Toward a Pedagogy for Nature-Based Play in Early Childhood Educational Settings

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Abstract

Reflecting the growing momentum around childhoodnature, there has been enormous interest in increasing opportunities for young children to experience nature-based play. This has resulted in considerable efforts by early years' settings to naturalize their outdoor play areas, introducing polymorphic natural features,

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such as pebbly creeks, mud pits, and willow arches. Inherent in these efforts is an assumption that children will connect with and become immersed in nature as they play. However, there has been little research exploring *how* young children experience nature through nature-based play, particularly when it occurs within the confines of an early childhood (EC) setting. Further, little is known about what might influence their experiences in this context.

This Chapter draws upon qualitative data from Australian preschool children and their educators to build these areas of knowledge. Informed by sociocultural theory, along with notions of flow, the data indicate that children's experiences of nature and nature-based play in EC settings occur across a continuum, from immersion in nature-based play to nature acting as a backdrop to play. Critical to this section of the Handbook, it is educators' pedagogy that emerges as playing a central role in shaping these experiences. In examining the data, this chapter explores the facets of pedagogy – educators' values, beliefs, and behaviors – that appear to best afford children the opportunity to become *immersed* in their nature-based play.

Keywords
Nature play · Nature-based play · Early childhood pedagogy · Nature pedagogy · Flow

Introduction

The thesis of childhoodnature – that children *are* nature – is perhaps most readily apparent in babies and toddlers who tend to be uninhibited in engaging with nature in an "embodied" manner – they are active, sensory, experiential, and situated in their interactions (Hyun, 2005; Payne, 1997). Over time, a wide range of sociocultural factors – implicit social messages about dirt, transfer of fears or disinterest in the outdoors, and lack of opportunities for extended interaction in naturalized, outdoor environments – can act to socialize children away from nature and its processes (Hyun, 2005; Orr, 1994). The preschool years, when children increasingly grasp social nuance and language, may potentially be one of the key turning points in this process of dissociation from nature, particularly within affluent countries such as Australia.

There is a now established interest in nature-based play within early childhood research and practice worldwide, a trend that has been proliferating in Australia in recent years (Elliott & Chancellor, 2014). This interest responds to concerns that many children in countries such as Australia are being denied of extended outdoor play opportunities at a cost to their health and wellbeing (Bowden, Band, & Gray, 2011; Waller et al., 2017). Through nature-based play, educators seek, sometimes somewhat romantically, to offer children a sense of joy, creativity, and adventure but also to capitalize upon the reputed wellbeing and learning benefits it offers (Waller et al., 2017). These can be fairly anthropocentric (Cutter-Mackenzie, 2010), including learning to negotiate risk and challenge, opportunities for more complex,

imaginary play, advanced motor skills, and the development of social and emotional abilities (Waite, Passy, Gilchrist, Hunt, & Blackwell, 2016), but of particular importance to this Handbook are also desires to foster a deeper connection to the natural world with its intrinsic links to mental and spiritual wellbeing (Waite et al., 2016; Waller et al., 2017).

The nature kindergarten and forest school models of Europe have been a strong influence behind the nature-based play agenda in Australia (Elliott & Chancellor, 2014). These models have offered a nature pedagogy of sorts in that identifiable aspects of the approach remain consistent across settings and countries, with accredited training available in some countries, such as in the UK (Knight, 2009). However, the majority of research has been evaluative, highlighting the benefits rather than critically examining pedagogy in the context of nature-based play. This has created a knowledge gap, which has become particularly apparent as the grassroots nature-based play movement has expanded into other spaces, as well as other cultures (Waller et al., 2017; Warden, 2015). This knowledge gap has only very recently begun to be engaged with, and notions of "nature pedagogy" (Warden, 2015) in early childhood education are still very much in their infancy.

This Chapter reports upon a study that sought, in a broad, open-ended way, to explore children's nature-based play within everyday outdoor green spaces. It draws upon the data from two early childhood settings in NSW, Australia, which had been inspired by the nature-based play movement to re-naturalize their outdoor playgrounds. While the study was exploratory, aiming to examine *how* children experience nature and play within the confines of these familiar settings, educator pedagogy emerged as the strongest and most critical component of the findings and analysis. Correspondingly, the focus in this Chapter is on the interplay between children's *experiences* and educator *pedagogy*, with exploration of the facets of pedagogy that appear to best afford children opportunities to become *immersed* in their nature-based play within the confines of naturalized playgrounds of EC settings.

