Textiles and the Creative Possibilities of Assemblage Thinking in Early Childhood: A Narrative Look

Catherine-Laura Dunnington
University of Ottawa, Ontario, Canada

Abstract

As textiles continue to feature heavily in discussions of sustainability, and young students continue to be positioned as saviors of the planet, this paper joins the call for assemblage thinking in early years research that decenters humans and foregrounds relationships. What follows is a subset of a larger study, where one preschool classroom engaged with textile themed provocations, and I had the honor of listening deeply to the children. This work borrows from sociomaterialism and artistic listening to consider what themes emerged when I considered child/textile as entangled in meaning making in one senior preschool classroom. I highlight ways in which the themes of *connect*, *know*, and *perceive* all surface in one richly detailed narrative of children making meaning with textiles. Finally, I offer a way in which research can support this kind of assemblage thinking in the classroom, by looking to relationships between themes and how we might represent those relationships in more nuanced, illustrative ways.

Keywords: Creative thinking; early childhood; narrative look.

Introduction

I was entering the Gather Round preschool classroom slowly, hoping to put loose wool roving into a large sensory-table bin and let the children interact with it (Daly & Beloglovsky, 2016). I pulled the wool out of my bag upon entering the room and the children crowded around my legs. They chattered to each other and ask to hold some of "that stuff" as I maneuvered and filled the empty table. I spilled the wool, brightly colored mixed with undyed, into the bin. The questions and hands came swirling around, engulfing me in a child web of word, motion and body.

Wool From Owls

A young girl named Una[4] asked me what "this stuff" was. I responded simply:
"Wool", I said.
Una nodded knowingly. "Wool from owls," she said.
…
Wool from owls.
…
I was speechless.

As adults many of us know that wool comes from sheep. We generally have some visual context for those sheep, covered in their wooly coats, being shorn and released back into the field. True, most of us have drifted from this reality in our modern lives. Very few North Americans keep or shear our own flock (Hahn, 2020). Yet, we generally have context for the word "wool".

But this child had somehow subverted that context. She must have held some loose notion connecting wool to animals. It may be that the material reminded her of animal fur. She did not share

[4] All names that appear in this document are pseudonyms.

her connections with me. Yet, the connection between wool and owl goes beyond knowledge of animal origin. The words share every letter. Very few words can be made using only w, o and l. Somehow this child chose the only animal named using all the same letters as the material *wool.* If said aloud "wool" and "owl" share the sound /wʊl/. The word owl silently contains wool and is pronounced ow/wool. The connections Una drew continue past my own imagination, I'm sure. With children they always do.

Una must have liked the way it felt to say this, repeating it over and over while playing with the wool and raising it high, balling it up between her hands, then letting it fall. The wool she was touching, the *object* wool, was participating in her learning and knowing. She was not simply acting on the wool, it was acting on her, and I was acting as witness to this interaction, to this becoming, between seemingly unrelated systems (child/owl/wool). "[…] reflecting upon how we compose and circulate our stories by which we make sense of the situations we find ourselves in, [is] how we 'join the dots'" (Bennet, 2010, p.72). What dots needed to be connected to better understand and acknowledge Una I wondered? Her connections were not those I had anticipated. Furthermore, in the strict sense, she was incorrect: wool does not come from owls.

The children at Gather Round are "people living storied lives on storied landscapes" (Clandinin & Connelly, 2000, p. 145). The connection drawn between owl and wool highlights this beautifully. For Una, an origin story lives within her about the nature of this material 'wool'. It is not my job as a researcher to capture this story, that would highlight her inner text as being (e.g., 'one thing'). It is my job to capture this story as a moment of becoming (e.g., multi-faceted and alive). Clandinin and Connelly speak often of the "multiple plot lines" each character (participant, researcher, reader) are living (2000, p. 147). A sociomaterial narrative, and this is one, must add the material to the plot line, paying attention to the nonhuman world and its intersections: "this requires us to think relationally with other beings/matter and to draw out the confederacy of objects, bodies and materialities" (Taylor & Hughes, 2016, p.2). For this young girl the plot line of herself (participant/self), an owl (non-human yet alive and agentic) and wool (non-human and dead) form a minute intersection and I must record and wonder about this confederacy.

Literature review

Young children and textiles

What I offer in this paper is a close look into one experience of children engaging with textiles, originally situated within a larger, three months, sociomaterial study. In taking a metaphorical magnifying glass to my own larger study, I hope to highlight the way in which thinking through children/textile entanglement is hugely relevant to larger discussions of artistic ways of knowing and education for sustainability. Below I outline the study location, sociomaterial methods, and key facets of artistic ways of knowing and sustainability education as they relate to my work. I highlight one children/textile assemblage and the themes that emerged from that story.

