitting down. When some of the children just sat down, the adult addressed the whole group: “Those who want to sit here, please raise your hands now,” and, a moment later: “Those in favour of moving on, raise your hands.” The adult counted the votes and the majority wanted to sit down and eat. In spite of the adult’s conclusion, one of the children went ahead and soon after his friend went along with him, some more meters up a steep stony hill. Soon the two shouted out: “Up here is very nice.” I walked up to the two out-breakers. “Those with the food are down there,” I said, pointing. “But here it is much better,” one of them argued. “It’s really nice here,” I confirmed, and I sat down with them for a while. “But what about the food?” I asked. I suggested that we could decide this spot as an extra place for us, a viewpoint. Then one child suggested that down there could be the place for meals, so the three of us headed down to the main group, so the whole group could eat together.

In this narrative, we can see André explaining his way of negating places to sit. When some children break the decision made by the adult after the first round of negotiation and voting, he walks along with them, recognizing their choice of place. This recognition seems to ease the process of reaching his pedagogical aim of bringing the group together at the same place, creating togetherness for the mealtime.

Valuing local weather landscapes and species

The main pedagogical ideas of this arts project were to connect arts to the creativity that can emerge when exploring and to have new experiences, including those that offer challenges and conflicts. These ideas were investigated by walking in the forest landscape, finding places to inhabit and explore as a group, and getting inspired while experiencing a challenging landscape and exploring the places where the group decided to settle down for day and for the season. Both children and staff would engage in dialogues while walking as well as when settling down to rest. André explains, through the following narrative, how these activities could bring up dilemmas, conflicts, and negotiations between the human habitation of the natural landscape and the living natural landscape itself.

When the group camped, everyone searched for the best place available to sit. In rainy, wet, and cold weather this was demanding, and it could take time before everyone was settled in a comfortable position. Even if the clothing generally was very good and the staff had brought insulating items to sit on, the ground could still be too wet, slippery, or soaked, so we often searched for particular moss or flat stones in order to sit comfortably. At the beginning of the year I experience(d) bad weather such as strong winds, as well as heavy rain, hail, and snow, (which) were demanding. I felt challenged and I experienced that some of the children would hesitate. I eventually found it interesting to see how we coped with all this bad weather. We had nice weather days too, but I soon started to like us being challenged by notable weather conditions.

I remember one time one child found a good place and was about to sit down when the child discovered a small beetle that (was) slowly crawling over the selected small spot. The child stood half turned, in a kind of stiffened position between sitting and standing, while waiting for the beetle to cross the spot. It took a while and the child beside her followed the event with a startling facial expression. The child, in a stiffed motion to sit, waited patiently in a very uncomfortable position until the beetle has passed before finally sitting down. The child beside took a relieved sigh.

The narratives above exemplify how André himself and the children adapted to the local weather landscapes and the ways in which valuing the species living there became integrated into everyday practices. Finding good places to sit—what we could call inhabiting the landscape—could take time, due to negotiations and adaptations. At other times, André would challenge children's beliefs about animals. In his field notes, we found the following dialogue:

GIRL: Wolves are cruel. ME: They're not cruel to other wolves. They can be dangerous to humans. We as humans are dangerous for many animals. GIRL: Not for horses. ME: Well, sometimes humans eat horses, and that makes us dangerous for them, and we're also dangerous for sheep and cows.

Recalling the dialogue, André comments:

Occasionally the topic (would arise) of what kind of animal we could expect to meet in the woods, and we met a lot of living (species) during the spring, summer, and autumn season, mostly insects and birds. I believe it is important to teach children respect for living species. For example, I would encourage the group to understand that we shared the woods with the other living species. I could say: "Watch, there's a duck family. Let's be quiet and watch them," and I could say, "If there was a snail there, let us remove it gently."

This value of respect for other species was evident through many of the events described in the field notes, as presented above. It also came back in our summing-up dialogue. In response to my provocative question—"Is moving a snail really an act of valuing other species, or is it just an act of human centrism?"—Andrés answered:

Well, the most common act of a human being—if a snail would be situated where he should sit—I reckon (would be) to kill it. In the kindergarten, we made a point of gently moving it. I guess we could have moved the whole group, but there would be species all over the ground. As humans, we had already entered the place where species live. We should rather learn to live together.

The narratives above reveal how weather events became inscribed in the everyday cultural practice of the kindergarten. Weather landscapes—such as moss soaked by heavy rains, cold temperatures, sun, and strong winds, as well as hail and snow—had an impact on the cultural practice.

Concluding discussion: Experiencing weather events in cultures of exploration

The aim of this study was to take the first explorative step into understanding more about how weather landscapes affect children's lives and about how children live in the weather-world of a specific local place—in this case, the western coast of Norway—in an educational context. In this study, weather served as a material condition that was integrated with everyday practices in an educational institution (in this case a kindergarten) and presented as a culturally formative practice.