Early Childhood Pedagogy in Australia

Pedagogy has come to be commonly, albeit somewhat elusively, defined as the art or science of teaching (Alexander, 2008). While it is an expanding concept, it is often narrowly applied in terms of action rather than theory – the professional *practice* of teaching. For the purposes of this Chapter, I take a broader conceptualization, aligning with Alexander's (2008) assertions that pedagogy encompasses a teacher's underlying beliefs and values about their students, about the process of learning, and in this case perhaps about children and nature, *as well as* the ways in which these beliefs and values influence their approach in practice.

In Australia, the Early Years Learning Framework (EYLF) (Department of Education, Employment and Workplace Relations, 2009a) aims to foster shared national beliefs and values among early childhood educators regarding children and the process of learning. The accompanying educators' guide (Department of

Education, Employment and Workplace Relations (DEEWR), 2010) argues that without this, "Educators' individual images, beliefs and values about what children should be and what they should become influence both the planned and unplanned curriculum experiences and learning of children and can lead to wide differences in outcomes for children" (p. 14). The foundational beliefs and values advocated in the guide are as follows:

- Children are capable and competent
- Children actively construct their own learning
- Learning is dynamic, complex, and holistic
- Children have agency – they have capacities and rights to initiate and lead learning and be active participants and decision-makers in matters affecting them (Department of Education, Employment and Workplace Relations, 2010, p. 14).

Clear within these beliefs and values are connections to children's participatory rights, as afforded to them under the United Nations Convention on the Rights of the Child (United Nations, 1989), as well as to sociocultural understandings of learning and development (Rogoff, 2003; Vygotsky, 1978). Given this participatory and sociocultural basis, the EYLF (DEEWR, 2009a) does not include any predefined areas of knowledge that children must learn. Rather, educators are encouraged to foster a collaborative and playful dynamic between themselves, the children, and relevant learning content, based around the daily routines, arising interests, and community context of the EC center. Within this collaborative process, the children's general knowledge, understanding, and skills will expand, but the focus for educators is on intentionally nurturing five key attributes. These attributes, referred to as "outcomes," are positioned as socioculturally relevant to children both in the present and for the future. They include their sense of identity, their sense of connection and capability to contribute to their world, their wellbeing, their confidence and involvement as learners, and their ability to communicate effectively (DEEWR, 2009a).

Despite the above, Australian research conducted just prior to the launch of the EYLF highlighted that sociocultural theory is poorly understood by EC educators (Edwards, 2006), and even when it is understood, making the necessary mindset shifts to fully adopt the beliefs requires considerable time and commitment, particularly for these beliefs to become actualized in pedagogical practice (Edwards, 2007). Further, following the launch of the EYLF, increased research attention surrounding how best to collaborate with children appeared to lead to a "cognitization" of early childhood theory in Australia (Fleer & Peers, 2012). This referred to a preoccupation with how to most effectively expand children's cognitive understandings, rather than focusing on the EYLF outcomes (DEEWR, 2009a), and a resultant shift away from child-led play. This slippage resonates with worldwide concerns about the "schoolification" of early childhood education (Waller et al., 2017). It also echoes findings from practice-focused research in the UK, which identified that many educators struggle to "contribute to, without commandeering"

collaborative interactions with children (Waite, 2011, p. 75), running the risk of diluting children's sense of participation and their subjective sense of the activity as play (Waller, 2007; Waters & Maynard, 2010).

In an effort to redress these issues in Australia, Fleer and Peers (2012) argued that educators have important collaborative roles in children's imaginary play, such as fostering the "collective imagination" by engaging in imaginary conversations with the children (Fleer & Peers, 2012, p. 423). This resonated with the Vygotskian-based "Tools of the Mind" approach in the USA, in which a key role of the early childhood educator is to scaffold purposively increasingly mature play skills, such as assigning a role to open-ended props, taking on and sustaining attributes consistent with a specific character, and adhering to the implicit rules of the established play scenario (Bodrova, 2008). Bodrova (2008) has proposed that in previous generations, when children played more regularly in mixed age groups (often outdoors), this process likely occurred effortlessly, with older siblings or neighborhood children modeling these sorts of play skills.