The larger study listened for the entanglement of children/textiles in the senior preschool classroom, at Gather Round, over a three-month period. During this time, I was able to immerse myself in the classroom and get to know the learners and educators well. As a researcher, I designed a project that refused to "do" and "answer". Instead of textile-activity, I focused on textile-listening. I still offered invitations to engage with textiles, termed provocations (see below), but I did not ask anything of these engagements. I deeply considered the "sensory, storied entanglement [of children] within the interrelational agency of other animals, plants, insects, and the rest of the world" (Ritchie, 2014, p. 250). I needed to let go of my desire to impose order and to seek answers.

This was a project in textile-listening. As a researcher my position was that of listener. This, while similar to observation, extends the role of the researcher so that the utmost attention is given to the entire engagement of the children. What are they doing? What are they saying? To whom or what? What are they holding in their hands, or standing near? I tried to listen *hard*. For this project it meant that listening *was* the activity, a new look at active-listening. Preschool classrooms require a researcher

who is present enough to intervene in situations that ethically require intervention (e.g., you are the nearest adult to a child hit by a toy train), but listening remained the role I inhabited in the classroom. What followed was a project that meandered alongside the textile experiences of the children at Gather Round.

Because this paper is a subset of a larger study, in order to help the reader orient to this metaphoric space, a few relevant concepts are detailed below.

Sociomaterialism

The term sociomaterial itself is best envisioned as a net, engulfing theories of learning concerned with systems and the interactions between humans, materials and what is known (or for sociomaterialists, "enacted"). Often termed new or "neo" materialisms, these sociomaterial theories commonly assert that materials are neither subordinate nor separate from social interaction, while extending previously held materialist theories to include how feelings and meanings contribute to learning and social productions (Coole & Frost, 2010; Fox & Alldred, 2015). For many sociomaterial theorists "the central premise is that the social and the material are entangled and together constitute everyday life. That is, knowing and learning, identities, activities, and environments are understood to be sociomaterial enactments" (Fenwick & Edwards, 2013, p. 372).

Thus, sociomaterial studies must pay particular attention to the materials located within the work. Materials are understood as "entangled in meaning, not assumed to be separate from it" (Fenwick, Edwards, & Sawchuck, 2011, p.vi). To pay attention to the materials in research requires not simply the *inclusion* of such things in the research narrative, but a deeper attention to what was enacted and learned through those things. This is particularly important in the case of education research where learning is often of central interest. Instead of pat conclusions, sociomaterialism helps the researcher who wants to explore multi-stranded stories that reflect on the affective flow between people, object, environment and researcher. Essentially, this type of research must attend to *becoming* between things (relationship) and produce research that respects this movement.

Listening (Artistically)

It is helpful to situate this kind of "listening" within larger discussions of artistic ways of knowing. "Creating an environment in the studio that zeroes in on *focused listening* nurtures the essential first step of thinking like an artist". That first step, perceptual awareness and discrimination, develops in students the ability to acutely perceive by using their senses (Haroutounian, 2019, p. 23, emphasis added). Fitting artistic listening alongside sociomaterial research helps us consider ways in which these metaphorical concentric rings of knowing benefit students. We want to cultivate the ability to listen (artistically) for our students, simply because the arts seem uniquely capable of cracking open our ability to think critically, to attend carefully, and to understand our own learning (Greene, 2000, 1995; Gallas, 1994). When we consider the possibilities of a project like the one detailed below, a project that resists pat conclusions about what can be known, we can further consider why *listening* (as a facet of artistic knowing) is so paramount to learning. Furthermore, because this kind of sociomaterial work looks to highlight the mundane objects entangled within learning, we can consider that if a "visual artist will be fascinated with minute details in everyday objects", cultivating the cognitive processes that *lead* a visual artist to this attention to object, necessarily supports sociomaterial research (Haroutounian, 2019, p. 23).

Early Childhood Education for Sustainability (ECEfS)

A final relevant concept to consider is education for sustainability (EfS), and its implementation in the early childhood classroom (called early childhood education for sustainability, of ECEfS) "The concept of sustainability [itself] is a complex and contestable term with multiple meanings and interpretations" (Green, 2017, p. 151). This, EfS promotes "[…] development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, cited in Hedefalk, Almqvist, & Östman, 2015, p. 975). Teachers define it as a three-fold process in which students learn about the environment, change their behaviors based on this

learning and continue to use their critical thinking skills regarding the environment as they move forward (Green, 2017; Hedefalk et al., 2015). Early childhood education for sustainability holds that the well-being of young children, present and future, requires their active participation (Davis & Elliot, 2014).

