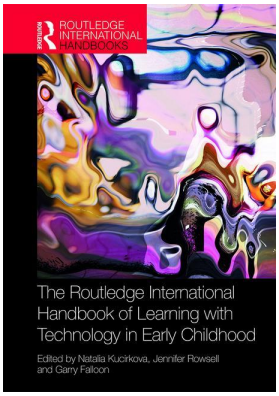


# The Routledge International Handbook of Learning with Technology in Early Childhood

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## "Talk into my GoPro, I'm making a movie!"

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# 4

# "TALK INTO MY GOPRO, I'M MAKING A MOVIE!"

## Using digital ethnographic methods to explore children's sociomaterial experiences in the woods

*Debra Harwood and Diane R. Collier*

In a two-year study of preschoolers' intra-actions in a nature-based program in Canada (forest school), children were invited to wear GoPro cameras to help researchers explore experiences as they unfolded within the forest. Our title for the chapter was inspired by Troy (pseudonym), one of our young contributors to the study who favored stating, "Talk into my GoPro, I'm making a movie!" to anyone or any matter he encountered in the woods while wearing a GoPro camera. As researchers, we wanted to explore sociomaterial entanglements (Lenz Taguchi, 2010), while potentially also offering insight into the ways in which children could participate as co-authors of video methods and data generation processes, and a means of decentering the researcher. This chapter discusses our methodological choices and theorizing as we aimed to "disrupt the anthro-, socio-, and logocentric readings" of data (Sellers, 2013, p. 161) by embracing data collection tools that utilized 21st century digital technologies. Here, we focus on the GoPro as one such tool as we discuss several data fragments of the child-matter social, material, and discursive encounters, to highlight the possibilities of reading data otherwise. This chapter discusses some of our methodological choices and theorizes about what visual data – in this case video – offer. In the sections that follow, we describe the research project and how new materialism might allow us to think about the GoPro camera as a tool and what it affords, and then present our insights about the contributions of children, the GoPro camera, and decentered researchers in a forest school research study.

We start the paper with this provocation, a moment to think about what visuals might offer, an opportunity to make explicit some of the many decisions that researchers make when representing data. Unable to fully recreate this data in a flat print format, we present you with several still images from one child's GoPro video (chest-mounted) footage (Figure 4.1) and ask: What do you see? What do you think is happening? What can you not see? How does the visual data stand alone and what does it offer?

Perhaps you note the unusual angle of the picture showing a downward vantage point, the snow and the trees, the clear crisp day, the researcher (adult) standing below the camera wearer, and the sense of motion forward implied by the foot pointing forward in the first frame. You might also wonder what else is not depicted, the purpose and contents of the wagon in the

*Figure 4.1* Still images of child's GoPro video

background of the first frame, the identity of the camera wearer, and the sounds or feel of the snowy woods. Then you might start to ponder why these images were selected over others, and what was contained in the video footage that is not replicated in these still images. You may have a bit of a sense of 'being there' (Marcus, 1995; Watson, 1999) and query if you are missing something important.

It is an exercise in reflexivity on our part, to think about what attracts our interest, the questions we have for our research, and how we select certain data for further elaboration and analysis, and what we can make of this data. For many of us, our academic training and discourse focuses on print text, and the visuals, though evocative, seem to tell a partial story. We propose, like many others have (e.g., Lather, 2007; Jackson & Mazzei, 2012; Pillow, 2003) that research and representation are always, and necessarily partial. As with Canton and Hackett (see this volume) we are offering a critique of data as static, video as naïve empiricism, and their chapter discusses the importance of examining the intersection of the agency of the camera and the video data. They emphasize the resultant emotions their videos evoke as well as the intensity and affects. Our distinct area of focus and examination of video is directly related to the way it is worn on the child's body, the experience of the viewer, and the perspectives these offer, when worn in an outdoor environment.

## Researcher narrative

Researchers create narratives from the data they see as relevant and illuminating. Following this paragraph is a narrative that appears to be much more complete than the images we presented at the beginning. In a style common to the field of ethnographic research, we tell a chronological and cohesive narrative, from the researcher's perspective.[1] Debra was there in the woods while the video was being recorded by the child, Mike (pseudonym). Debra also later engaged in multiple viewings of the video footage, sometimes with the children and at other times with the second author, Diane.