What is evident then is that collaborating with young children offers the *potential* to bridge dichotomies between play and learning and between cognition and imagination. Further, when practiced well, it can offer added benefits for children, through the intentional modeling of skills and behavior relating to wellbeing, rights, positive relationships, and respect for others and the environment (Waller et al., 2017). Yet, considerable tensions remain around the actualization of effective collaboration in practice.

Pedagogical Values Relating to the Outdoors

Naturalizing the playground of EC settings offers the opportunity to expand opportunities for collaborative play and learning (Blanchet-Cohen & Elliot, 2011; Waters & Maynard, 2010). Naturalized spaces offer scope for new daily or seasonal routines (from managing a worm farm to sweeping fallen leaves). Natural features also provide changing loose materials and interesting affordances to capture children's curiosity (Blanchet-Cohen & Elliot, 2011; Waters & Maynard, 2010), which can stimulate open-ended "joint attention" (Smith, 1999), "sustained shared thinking" (Siraj-Blatchford, 2008), and imaginary play (Waller, 2007). However, competing values regarding children and nature, and about children's outdoor play more generally, create added complexity for educators around collaborating with children outdoors (Ernst & Tornabene, 2012; Mawson, 2014; Waller et al., 2017).

In Australia, the EYLF (DEEWR, 2009a) offers a starting point in considering values and purpose for outdoor play and learning. Nature and the outdoors are not a primary focus in the document, but there is a scope for nature-based play within several of the outcomes, including:

- Outcome 2: Children are connected with and contribute to their world (particularly the sub-outcome, "children become socially responsible and show respect for the environment") (DEEWR, 2009a, p. 29).

- Outcome 4: Children are confident and involved learners (in the sub-outcome entitled, "children resource their own learning through connecting with people, place, technologies and natural and processed materials") (p. 37).

Within these, it is notable that, while there is reference to connection, nature is positioned largely in an anthropocentric way, as an environment to be cared for and a resource to be utilized for learning and play. Further, the dual emphasis on caring for *and* utilizing nature offers little pedagogical guidance in finding a balance between fostering environmental values (and/or preserving natural features in the preschool grounds) and affording rich, exploratory experiences.

In turning to the field of environmental education more broadly, this tension between preservation and exploration has long persisted and is embroiled in issues around the role of adults. On the one hand, adult mentors are positioned as playing important sociocultural roles in validating children's connections to nature as well as more purposively fostering sustainable mindsets (Asah, Bengston, & Westphal, 2012; Chawla, 1999). On the other hand are concerns that children are predominately experiencing outdoor, naturalized environments in supervised, structured, and programmed ways (Kellert, 2002). There is apprehension that this risks a "look, don't touch" approach (Sobel, 2012) that may disconnect children from nature (Hyun, 2005) and even foster feelings of "ecophobia" (Sobel, 1996).

Educational research on outdoor play and learning tends to be fairly consistent in advocating that educators need to be purposeful in modeling interest and enthusiasm for nature and the outdoors, intentional in helping children nurture and maintain their connection to nature, and to consciously challenge themselves as educators with regard to allowing children to experience risk (Sandseter, Little, & Wyver, 2012; Waller, 2011; Waller et al., 2017). Existing educational research indicates that these practices seem to occur most effortlessly in Scandinavian nations, where cultural priority is attached to being connected to nature (Maynard & Waters, 2007; Sandseter et al., 2012). In Australia, connection to country is central to Indigenous cultural heritage and identity, yet like other anglicized countries, nature is not so central to Australian cultural identity at national level (Fargher, 2012). Therefore, like other anglicized nations, educators may lack a sense of purpose toward nature-based play, and hold varying levels of commitment to outdoor play and learning (Maynard & Waters, 2007; Waite, 2010).