While a full review of this term and its varied applications is outside the possible scope of this paper, it is important for our purposes to consider how ECEfS has often focused on a romanticized binary of children and Nature as self-evident, ignoring the messy relationship between the human and non-human world as a space of possibility (Taylor, 2013). Drawing from sociomateriality and artistic listening can offer ECEfS an exciting way forward if we want to offer children the possibilities that go hand-in-hand with moving ECEfS away "from focusing on the agentic child [e.g., child is the only change agent in the child/environment dyad] to recognizing diverse ways of knowing that include: affective learning, embodied learning and learning with others" (Weldemariam and Wals, 2020, p.14). If we do not shift to include the messy entanglement of children and the nonhuman world, the path forward focuses only on child as change-agent, and the nonhuman world remains flat and passive as we seek sustainable futures.

Method

Location

In operation since the early 1980's, Gather Round is a non-profit childcare centre in a coastal Canadian city. As a demonstration site for a local early childhood educator training program, it is host to many students and interns. Gather Round is one of three centres in the area that feature this mentorship design and, as such, staff report high levels of job satisfaction, with the average teacher employed for five or more years. While Gather Round features three separate classrooms, in the preschool classroom, where this study was situated, up to twenty-two students and four teachers learn together.

Figure 14: Sample provocation featuring birch bark, pine cones and yellow chalk

This preschool classroom, termed the senior classroom, is a large bright open-concept room divided into learning centers using only shelves and small furniture items. Three large wooden tables structure the space, and feature different provocations for the children each morning.

Provocations

Provocations are offered to children, without expectation, and are experiences a teacher has set-up as a way to respond to, or ignite, a children's interests and ideas (National Association for the Education of Young Children, 1987; OECD Directorate for Education, 2004). This type of creative hands-on exploration invites children to test, construct, deconstruct, practice and create their own concepts or theories (Epstein, 2014;). "Central to the whole approach is the conception of the child as a

subject of rights and as a competent, active learner, continuously building and testing theories about herself and the world around her" (OECD, 2006, p.12). The difference between a provocation and an activity (a term often considered out-of-date in ECE literature) is that while an activity has a determined and desired outcome (e.g., to use a set of stamps or to sort alphabet blocks correctly), a provocation is open-ended and child-led (Daly & Beloglovsky, 2014, 2020). Thus, in Figure 1 above, a child who chooses to sandwich bits of chalk in the pine cone seeds, instead of using the chalk to make marks on the bark, is not doing anything incorrectly. Rather, that child is using the available materials to learn about and experience the world on their own terms.

Visualization

To further situate this project, it is helpful to remind ourselves that for sociomaterial studies "the central premise is that the social and the material are entangled and together constitute everyday life. That is, knowing and learning, identities, activities, and environments are understood to be sociomaterial enactments" (Fenwick & Edwards, 2013, p. 372). *Figure 2*, below, was designed to showcase the entanglement of young children and the materials, here the textiles, already present in their lives. This illustration will hopefully engage you with what is an otherwise flat document, and elevate the textiles for one imagined child in the preschool classroom. It becomes a little easier to imagine how the children might have acted on the textiles, and how the textiles might have acted on the children, when we focus in on a layered child/textile illustration. We can see that the child illustrated below is wearing layers of clothing, the clothing is in motion (for example, the underwear is peeking out, despite the hope that underwear will remain "under"), the child is in motion (for example, crouching and pointing), and those moments are what the illustration places under our gaze for further consideration.

Figure 15: Clugston (2016) Young Children and Material Entanglement

This project borrowed heavily from methods used by narrative inquirers as I patched together a research methodology fitting a textiled narrative, one that paid particular attention to the relationships between children and textiles. Because I also firmly sought a sociomaterial perspective in

this narrative construction I needed to borrow from different methods and tools consistent with new materialist research that features a heavy degree of creative eclecticism in methodology (Fox & Alldred, 2015). This sociomaterial narrative would then be focused on "what things do, rather than what they 'are'; towards processes and flows rather than structures and stable forms […] to interactions that draw small and large relations into assemblage. A range of designs might fulfil some or all of those criteria (Fox & Alldred, 2013, p.408).