> *Mike, a 3-year-old boy, wears the GoPro on a sunny, wintry day of the forest school program. He races about the forest in his typical fashion bursting with ideas on what the children should play and how to go about organizing the play. His view of the forest is captured from all angles throughout the morning and often on the video he flops to the ground, flailing his arms and legs, calling out things like, "who wants to build a snowman?" (Frame A–Figure 4.2). Later, as chasing games like hide-and-seek occupy all the children, Mike ducks underneath the climbing tree where a small den is located. He concentrates on rubbing and cracking blocks of frozen snow*

Frame A: Mike's Perspective | Frame B: Slowing of Mike's Heartbeat | Frame C: Mike's View from the Tree

*Figure 4.2* Mike's GoPro video data fragments

> *together, banging them together as he sits (Frame B). The only sound on the video is his heavy breathing and pounding heartbeat. As he plays with the frozen snow his breath and heartbeat slows to a more rhythmic and slower pace. Again, much later in the video Mike is climbing the tree, with the researcher, Debra, nearby. Mike's body and camera scrape along the trunk as he negotiates the route to balance across the branch that provides a place to sit. He narrates aloud instructions on how to climb then settles in the familiar spot. He says, "do you know what I can see from here?" Debra smiles up at him blinking in the sunlight, "what do you see?" He replies, "my grandma's apartment building, down that hill, see that brown building?"*
>
> *Researcher's Video Summary*

As you are reading, you might feel much more satisfied by the narrative provided by the researcher, including the captions and the descriptions that are provided. Indeed, the researcher had access to the recorded video, much more than the three images shared at the beginning. What is presented appears to be a comprehensive retelling. However, the words, and the linear narrative told, also may take away from what might be experienced when looking at the photographs only or at the video footage.

The original presentation of the three screenshots from GoPro footage shot by Mike are worth considering though, if only as a way to shift one's perspective and usual retelling. As screenshots – and only three of them – they offer a fragmented representation; we cannot look to the right or the left and there is no cohesive story. The gaps are obvious. At the same time, the fragments offer a relational physical, material, visual perspective that the retelling does not. When we add the researcher's' insights from viewing the video, an extra dimension is added but maybe also something is lost, or becomes less visible.

At first glance at the still shots, a "habitual anthropocentric style of seeing" (Hultman & Lenz Taguchi, 2010, p. 527) suggests that one would be drawn to Mike's downward glance at his foot, his upper leg as he sits on the forest trail. Perhaps, the snow on the ground and the path forward leading to trees and wagon serve as the backdrop to his foot, parts of his body, his mittens that fill the frame. To the left, and somewhat obscured by the sun's rays, stands another child. If one views the video (https://vimeo.com/234563859), you can hear Mike's quickly beating, loud heart as he moves, the rustle of the snow and ice on the ground. The video offers a sense of perspective that is heightened by shadows on the trees and Mike's outward attention to the edge of the forest and the horizon. Thus, the video seems to offer what Hultman and Lenz Taguchi (2010) refer to as a *relational materialist* approach, the idea that "*non*-human forces are equally at play and work as constitutive factors in children's learning and becomings" (p. 527). When Author 2 viewed the video, without having 'been there' or reading the field notes, her experience of the GoPro world felt non-representational and reactive in the way that Deleuze and Guattari (1987) talk about 'lines of flight', trajectories that emanate from ongoing events

and happenings. Conceptually, Deleuze and Guattari (1987) use 'lines of flight' and 'lines of becoming' as a means of disrupting ideas of life and thoughts as a series of rational and predictable static moments. Life, organisms, or any concept are made up of non-linear connections and endless transformations are possible. In this example, sounds and images lead to a viewer/listener response that may be evocative, embodied, non-linear, and unpredictable. In this way events, actions, and responses are rhizomatic, rather than hierarchical, representational, or linear.