Those educators most likely to make intentional use of natural outdoor spaces tend to have a deep personal connection to nature and hold a strong belief that the experiences are important for children's health and wellbeing (Ernst & Tornabene, 2012). However, these intentions can be complicated pedagogically by a sense of romanticism toward outdoor play (Waite, 2007; Waller et al., 2017). Indeed, one of the most consistently identified values among educators toward outdoor play and learning is a desire to offer children a sense of freedom and discovery, and this can leave educators feeling reluctant to seek opportunities to involve themselves in children's play outdoors (Mawson, 2014; Maynard & Waters, 2007; Waite, 2011). Overlaid upon this are practical issues, particularly tensions around risk (see, e.g., Little & Wyver, 2008), which can again lead them to focus on general supervision

rather than seeking opportunities to collaborate outdoors (Blanchet-Cohen & Elliot, 2011; Maynard & Waters, 2007). Given such complexities arise alongside existing tensions around the actualization of collaborative pedagogy in early childhood education in Australia, there has been increasing interest in the notion of "nature pedagogy" (Waller et al., 2017; Wynne & Gorman, 2015).

Nature Pedagogy

Insights into the sorts of beliefs and values that might underlie nature pedagogy can be drawn from existing place-based pedagogies (Wattchow & Brown, 2011) or ecopedagogy (accredited to Paulo Freire but further developed by others, particularly Kahn (2010)). However, in EC education in Australia to date, it has been the nature kindergarten and Forest School models of Europe that appear to have achieved the greatest traction (Elliott & Chancellor, 2014). These offer a pedagogy of sorts in that aspects of the model have remained identifiably consistent even it has spread to different countries and environments (Elliott & Chancellor, 2014; Knight, 2009). Notably, this includes the practice of utilizing a small naturalized area, often within a larger "wild" environment such as a forest, park, or beach, which becomes a familiar "base camp" for activities. In this space, basic boundaries are established, and then emphasis is placed upon child-initiated play and learning, including the facilitation of healthy risk taking. The model tends to promote utilizing the resources nature provides rather than adding toys or additional resources, and as such collaboration tends to occur democratically and spontaneously. Many beneficial outcomes have been identified in evaluations worldwide, including notably the strengthening of relationships between children and educators as well as among children (Elliott & Chancellor, 2014; O'Brien & Murray, 2007). However, beyond Scandinavia, nature kindergarten-style experiences tend to be weekly visits to a nearby forest, park, or beach and as such may be a time when an alternative pedagogy is consciously adopted. Outside of Scandinavia, it is unclear to what extent the pedagogical-type tenets of the nature kindergarten model would be sustained within the more limited confines of everyday early childhood playgrounds.

Recently, influential and entrepreneurial Scottish educator, Claire Warden, has been promoting the need to articulate a natural pedagogy that can cross context, environment, and cultural boundaries (Warden, 2015). In 2016 she founded the International Association of Nature Pedagogy (www.naturepedagogy.com), and her ideas have gathered particular interest in Australia (Wynne & Gorman, 2015). Warden defines nature pedagogy as "the art of teaching and learning *with* nature inside a classroom, outside in nature and then beyond in wilder spaces" (emphasis added) (www.naturepedagogy.com). Her ideas are aligned with notions of childhoodnature, positioning children as part of the earth's natural system. She identifies five environmental and social aspects that shape experiences of outdoor play and learning: topography, space, resources, time, and the adult role (Warden, 2015). Each of these is positioned as a continuum, generating a vivid image of dialing up and down the various aspects. However, despite grassroots momentum,

little research has explored the concept of early childhood nature pedagogy. This chapter seeks to contribute to this emerging area of interest, by reporting on a study that offers nuanced insights into the inherent tensions surrounding the adult role in nature-based play.

Background to the Study

This study was explorative, with an overarching aim to examine how young children experience nature-based play within everyday green spaces. It involved two mainstream Australian early childhood centers, approached for involvement because both were known to have made changes to their playgrounds in an effort to expand opportunities for the children to experience nature-based play. The overarching method for the study was the customizable Mosaic approach (Clark & Moss, 2001), which offered the opportunity to bring together elements of ethnography and the participatory paradigm (Clark & Moss, 2001; Heron & Reason, 1997). Ethnographic-style observation encouraged the formation of interpretive understandings of nature-based play and attention to culture – children's culture, the culture of EC education, sociocultural shifts regarding children, nature and risk, as well as the individual culture of each center. A participatory approach allowed these interpretive understandings to be explored with the participants and for their reflections and meaning-making to contribute further insight. This combined approach was particularly valuable in relation to the concept of nature, a word initially unfamiliar to the children. It also became incredibly fruitful in helping to uncover some of the values and beliefs underlying the observable aspects of the educators' pedagogies.