Both in the preschool classroom and outside it, I am so often reminded that "children often view and perceive place and their environments qualitatively different[ly] than adults" (Green, 2015, p. 1190). The worldview of the child from ages three to five is quite different than that of adults. The experiences they have had, their literal viewpoint, the items and experiences they find important and their preoccupations are all notably different than that of adults. In this respect I was hindered as a researcher: I am an adult. In an effort to better serve the children and portray their realities I sought to suspend my own adult judgment and questioning as much as possible. I tried to interact verbally with the children as little as possible in order to better take in their culture: I did not interview them. Furthermore, where I chose to locate my body in space as I observed the children had an impact on what I was able to perceive. For example, sitting on the floor at a slight distance from their play I saw them move their hands and toys differently than if I stood above them in observation. Keeping this in mind helped me shape a project grounded in respect for the senior preschoolers.

The project

As a production of this research project, I wanted to weave together a series of narrative moments within the preschool classroom that I witnessed and wondered about. I did not want to represent one singular "output" or research conclusion. There is no objective truth about textile narratives in early learning classrooms to be found in this work. To do this with any degree of grace required an understanding of narrative work *and* new materialist work. It also required a fair amount of researcher creativity. I wanted to create a rich assemblage that expanded minute relationships (as found in student narratives) between children and their textiles into larger webs of affective flow. I wanted to wonder about how the textiles and the children acted on each other and how these thematic actions might be woven together.

Themes and story

While the larger project ultimately featured eight themes relevant to student experiences of textile in the classroom, only three are featured in the story *Ocean, Worms, Fur* below. The themes of connect, perceive and know are outlined below.

Connect/Crayon

The theme *connect* implies a moment of relationship within the story brought on by the textile. However, I chose the word *connect* to signify an internal link between child and feeling, knowing, understanding or experience, all facilitated by the textile actor. Thus, the different between *relate* and *connect* has to do with internal and external moments of association. For the theme *connect* a textile might have triggered a memory, an emotional association, or even a link to previously held knowledge.

Perceive/Jack O'Lantern

Perceive highlights a moment when the textile as facilitator evoked a moment in the child's story where information was relayed to a listener (peer, teacher, myself) that does not match what is commonly considered factual information about a textile, but nevertheless is incredibly valuable in understanding the child's narrative. Rather than calling this theme misconceive, I feel the word *perceive* highlights the ambiguous space in which knowledge lives. Though we may not currently consider thread to come from trees (knowledge from a child we would consider "incorrect") there may be some future method for making thread from tree cellulose (Gallas, 1994). The child's narrative that includes thread from trees remains important to our developing understanding of textile literacy.

Know/Acorn

The theme *know* highlights when children's stories included textile knowledge that the textile artist would consider factual. This means that a child expresses something in their story that matches reality in a way frequently associated with the word "knowing". The importance of this theme is that the child's expression was, again, facilitated by the textile or textile discussion occurring at that time. The link being formed involves the child's knowledge base, the textile facilitator, and the expression of this knowledge both verbally or, occasionally, nonverbally.

Provocation six: The microscope

During the third month of this project all provocations I designed for the children were somehow related to textiles or textile fabrication. During the sixth provocation offered to the children, a microscope was borrowed from a local science lab and set up in the classroom on a large flat art table. The microscope was labeled as an educational-grade microscope with an external light source. Slides were prepared in front of the children in order to facilitate their understanding of what they were viewing. An old chambray shirt was placed on the table and every child who visited the microscope watched and assisted as a small section was cut, dry mounted and placed in the viewing tray of the microscope. Paper and pencils were provided in the event a child wanted to draw me a picture of what they saw through the lens. The microscope was focused beforehand so that children were not tasked with doing so themselves. I also allowed them to move and handle the focus knobs to account for differences in eyesight and increase their engagement with this provocation.

Ocean, Worm, Fur

It was the first cold day of December. The children were arriving late to school as parents and guardians fought with a sticky wet snow and the ensuing traffic. I, a seasoned winter driver from Vermont, had made it to school early enough to make sure the microscope provocation was well established before the children arrived. Not being a proficient user of microscopes, or truly any lab equipment, I felt it was necessary to set-up this provocation with ample time for trouble shooting. By the time a group of six children had arrived in the class, I was ready to greet them at the microscope.

I began by holding up a faded denim shirt. This particular button-up style shirt had been a favorite of mine for many years. My mother had bought it oversized to wear when she was pregnant with my brother over twenty years ago. I remember being six years old, leaning against the soft cotton weave and her growing belly. I "borrowed" the shirt from her as an undergraduate student and never returned it. Over many, many years of wear and repair the shirt had finally broken down to an un-fixable state. Nevertheless, it was a recognizable shirt-shape and I hoped that including it in this project would bring the soft magic I knew the shirt had always held for me.