The very nature of the GoPro camera provides multiple lines of flights and rhizomatic moments. The shakiness of the camera, the child's movements, voices echoing in the woods, snowflakes flitting in the wind, rustling of snowsuits, and so on generate multiple lines. Here, we pay attention to the human-non-human encounters that are vividly depicted in sensorial ways, offering *other ways of seeing* within research. There was no easy narrative to be told from what was seen and heard, the 'lines of flight' are unpredictable, encounters in the woods are enmeshed, inter-connected, with co-mingling matter. Lenz Taguchi (2010) refers to these kinds of encounters, and these kinds of explanations of these encounters as "waves of diffractions without borders – blurred enganglements" (p. 69).

## The research project

Over the course of the first two years of the project, we accompanied two groups of young children and their two teachers into the woods on a university campus. The 15 children (eight children in year one and seven children in year two of the project) all ranged in age from 3 to 5 years, and spent two mornings each week from September to June in a specific wooded and natural area they and their teachers called 'a forest school'. Although sharing many qualities with other forest schools, we do not use the term 'Forest School' prevalently in the UK, which suggests very specific qualities and membership in a Forest School Association (see www.forestschoolassociation.org/what-is-forest-school/). The outdoor educational program took place in a wooded area that was uncultivated, 'wild' (Mawson, 2014, p. 516), in the sense that the space was part of an old Carolina growth forest that surrounded the university campus (Bruce Trail Conservancy, 2011). The children and teachers played within this unique biosphere of diverse trees and plants, animals, insects, and geology; a woodland the Anishinaabe and Haudenosaunee traditional peoples have lived and hunted upon for 10,000 or more years. The land itself, its history, stories, and life were very much part of the children and adults' experiences in the woods, as the early childhood program aimed to foster a pedagogy of living relationally with/alongside all the matter of the forest (Taylor & Pacini-Ketchabaw, 2015).

Mike is one of the participants in our digital ethnographic study of children, educators, material entanglements in a forest school program. As mentioned, Mike was three years old when he and his friends, two educators, and university researchers first ventured into the woods to enact an early child education program the children dubbed 'a forest school'. The program and research documents young children's sociomaterial experiences in the forest, paying close attention to the intra-actions between and amongst all matter, both human and more-than-human (Barad, 2007; Haraway, 2001; Lenz Taguchi, 2010). The child, the playthings, the rock, stick, and teacher all matter. What is significant is the 'in-between' (Lenz Taguchi, 2010), the interdependence and intertwined entanglements of agents implicated in the processes of 'becoming-with' the world (Haraway, 2008, p. 4). Barad (2007) writes, "existence is not an individual affair, individuals do not preexist their intractions: rather, individuals emerge through and as part of their entangled intra-relating" (p. ix). Like other matter, humans are also matter, part of this entangled world, where the subject and object are inseparable (Barad, 2007; Lenz Taguchi, 2010). We cannot know the world by sitting outside the world. New methodologies are called upon when "we

are a part of that nature that we seek to understand" (Barad, 2007, p. 67). In the next section, we expand upon our notion of how new methodologies and tools might address this desire to understand something new.

## *Theoretical framing and methods*

'The material turn', 'material feminisms', a 'post humanist turn', a 'new empiricism', and even a 'new settlement' (Alaimo & Hekman 2008) inform the research we do. As qualitative-moving-toward-post-qualitative researchers, we are aware of how our liberal, humanist training as researchers is ever present. We recognize that as researchers our *habits of seeing* (Hultman & Lenz Taguchi, 2010) are well ingrained within humanist traditions, and we are often drawn to the child. Certainly, our scan of the still frames and the researcher's notes highlight the human-centrism of the data fragment. What if we were to look differently, and engage in what Hultman and Lenz Taguchi refer to as a "different style of seeing and thinking in terms of a *diffractive seeing* and *nomadic thinking*" (p. 527)? We have asked ourselves what methodologies and tools might facilitate this process and if our use of the GoPro camera help unsettle our usual foci and allow for something new to emerge.