The study took place in 2013 during a period of considerable reform for EC education and care in Australia. In 2009 a seminal national Early Years Learning Framework (DEEWR, 2009a) (as described above) was introduced, followed by a system of national quality standards (Australian Children's Education and Care Quality Authority, 2011), which includes assessment of outdoor provision. Then, in 2013 all children in their final preschool year (typically aged 4–5 years) were guaranteed access to an EC education and care program for 15 h per week, across 40 weeks of the year, delivered by a degree-level trained educator (DEEWR, 2009b). This could be delivered in a wide range of existing settings, including long daycare centers, dedicated preschools, or in preschools attached to primary schools. This study involved children in their final preschool year (hereafter referred to as "the preschool children") and their educators, at a long daycare center and a community preschool. Given the standardization implied by national reforms, the initial intention of the study was to explore nature-based play in a fluid way across both centers. However an unexpected level of disparity emerged, and as such the two settings came to be examined in a way more akin to two case studies. They are presented largely in this manner throughout this Chapter.

Theoretical Frame

The study was informed by a theoretical frame combining sociocultural theory (Vygotsky, 1978) and the concept of flow (Csikszentmihalyi, 1997). As signaled earlier, sociocultural theory is central to contemporary early childhood theory and practice and foundational to the Australian EYLF (DEEWR, 2009a). The theory stems from the ideas of Vygotsky (1978) who questioned assumptions that competency and ability were determined solely by biological ages or stages. He viewed learning and development as a culturally embedded process, occurring in response to situation and through interaction with others. This dynamic process is understood as being influenced by the child's engagement in their world and the expectations, opportunities, modeling, and requirements they encounter, along with and the nurturing and guidance they receive (Rogoff, 2003; Smith, 2013; Vygotsky, 1978).

As the values laid out in the EYLF (DEEWR, 2009a) indicate, applying sociocultural theory to education requires viewing children as inherently capable – to focus on their *capacity* for competency and to gently scaffold them to extend their abilities progressively, rather than being limited by predetermined ideas about what they can or cannot do (Edwards, 2007). However, dominant societal assumptions and beliefs about children and childhood, such as in relation to safety and protection, or expectations of supervision, may bear influence upon children's opportunities for nature-based play within early childhood settings (Lupton, 1999; Smith, 2013). Therefore, a sociocultural lens drew attention to the dynamic, social, relational, and cultural processes surrounding the nature-based play movement. It encouraged examination of *how* nature-based play was encouraged, facilitated, or otherwise within the socio-relational milieu of each individual center and in particular the social and pedagogical interactions surrounding and integral to this play.

Where sociocultural theory offered insight into the processes surrounding nature-based play, the concept of flow (Csikszentmihalyi, 1997) offered a way to consider the children's lived experiences. *How* did they experience nature-based play – as play or as work, as free or restricted, or as something enjoyable, relaxing, or boring? Csikszentmihalyi (1997) describes the experience of flow as "the state in which individuals are so involved in an activity that nothing else seems to matter" (p. 4). Although flow requires the conscious directing of attention, it is understood as resulting in a relaxation of the brain from full arousal to a focused state of peak efficiency. Therefore, flow is described as "optimal experience." It is linked to happiness, an intrinsic sense of satisfaction and personal growth, with growth occurring both in the skills of the activity and in higher consciousness (Csikszentmihalyi, 1997).

Flow is of particular interest to learning as it taps into students' intrinsic motivation to enhance their skills and to continually repeat this experience of growth. The EYLF makes reference to flow in describing it "as a state of intense, whole-hearted mental activity, characterised by sustained concentration and intrinsic motivation" (DEEWR, 2009a, p. 45). It is suggested that educators can recognize the flow state by children's "facial, vocal and emotional expressions, the energy, attention and care they apply and the creativity and complexity they bring to the situation" (DEEWR, 2009a, p. 45). Notably though, no guidance is offered on how to facilitate these

experiences. Utilizing the concept of flow in this study allowed for exploration not only of the children's experiences but also to consider how educators might balance the delicate task of extending children's learning through collaboration while not destroying the essence of children's self-directed play.