I held up the shirt, surreptitiously smelling it as I did so, and asked the six children what I was holding. Of all six children gathered five said "shirt" and one said "sweater". I then proceeded to silently take scissors and cut a small square of cloth from the corner of the shirt. Una, never one to shy away from conversation, gasped when scissors first met cloth. As I placed the small square under the microscope and adjusted the focus, six sets of eyes stared at me quizzically. No one spoke. Somehow the novelty of the tool, my own silence or perhaps the bizarre situation they found themselves in (I can only imagine it is not often an adult cuts clothing in front of children!) led each of them to silence.

I then invited each of them to peer into the microscope. By way of explanation, I simply said: "This is a microscope" and here Lucy responded, "Oh! To see things we can't see with our eyes like germs" and River added, "A microscope is for looking at really small things". I chose not to expand or comment on their responses. I smiled and invited River to look in the microscope first. It was clear by the hushed, reverent tones the children were engaged and curious about their peers' understanding of the microscope.

Each child silently peered into the tool. Some lingered for up to a minute. Others gazed in for a brief moment and then looked up at me. As each child finished their turn, they told me what they

thought they saw. I did not prompt their responses. Una, who had an overall tendency to comment on everything, looked into the microscope second and commented aloud. Perhaps the children were following her lead. Though River went first, he shrugged and walk away.

Una: "It looks like worms"
Evelyn: "Like stripes"
Lucy: "I see what's inside it. Threads."
Bentley: "The ocean"
Cyrus: "Fur"

All of the children's responses intersect at the themes of *perceive*, *connect,* and *know*. Though some children's responses might be more in line with one theme than another, this narrative moment is best taken collectively as each child responded to one another in some sense. This is to say that as the children took their turn, their narrative was informed by the child before them. Similarly, they continued to listen and live through the narrative after their turn. This sense of collective narrative was, in many senses nonverbal (Denham & Onwuegbuzie, 2013). Despite it remaining difficult to articulate the reasons for the children's collective narrative, I nevertheless feel compelled to call it thus (Shelton & Flint, 2019; Manusov & Patterson, 2006).

When the verbal responses to the textile under magnification began, River was silent. We cannot know this moment's themes with clarity, but River's previous response regarding his knowledge of a microscope imparts that he certainly *knows* something about the nature of microscopes and what they are for. His shrug did not seem to come from a place of not knowing, but from a place of choosing silence. We might infer that he silently *connects* something about what he has seen to what he knows and feels.

Then, when Una takes her place at the microscope, she states that what she sees is "like worms". Here we see she is drawing a *connect*ion between her knowledge of worms, her perhaps subconscious understanding of simile and her view of the fabric under magnification. What she expresses is not perfectly encompassed by the theme *perceive* or *know* as it is neither particularly factual (or not) to claim fabrication under magnification looks like worms. Evelyn has a similar thematic response to Uma's when she says "like stripes" drawing a *connect*ion to her understanding of stripes and what she sees under the microscope. Interestingly, both children choose things (worms and stripes) that are linear in shape, with an observable thickness and definite boundaries. The difference might be that worms have the potential to intersect with one another while stripes are necessarily parallel to each other.

Lucy takes a narrative step further to describe not simply what she sees, but a mechanism for how she is able to see it. For her moment of added narrative, the theme *know* is particularly relevant. She expresses a factual experience that the microscope allows her to see "what's inside" and, even further factually she sees "threads". Certainly, the woven cotton fabric she is looking at is indeed woven of these "threads" she is able to see and identify. How Lucy arrives at this statement is less evident and thus we can imply she is drawing some type of *connect*ion to her previous experience with microscopes, fabric, her peers' responses and thread.

Bentley and Cyrus' narrative additions mark a more intense thematic turn to the theme *perceive* as they express the fabric up close looks like "the ocean" or "fur". As neither of them use the word "like" to describe this reaction we do not have a clear moment of simile in their narratives; unlike Una and Evelyn they are not saying that what they see is similar to another item they can imagine, but simply this *it is* that item. They might be employing metaphor, or they may be making a concrete statement about what they see. They explain that they see "fur" or "the ocean". Though we might be inclined to say they likely do not imagine it is actually fur or the ocean, their language does not reflect this as clearly as Una or Evelyn. Thus, their narrative additions centre on the theme of *perceive*. As a collective narrative the children's stories intersect on the themes of *perceive, know,* and *connect*. A figure that illustrates this intersection is shown below.