Richardson-Ngwenya (2014), when referencing her field research in the sugar sector of Barbados, utilized video to highlight the complexities of the materials involved, yet she stated, "there was nothing especially 'posthumanist about these methods'" (p. 295). Certainly, our methods could easily be described as ethnographic and we also acknowledge that all life is dynamic and obscure; therefore we "cannot claim to know or fix any such inherent quality" (Richardson-Ngwenya, 2014, p. 294). As St. Pierre (2011) points out, the challenge within the 'post-era' (i.e., post-colonial, post-critical, post-humanist, post-structural, post-feminist, post-modern, etc.) is that an alternative research methodology does not exist, there is not "a recipe, an outline, a structure for post-qualitative research" (p. 613) and she proposes "post inquiry to remain unstable as we create different articulations, assemblages, becomings, mash-ups of inquiry given the entanglement that emerges in our different research projects" (p. 623). We remain unresolved about how to speak of methodology in this 'post-era' and we are keenly aware of the importance of speakers to practitioners and academics alike.

Although our research methodology was situated within a qualitative paradigm, we mashed together methodological ideas from ethnography (Denzin & Lincoln, 2011; Madison, 2011), participatory ethnography (Clark, 2010; Holland et al., 2010), relational materialism (Hultman & Lenz Taguchi, 2010; Lenz Taguchi, 2011), and visual/sensual ethnography (Mitchell, 2011; Pink, 2007; Rose, 2012). This translated into multiple methods and tools to help us focus on 'being there' (Watson, 1999) in the woods. While we allude to and are interested in new materialist reframings, this paper is also concerned with the practicalities of what the GoPro (visual methods) might contribute and constrain. We are in the process of finding ways to challenge the primacy of language as the only starting point for analysis, and set out to shift and find methods/tools to address the asymmetry and value placed upon human subjects rather than the material or natural world.

## Using visuals and video methods

When engaging in qualitative and ethnographic research, methods such as observing and taking field notes, audio-recording, and photographing artifacts and events have become commonplace. With new digital tools, such as digital audio and video recorders, iPads and iPad apps, data generation has become easier, in some ways, and also, importantly, easier for research participants

and researchers alike to operate (Brown et al., 2008; Chalfen, 2014). Visual methods have always been part of anthropological and ethnographic research, although in the writing, typically the visuals become secondary to written words, and visual tools are often considered neutral within the research process (Lipponen et al., 2016). Interpretive analysis leads to the ascription of particular meanings to the visuals that are used in this work. A range of visual methods for generating data have been used by researchers in education and in the social sciences (e.g., photographs, drawings, video making) and, sometimes, the focus has been on the collection of visual data initiated by the children (e.g., Clark, 2010; Einarsdottir 2014; Stirling & Yamada-Rice, 2015).

From 8mm film cameras to camcorders to video recorders that can be used from a range of digital devices, the access to film or video making has expanded in the past decade. GoPro cameras, worn on the center of one's chest or head, have been widely used in outdoor sports, especially to provide viewers with access to activities and places that they might never do or visit. Video footage allows the viewer to gain insight into experiences and also highlights, visually, aspects such as speed, movement, framing, sound, and the material elements captured by the wearer. Early response to video use was enthusiastic and exciting, and to some extent it was suggested that video could be used to experience or to visualize things that one could not normally experience on one's own (Brown et al., 2008). One might expect that when children wear the GoPro they generate video data that might represent a truth, a complete copy of events as they unfolded, that adults/researchers/educators might not normally have access to. This need for and promise of authenticity can never be realized as each angle, each event, each perspective is always partial and a particular framing. Another issue that is part of this project is when and how much video data is collected and when and how much video data is analyzed, and how that analysis is done.

## Analysis of visual data

The amount of data generated, when collecting video, is massive, and one needs a focused and specific strategy to deal with this kind of analysis (Chalfen, 2014). At the same time that there are challenges, we see video as an important method and a way to explore new perspectives or points of view.