The study's narrative inquiry design enabled us to bring to the forefront of attention how weather—a material condition for sustainability, as well as a personal and cultural one—can be integrated with everyday practices in an ECEC institution. The narrative descriptions show how weather, although primarily mentioned only implicitly in the field notes, became more explicit in recalling the events as personal narratives as well as in analyzing archival photos and drawings.

Habituating the body to live and cope in local weather landscapes, often meaning wet and cold weather, was the main narrative told. Other narratives observed children's relations to species, to exploration, and to participation. This study contributes to a greater understanding of how institutional practice is also a culturally formative practice, related to traditions and values established in culture and revealed in personal and local practices. The inquiry exemplifies how a dialogically engaged teacher can help expand children's experiences and how children can learn to value nature, in many varieties and forms, through a series of excursions and follow-up arts sessions.

Clandinin (2013) characterizes narrative inquiry as a slow research methodology, in which a study's authors attend closely to research participants, going along with them as stories unfold over time. I went alongside André, as he went alongside children and staff, over a year. No participant walks away from a narrative inquiry without being changed. André had experienced being provoked by the staff, regarding his intense collaboration and engagement with the children. He intervened in a culture where he extended the cultures of exploration. Our research puzzle of searching for a deeper understanding of how weather events impact pedagogical practices and cultures of exploration resulted, too, in a more profound understanding of how weather landscapes impact humans' habituation to cope with weather and local wild landscapes. The landscape—the "wilderness" explored by the groups—was not simply a romantic harmonic landscape, and the habits of being out in the cold and wet weather did not lead only to harmonic togetherness. These descriptions can challenge what Elliot (2016) describes as the long-held romanticized images of "the child in nature" that are dominant in early-childhood education discourse.

The inquiry revealed that—parallel to this romanticized image—was another cultural practice where children negotiated, protested, and adapted to the landscape and the weather. Equally important to this study is its exemplification, through inquiry, of how dialogical engagement can create group togetherness and learning values. Through André's field notes, archival data, and personal narratives, we were able to give rich descriptions of "cultures of exploration." When André challenges the children's emotions and senses, when he supports them even as they enter into dialogue and negotiations, children are encouraged and supported; they overcome tough situations. Such practices reveal habits, as well as local values and norms, for how to live with local weather conditions.

Overall, our study provides insights into how cultural values are embedded in everyday practice, via a project of exploring the wilderness and finding a place to build a shelter. The children's activities were conditioned by weather worlds, the landscape, and educational culture and habits. The inquiry showed how André and the children dealt with aspects of the cultural dimension of exploration and how institutionally based lives create cultures that can potentially be, or already are, cultures of exploration. Through the coexplorative narrative inquiry, we found experiences and patterns of how weather events create conditions for the kinds of sensory, bodily, and intellectual

knowledge that children can develop—and that will affect children’s lives in ways that we are only just beginning to understand and foresee in education.

For further studies, we aim to learn more about how kindergartens build “cultures of exploration” to find a way out of unsustainability. The cultural and creative dimensions of sustainability need to be given more attention, although the past decade has seen growing interest in the topic, especially in the arts (Kagan, 2011). United Nations Educational, Scientific and Cultural Organization (1998) has also pointed to the importance of including “the power of culture,” proclaiming in general terms the interrelations between culture and sustainability. The cultural dimension of sustainability contains a wide range of important areas, including heritage, arts, global media, diversity, and indigenous culture, among others. Through awareness of the weather, teachers and staff can support children in ways that can help lead the way out of unsustainability.

The kind of activities-based education that André conducts concerns life and human activities in a broad and fundamental sense of being in the world. Rethinking pedagogy for the future is necessary since traditional pedagogical approaches—emphasizing adjustment, memorization, or transmission—develop neither children’s practical knowledge (that would enable them to survive in crisis) nor their dialogical engagement, critical thinking, or curiosity to search for new solutions. The stories Andrés tells about his practices highlight important capabilities necessary to build a sustainable future. Early childhood research agrees that the youngest among us must be allowed to engage in play, exploration, and meaningful inquiry-based approaches for personal and community growth.

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Notes

1. The “I” in this article is the first author, a professor in early childhood education working on a project at the intersection of exploration, cultural formation, and sustainability. The project is funded by the Norwegian Research Council through the KINDknow Research Centre (2018-2023), a center to enhance systemic research in kindergartens (years 1–6) on education for diversity and sustainable futures.
2. Kindergartens publish photos without identifying the children depicted therein.
3. Knut Hamsun (August 4, 1859 to February 19, 1952) was a Norwegian author who won the 1920 Nobel Prize in the literature. Hamsun’s work spans more than 70 years and shows variation with regard to the person and nature.

4. No personal information is revealed through the documentation in the reports, since kindergartens publish photos without children's portraits.
5. The notebook did not show any of the staff or children's names or personal information, so that analysis could be done within ethical regulations.
6. YR is an application for weather prognosis and keeps a historical record of weather.
7. In narrative inquiry methodology, framing a research puzzle is central to the design process. It is considered a puzzle, rather than a research question, as narrative inquiry carries with it "a sense of a search, a re-search, a searching again." (Clandinin, 2013, p. 42).

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