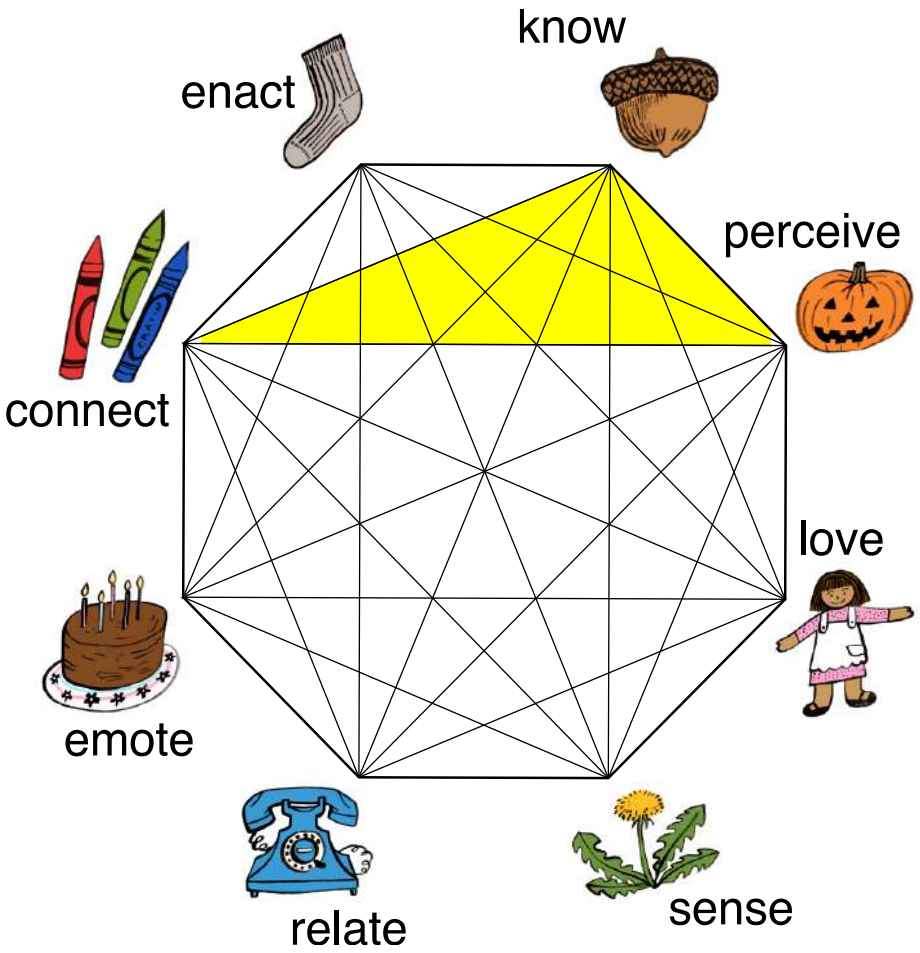

Figure 16: Thematic Visualization "Ocean, Worms, Fur"

(In)Conclusion

When we turn our gaze to the objects in our lives and stories, we must clean off our smeared glasses and really *see* the connections between everyday objects and knowing, learning and growth. Young children are a perfect audience for seeing freshly what has become invisible. How many parents can empathize with a toddler who will only wear the same two purple shirts over and over? The love for these items stays fresh. "[…] More than adults, children are still open and able to see themselves as integral to this world, and are therefore better positioned to develop a symbiotic relationship of "becoming-with" the world. Ironically, most adults seem to have lost this capacity to a large degree" (Weldemariam & Wals, 2020, p.22). Young children are primed to attend to the everyday because, for them, the work of being alive still requires growth, creativity, discovery and openness. Generally, they are not in charge of paying bills, of cooking dinner or of driving to and from: they are ready to attend. Young children are well suited to paying close attention because, for them, the gaze of mundanity does not yet exist.

Until very recently most ECEfS initiatives have focused on either the child living in a loving relationship with nature or the child as a change agent with the power to protect nature (Cutter-Mackenzie-Knowles et al., 2019; Malone, 2015; Taylor, 2013). However, if we enter into a sociomaterial project such as this one, we can decenter the human and focus on "children's entanglements within multiple human and non-human assemblages and relations" (Weldemariam & Wals, 2020, p.15). This interwoven relationship between the human and non-human world helps situate early childhood as entangled within nature; neither subordinate nor dominant, but better seen as an "ebb and flow" of agency (Barad, 2007). By paying attention to the materials, here the textiles, at Gather Round preschool this work strives to decenter the human. It equally rejects hero narratives (for

the children) or concrete solutions regarding sustainable futures. This is the work of "becoming with" and of entanglement (Bennet, 2010).