### *The GoPro as data generation tool*

So, what might a tool such as the GoPro video camera offer? We hoped the camera would provoke ways of "facilitating and extending ways and means of seeing" (Chalfen, 2014, p. 300), insights into the children's sociomaterial interactions as well as their physical, visceral, and emotional responses within the woods by "recording comprehensive, real-time activities, which capture the dramatic alongside the mundane without privileging either" (Brown et al., 2008, p. 8). Certainly, the GoPro camera and video invites what Whatmore (2006) describes as a need to supplement more humanist methods that rely on generating talk and text (p. 606). Moreover, as our research project continues to evolve, as well as our own thinking and analysis, the GoPro affords a potential means to attend to an array of "senses, dispositions, capabilities and potentialities of all manner of social objects and forces assembled through, and involved in, the co-fabrication of socio-material worlds" (Whatmore, 2006, p. 604). Certainly, our work with the GoPro camera and method has been experimental and evocative; helpful in promoting an "understanding of how matter comes to matter" (Barad, 2003, p. 801). The GoPro videos and analysis helps us with this understanding, the child's panning, focusing, videotaping as a co-author of their own experiences and relations with sticks, leaves, rain, rocks, friends, and educators.

Video data research presents a series of issues. In this project, the GoPro did offer researchers (and educators) a small window into the world of the forest; insight into the 'matter that matters' (Barad, 2003), what interested the children, materials that excited and energized, and the ecology of who and what interactions impacted this world. The children are drawn to the materials of the forest; rocks, sticks, trees, snow, and ice invite them to enmesh their bodies with experiences of rolling, rubbing, mashing, shattering, and so on. Importantly, we highlight an environmental-reciprocal relationship (Pink, 2011) as the children act upon the environment and the environment acts to change the child. The GoPro helps to heighten one's sensitivity to the materials of the forest, there is a quietness and vastness of the woods, a visceral viewing without interpretation and a sensory complexity that draws the researcher in. Watching the GoPro video inevitably takes the child out of the center, as the viewer's gaze is drawn to multiple sights and sounds.

### *Child's role, researcher positioning, and ethical issues*

Our thinking and research in the forest with children has led us to make claims that lead to suggestions or insights for those working with GoPro video data, and for ourselves. In the section that follows, we discuss the practical implications of children wearing video cameras and thereby acting as co-authors of the generated data, the sociomaterial entanglements and offerings of video tools, and the ways in which the researcher may be decentered in the process, thereby offering new vantage points and working towards an ethical research practice.

## Practicalities of inviting children to co-author video data

Each child was invited to wear the GoPro camera one morning of their forest school program (with the option to wear the camera again if so desired). The GoPro camera was first made available for the children to handle and examine as the researcher explained how the camera could film a 'movie' of their day in the forest. Each facet of the camera was discussed: the layers of protection surrounding the camera, the small rubber waterproof casing, the battery, the lens, and general care for the camera. Author 1 modeled wearing the camera and different scenarios that would impede filming (e.g., laying onto one's stomach, clothing or snow covering the lens, etc.). The children were informed that the camera would record continuously once the 'on' button was pushed, and a flashing red light at the front of the camera indicated that recording was occurring (if the flashing stopped this marked that the battery needed changing). The camera wearer was invited to push the record button and other children were asked to check the red recording light. The children became very adept at initiating recording as well as informing the researcher that the battery needed changing. Children chose whether to participate on any specific day, as well as how long they wished to wear the camera. Most children wore the camera for two to three hours on their chosen day, and all the children in year one requested a second turn. The GoPro camera weighed approximately 150 grams and was worn with a child-sized chest harness.

All GoPro video recording occurred within a study that was bounded in very specific ways: one focus of the study was on children and their educators' sociomaterial experiences within a forest school program. The fieldwork was conducted by one of the authors and various research assistants between 2015–2017, and children who were registered in the outdoor program participated if consent was also granted by their parents. The children also exerted their individual choices in terms of participating in all aspects, including the videotaping with the GoPro. The children became what Brown et al. (2008) describe as "co-authors in the creation of

the audio-visual representation" (p. 5) by actively panning and narrating storylines, and instructing the researcher on embedding titles, credits, and music into the vignettes shared with parents.