> […] "The materialist perspective raises questions about human capacities to produce research knowledge […] Conventionally, social inquiry (like other scientific inquiry) has been considered from the point of view of the researcher, who through efforts of reason, logic and scientific method, gradually imposes order upon 'data', and in so doing, 'makes sense' of the world. [But the materialist perspective] with its own affect economy […] shapes the knowledge it produces according to the particular flows of affect produced by its methodology and methods" (Fox & Aldred, 2015, p.403).

This project, encapsulated here by a small sub-story from a larger work, attempts to complicate how we learn, by focusing intensely on listening as method. I tried to enact "grounded relational research" within and without the Gather Round preschool room (Pacini-Ketchabaw, Taylor & Blaise, 2016). Because this project resisted activity to focus on listening, I also chose not to impose a singular research question at the start of the work. In order to turn my attention, and hopefully your attention, to the promises of listening as method I chose to close this work with a question that acts as a metaphorical provocations. In the spirit of setting out materials for preschoolers to engage with at their leisure, a form of "come and join me if you wish", the larger project offered 3 leveled questions that moved from the specific (individual) to the broad (systems) to invite the reader to "come and join" too. They were designed to meet your own work where it was, if you would like to consider the value of listening. I offer here the second level of question, **the research level**, as a way to close this work.

How Might We Better Represent Textile-Listening in Narrative Research?

As McKenzie and Bieler point out, if attention is focused only on how children can act as change agents (e.g., must *save* nature), the divide between humans and non-humans deepens (2016). While it is not the goal of this study (nor of any study cited within this paper) to ignore the agency and empowerment of young children, it is important to consider the potential when the human is decentered and non-humans (animals, environments and materials) are brought into focus. For narrative research, I have wondered how we might go about representing this textile-listening to readers of research. How can entanglement and materiality lift itself off the confines of a 2-dimensional page? Figure 3 was created with exactly this entanglement of material and human agency in mind. It is in itself a form of conclusion. It has been designed to shift our focus from the child as agentic meaning-maker, to the items that participated in the meaning of this work, in concert with the child actor. Using a web helps to make messy the work of this ontological shift.

The use of a web illustration helps the researcher envision entanglement and draw readers into the process of listening to materiality (here, to textile/children assemblages). The question a researcher must pose of the themes found within their narrative study is: *how do the themes relate to one another? how does materiality serve the themes? what shapes or structures help us visualize this entanglement?*

For this particular project a web was an interesting structure to impose on the themes for several reasons. First, it calls forth ideas of weaving (spiders) and thread (lace). It also helps the reader imagine that all themes are connected, thinly, but that plucking any one thematic thread will affect the entirety of the entanglement. Lastly, it helps us envision the connections between themes as minute areas of intersection on our interwoven structure.

For other projects the web imagery may not be relevant. Would a triangle best serve the materiality? Three thematic objects supporting each other to create stability. Perhaps the triangle is not equilateral, essentially favoring some thematic area over another. While this work remains a "small, local, relational and decidedly non-heroic research event", the attention given to listening, materials and entanglement and, ultimately, how to represent them on the page might help other researchers in their own work (Pacini-Ketchabaw, Taylor & Blaise, 2016, p.165).

For research that seeks entanglement and materiality these types of structure relationships are of interest as we consider not simply what themes emerge in the narrative, but how they are entangled with meaning; how they structure the research assemblage.

References

Barad, K. (2006). Meeting the Universe halfway: Quantum physics and the entanglement of matter and meaning. Durham & London: Duke University Press.

Bennett, J. (2010). *Vibrant matter: A political ecology of things.* Durham, NC: Duke University Press.

Clandinin, D.J., & Connelly, F.M. (2000). *Narrative inquiry: Experience and story in qualitative research.* San Francisco, CA: Sage Publications.

Coole, D. H., & Frost, S. (2010). New materialisms: Ontology, agency, and politics. Durham, NC: Duke University Press.

Cutter-Mackenzie-Knowles, A. et.al. (Eds.) (2019). Research handbook on childhood nature: Assemblages of childhood and nature research. New York: Springer.

Daly, L., & Beloglovsky, M. (2016). *Loose parts 2: Inspiring play with infants and toddlers.* St Paul, MN: Redleaf Press.

Davis, J., & Eliot, S. (2014). *Research in early childhood education for sustainability: International perspectives and provocations*. New York, NY: Routledge.

Denham, M. A., & Onwuegbuzie, A. J. (2013). Beyond words: Using nonverbal communication data in research to enhance thick description and interpretation. *International Journal of Qualitative Methods*, *12*(1), 670-696. doi:10.1177/160940691301200137

Epstein, A. (2014). *The intentional teacher: Choosing the best strategies for young children's learning*. Revised Edition. Washington, DC: National Association for the Education of Young Children.