After filming, a researcher crafted a short vignette of the child's GoPro video to be shared with the child and his/her family. Each video was three to seven minutes in length and comprised short vignettes of the child's day in the forest. These vignettes of GoPro video were generally selected with a time sampling method, so that each video contained snippets of the beginning journey to the forest (one minute of video), midway through (three to five minutes of varied forest play), and the trek out of the forest (one minute of video). These short vignettes served as a conduit between children, the forest, and families, as well as for reporting purposes. For example, we engaged the children in video-simulated accounts (Theobald, 2011) of the GoPro videos, focusing on the ways in which the children's bodies, senses, memories, responses, and conversations were provoked by viewing their interactions with the human and non-human world of the forest. This represented a less developed fragment of the research and thus we have not discussed it at length here in this chapter. Nonetheless, in research with young children, the viewing of GoPro videos might offer other additionally 'provocative' and different ways of generating data; "data that were not visible and that disrupted linearity, consciousness, and the mind/body dichotomy" (St. Pierre, 2011, p. 621).

## *Ways of knowing through a GoPro view of children's sociomaterial entanglements*

The GoPro videos provided some insight into what was important within children's worlds and their entanglements with the more-than-human materials in the forest. Potentially, researchers may be invited "to think more carefully about what children are able to, and may choose, to make visible when invited to use video cameras" (Bird, Colliver & Edwards, 2014, p. 1753). Additionally, we propose that the GoPro videos helped us, as researchers, to think differently or pay closer attention to all the parts in motion (Somerville, 2016). Like Elwick (2015), we pay attention to the "perceptual-sensory experience created as digital images and viewers 'come into being' with one another" (p. 324). Multiple viewings of a short clip from Flora's GoPro video (https://vimeo.com/230511705) helps to brings us beyond her words as she narrates her climb, and we come to view the snow, sense the grooves in the log, hear the ice scraping sounds, and see snow/ice pellets falling onto her mittens. It is through this close viewing of Flora's world that we come to understand a small part of the embodiment, sensory, kinaesthetic, and emotionality of the entanglement (Brown et al., 2008), the inseparability of the child and matter, the encounter between researcher and the site of the image (Rose, 2012, p. 27). Somerville (2016) refers to Barad (2003, p. 821):

> Meaning is not seen as a property of individual words or groups of words but is an ongoing performance of the world in its differential intelligibility. It is the intra-action of these elements through which part of the world becomes determinately bounded and propertied in its emergent intelligibility to another part of the world. The video (per)forms the agential cut through which entities temporarily come into existence.
>
> *(p. 11)*

Perhaps, the allure of the GoPro video is that it offers what MacLure (2013) described as data that 'glows', data that defies explanation, a fragment that "starts to glimmer, gathering our attention because it resists analysis, refuses to render up its meaning" (p. 661). Influenced by Deleuze's logic of sense, MacLure resists framing language as polarized, neither discourse

or matter, opting instead to embrace the 'wild', non-representational aspects of language that Deleuze (2004) ascribes. The descriptive language we have attached to our methods and analyses of these videos seems inadequate, and the 'glow' of the woods is often elusive. It is difficult to capture the essence of the snow-mittens-ice-log-Flora entanglements within a transcription of the video. Yet, the intra-activity (Barad, 2007) of the material world and children (and adults) is important, and the human child is somewhat decentered in the way in which the GoPro captures video.

Looking upon the video, the view of the child's body is incomplete where we might see an arm or a foot or a leg for example, and as we have just suggested, perhaps this helps to hone one's attention on the snow, mittens, ice, and log. The video captures much more than a 2D photo – you can really sense what's going on, even the shakiness – almost as if you are in motion with the child. The spotlight shifts from a sole focus of the child to include the matter of the woods, whereby these intra-actions of log, child, ice, snow, and so on compose reality; "reality [that] is composed not of things-in-themselves or things-behind-phenomena but things-in-phenomena" (Barad, 2007, p. 140). Perhaps, we are better able to focus on the idea of the child as becoming or emerging through their intra-actions with everything (Lenz Taguchi, 2010). In the end, we feel that we are indeed interested in young children and how they engage with the world and others. Returning to our video, Flora is not separate from the snow, ice, mittens, tree; rather the matter acts upon and alongside Flora as she climbs. The snow and ice slow her climb as she lowers herself to a crawling position, gripping tighter to the tree. The snow is grounded into the folds of the tree. The viewer sways along with Flora's body as she stands, muscles becoming taught to maintain her balance. The sound of the ice pellets landing on her mittens cause her to pause and comment 'wow'. Human existence is not separate from the world. Rather, the forces of the tree, snow, ice, and so on overlap and intra-act with the child's own forces in what Deleuze and Guattari (1987) refer to as *assemblages* (p. 8), an aggregation or multiplicity of bodies and matter (both human and more-than-human). Perhaps, as Hultman and Lenz Taguchi suggest, methodological implications are evident "if we understand ourselves as emerging from our co-existence with the world" (p. 534).

## Decentering the researcher

*The children are engaged in a type of rescue dramatic play on the icy hill slope of the forest area [Figure 4.3]. Troy flails his body on the ground calling out to his friend Adam (the GoPro operator) to help save him. Adam retrieves various long sticks and holds them out to his friend from the safety of the edge of the path where there are more leaves and rocks that provide traction.*

*Figure 4.3* GoPro video clips of icy hill play

*Adam can't pull the weight of his friend as they call to each other "help me, help me, I can't". Enya's help is enlisted as she tries to haul Troy up the hill. Author1 is also watching the action, capturing it on camera film. Throughout the play, the three children slip and slide, falling often on the icy hill. Author 1 occasionally offers commentary to the action, "now everyone needs rescue".*

*Researcher's video summary*

The GoPro camera as a research tool also offers a potential means of decentering the researcher and the anthropocentric lens. Albeit, "the video is not data" (Erickson, 2006, p. 177) and therefore can only represent a "partial semblance of reality", a reality that can never be truly "possessed or seized" (Plowman & Stephen, 2008, p. 547). Erickson (2006) further proposes that video data "is a resource for data construction, an information source containing potential data out of which actual data must be defined and searched for" (p. 178). Undoubtedly, as participant observers in this study, we were drawn to specific activities or events as they unfolded (as in Figure 4.3). The field notes and video summaries also reflected certain biases or researcher interpretations (e.g., disproportionate amount of observation/notes on the boys). The images and researcher's notes were often viewed as representational, a portrayal of reality, what happened on the icy hill. Yet, we wanted to *see the data differently*. The GoPro camera helped slow this process, as we read the videos multiple times, self-reflected and co-reflected, revisiting notions of Author 1's subjectivity within the videos. Author 1 was both the data collector, and the subject of research, appearing in the children's videos. Perhaps this duality helps to disrupt the literal interpretation of the videos, fostering an invitation of *seeing differently*. As Hultman and Lenz Taguchi (2010) discuss, it is not a literal taken-for-granted reading of the data (in their case photographs) that is important, but rather diffractive reading, becoming one-with and being affected by the data, that helps us to see differently. Thus, the GoPro video was not a "realist matter of disembodied objectivity – a view from nowhere and no when by no one in particular" (Erickson, 2006, p. 179). Rather, installing oneself in the videos that we have included in the chapter is a decentering experience, where one becomes attuned to the sounds, sights, aesthetics of materials and place, where matter becomes intelligible to all parts of the world (Barad, 2007).

What does the GoPro offer in *seeing* the icy hill data differently? Certainly, the ice, the hill, the sticks were entangled with the children's bodies. Notwithstanding the importance of these entanglements and the role of matter in children's lives, here we use the data fragment to highlight the importance of decentering of the researcher. Alongside the children, the researcher is absorbed into the world of the ice, cold, wind. The ice play evolved organically as an interaction between the children and the winter landscape. As a member of this forest school community, Author 1 was embedded within the rituals and rhythms of the forest school, at times joining the play, or watching, interpreting, or commenting as it unfolded. Yet, often as a researcher the adult focus was centered on the more obvious physical actions or utterances of one particular child at a specific moment in time. The researcher as the knowing subject, the child (and matter) the object (Hultman & Lenz Taguchi, 2010). And certainly, it is difficult to escape the 'I' in research (St. Pierre, 2011, p. 619) even when embracing ontologies of new materialism. Similarly, we are always fixing something that is in motion when we translate children's movements and sounds to written words, and this vibrancy can be lost (Hackett & Yamada-Rice, 2015).