Fenwick, T., & Edwards, R. (2013). Beyond Latour: Rethinking knowledge and education through materiality. *American Journal of Psychology, 126*(3), 371-374.

Fenwick, T., Edwards, R., & Sawchuk, P. (2011). *Emerging approaches to educational research: Tracing the sociomaterial*. New York, NY: Routledge.

Fox, N.J., & Alldred, P. (2015). New materialist social inquiry: Designs, methods and the research-assemblage. *International Journal of Social Research Methodology*, *18*:4, 399-414

Fox, N. J., & Alldred, P. (2013). The sexuality-assemblage: Desire, affect, anti-humanism. *Sociological Review*, 61, 769–789.

Gallas, K. (1994). *The languages of learning: How children talk, write, dance, draw, and sing their understanding of the world*. New York, NY: Teachers College Press.

Green, C. (2015). Research in early childhood education for sustainability: International perspectives and provocations. *Environmental Education Research, 21*(8), 1188-1191.

Green, M. (2017). 'If there's no sustainability our future will get wrecked': Exploring children's perspectives of sustainability. *Childhood, 24*(2), 151-167.

Greene, M. (2000). *Releasing the imagination: Essays on education, the arts and social change.* John Wiley and Sons.

Greene, M. (1995). Art and imagination: Reclaiming the sense of possibility. *The Phi Delta Kappan*, 76(5), 378–382.

Hahn, W. (2020, June 24). *Sector at a glance*. USDA ERS - Sector at a Glance. Retrieved February 3, 2022, from https://www.ers.usda.gov/topics/animal-products/sheep-lambmutton/sector-at-a-glance/

Haroutounian, J. (2019). Artistic ways of knowing: Unveiling the artist within every student. *The American Music Teacher*, *69*(2), 22–27.

Hedefalk, M., Almqvist, J., & Östman, L. (2015). Education for sustainable development in early childhood education: A review of the research literature. *Environmental Education Research, 21*(7), 975-990.

Manusov, V., & Patterson, M. L. (2006). The Sage handbook of nonverbal communication. Thousand Oaks, CA: Sage.

Malone, K. (2015). Posthumanist approaches to theorising children's human-nature relations. In K. Nairnet al. (Eds.), Space, place, and environment: Geographies of children and young people. (pp. 1–22). Singapore: Springer.

McKenzie M. & Bieler A. (2016). *Critical education and sociomaterial practice: Narration, place, and the social*. Bern, Switzerland: Peter Lang Press.

National Association for the Education of Young Children (NAEYC). (1987). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Position Statement. Washington, DC: NAEYC.

OECD. (2006). *Starting strong 2: Early childhood education and care*. Paris: Organization for Economic Cooperation and Development.

OECD Directorate for Education. (2004). *Starting strong curricula and pedagogies in early childhood education and care: Five Curriculum Outlines*. Paris, France: OECD.

Pacini-Ketchabaw, V., Taylor, A., & Blaise, M. (2016). Decentring the human in multispecies ethnographies. In *Posthuman research practices in education* (pp. 149-167). London: Palgrave Macmillan UK.

Ritchie, J. (2014). Learning from the wisdom of elders. In J. Davis & S. Elliot (Eds.), *Research in early childhood education for sustainability: International perspectives and provocations*, (248–265). New York: Routledge.

Shelton, & Flint, M. A. (2019). The spacetimemattering and Frankenstein-esque nature of interview transcriptions. *Qualitative Research Journal*, *19*(3), 202–212. doi/10.1108/QRJ-03-2019-104

Taylor, A. (2013). *Reconfiguring the natures of childhood*. London: Routledge.

Taylor, C., & Hughes, C. (2016). *Posthuman Research Practices in Education*. London, UK: Palgrave Macmillan. doi.org/10.1057/9781137453082

Weldemariam, K., & Wals, A. (2020). From autonomous child to a child entangled within an agentic world. In S. Elliott, E. Ärlemalm-Hagsér, & J. Davis (Eds.), *Researching early childhood education for sustainability*. (pp. 3-12). Taylor & Francis.

About the Author

Catherine-Laura Dunnington earned her M.Ed. at the University of Montana and her Ph.D. at the University of Ottawa. She writes largely about early literacy, feminist theories of childhood, sociomaterial theories of childhood, and teacher narrative. Her work has been featured in the *Bank Street College of Education's Occasional Paper Series*, *Bookbird: A Journal of International Children's Literature*, *The Journal of Curriculum Theorizing* and the *Journal of the Canadian Association for Curriculum Studies*. Her work can be found at catherine.dunnington.ca. She lives near the ocean.

e-Mail: ctrem050@uottawa.ca