In her research of children in a creek, Somerville (2016) describes, "as the human I of the researcher, I absorb and am absorbed into sounds and senses of the watery world of the creek. Responding viscerally, I record what I am attracted to without prior intention or 'method'" (p. 1167). In the icy hill play noted previously, Author 1 was also drawn to the more dramatic flailing and shouts from Troy, capturing these with a view of the play through the camera lens and later transcribed anecdotal notes. Much of the nuanced, complex, and shifting relations

within the children's play and the force assembled by the ice is overlooked by the researcher in the moment, and often the "sensory embodied ways of knowing and navigating complex environments" (Pink, 2011, p. 354) can be missed.

Perhaps an advantage of the GoPro is that it offers another and more continuous perspective, the snowy ground level view of the tugging, pulling, hoisting of Troy, the grunts, quickened heartbeat, scraping of the stick, bodies, and ice, the complex negotiations between ice, stick, child as they jostle, slide, laugh, and banter. The video offered an opportunity for all to re-immerse themselves into the ice play as a different type of experience, an "understanding (of) the world from within and as part of it" (Barad, 2007, p. 88). Somerville (2016) describes images as offering detailed aspects, a sensorial depth and flow of materiality. In the GoPro videos, we also began to see the *non*-human forces that were equally at play, and work as constitutive factors in children's learning and becomings.

## Insights for educators and researchers wanting to use video methods

In this research, video methods were used to document children's sociomaterial experiences in the woods. We have described three insights that the use of GoPro offered: (1) practical implications and affordances of using this tool; (2) social and material ways of knowing that are opened up through entanglements in the forest; and (3) ways that this approach might allow for some decentering of the researcher.

Yet, there are limits of the tool and the GoPro should never be considered the panacea for data generation. Engaging in analysis in this way allowed us to move away – if only for a moment – from chronological and affirming narratives that do not conjure new understandings. When working with video data, the volume and complexity can become overwhelming, and there seems to be no analysis tool that fully matches nonrepresentations/material framings of data. We are choosing to see this as both a challenge and an opportunity. Having no template to follow, we are working towards creating new methods and look forward to the ways in which multiple perspectives might be embraced and considered. These suggestions originate from our own experiences and insights from the research project about wearing the GoPro, video review processes, sampling of video data, and designing research and analyzing data.

Children should choose if and when they want to wear the GoPro. We suggest that it is important to respect requests to remove the GoPro and stay alert to ways in which it might impede children's usual movement and interactions. Educators and researchers might choose to wear the GoPro to gain additional insights. Consider in advance how viewing of videos might occur. Children can view videos alone or in small groups. You may want to record these interactions. Parents or educators and children can review them together and you may wish to observe to see if viewing starts to impact the use of GoPro in the field.

In terms of samples, we suggest choosing manageable excerpts from longer videos – and you may wish to sample from beginning, middle, and ends of longer videos. These are useful for sharing with others/families. You might program the GoPro to take still shots at regular intervals and then look to see what stories these still shots tell. In advance, you will want to decide how often you will collect video. Will you collect video every day? Every hour? Think about how you will view and interpret prior to beginning and revisit regularly. Common methods such as field notes may help you to decide what video data is most relevant.

When you are thinking about design and analysis, consider how your theories of learning will influence the data you generate and analyze. If children are seen as co-researchers, do they help generate questions? Do they make decisions about tool use? Are they involved in both viewing and interpreting data? Multiple perspectives from analysis are helpful. Include those

who were in the field but also engage in conversations from educators and researchers who might lend insights from viewing the video data only.

## Note

1 The field researcher, Debra (Author 1), was on site and in the forest with the children, while Author 2, Diane, participated in viewing and analyzing video footage and generated data. Throughout the chapter the term 'researcher' refers to Debra.

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