The Early Childhood Settings

The study involved two EC centers situated in similarly demographically diverse, medium-sized towns, in NSW, Australia. The centers were intentionally approached for involvement because both were known to have a keen interest in expanding opportunities for children to experience nature-based play. One was a private long daycare center (referred hereafter as "the daycare"), which operated daily from 8 am to 6 pm all year round and accommodated approximately 80 children between birth and 5 years of age. The daycare grouped children according to age, with each group having their own room indoors. The large outdoor playground was shared, and children between the ages of 2.5–5 years often played outside at the same time. However, only children from the oldest group (aged 4–5 years) and their educators were involved in this study. The second setting was a not-for-profit community preschool (referred hereafter as "the community center"). It operated daily between 8 am and 3:30 pm during school term time and catered to approximately 45 children aged 3–5 years.

The outdoor play space at the daycare was bigger and had greater expanses of grass, but aside from this, the outdoor areas at both settings were comparably naturalized, with mature trees, small bushes, and other vegetation. Both had some landscaping features involving slopes, rocks, and bridges, as well as nature-specific features such as frog hotels (pipe constructions for frogs to hide in). Also, both had areas of patio, large sandpits, cubby houses, and some playground equipment, including swings, which were surrounded by bark rather than artificial softfal surfacing. In addition, the centers had recently added vegetable plots and passionfruit vines. The centers were situated in a subtropical region of Australia inhabited by different species of snakes, including venomous brown and red-bellied black snakes, and many types of spider, including poisonous redbacks, presenting uniquely Australian outdoor risks. At both centers, outdoor playtime tended to be scheduled in the morning from approximately 9 to 10.30 am to comply with sun protection guidelines. At the daycare, another session of outdoor play was sometimes programmed toward the end of the day, although I only observed the morning sessions at both centers.

The Participants

Four educators were involved in the study, two from each setting. These educators worked directly with the preschool children on a daily basis. All of the educators were fairly experienced, although they held a range of qualifications as detailed in Table 1 below. As Table 1 highlights, both centers had already employed degree-qualified educators long before this was mandated by the national reforms.

Table 1 The educators involved in the study

Setting	Educator pseudonym	Job title	Highest relevant qualification	Years of experience at time of study	Length of service at the setting (years)
The daycare	Donna	Room leader (preschool group)	Specialist early childhood degree	16	6
	Danielle	Assistant educator	College-level, workplace-based certificate III in childcare	8	8
The community center	Christina	Center director (and room leader)	Specialist early childhood degree	Unknown	24
	Cath	Room leader	Diploma in early childhood education and care	Unknown	28

Twelve children participated in the study, six from each setting. Eleven of the children were aged 4–5 years and were often some of the oldest at their setting. One child participant at the community center was 3 years old. I aspired to make the research experience enjoyable and playful for the children and invited them to make up their own pseudonyms. I wrote these onto wooden necklaces, like the one I wore when I first attended the center and which the children had admired. We all wore them when we were "doing" our research. At the daycare, the children decided to choose pseudonyms based upon their personal interests. I worked with four boys, Ninja Turtle, Superman, Spiderman, and Surfing, and two girls, Catwoman and the Bead One. At the community center, the children chose to continue the researcher theme and labeled themselves as Dr. and then their first initial. Therefore, at the community center, I worked with Dr. K, Dr. E, Dr. F, Dr. J, Dr. L, and Dr. M. All were girls expect for Dr. F.

Methods

The fieldwork was undertaken several times per week over a 2-month period in late autumn. In line with the customizable Mosaic approach (Clark & Moss, 2001), a range of methods were employed. I began with an initial period of participant observation during which I recorded field notes by hand and interacted with the children mainly following their request or initiation. After 2 weeks of observation, I moved into a more participatory phase with the children and their educators, which involved child-led tours of the playground, child-framed photography, and making collages. These were undertaken in small, child-nominated groups of three and were

undertaken with the aid of a "research assistant," a handmade fictional puppet called Wattle-Pottle. Wattle-Pottle helped to bring a playful feel to the research process and was positioned as being the one with the interest in nature-based play. This additional "persona" afforded the children considerable agency and influence in the research process as indicated further in the section on "Ethics" below.

Toward the end of the fieldwork, I undertook an individual, semi-structured interview with each of the four educators, arranged at a mutually convenient time. Each interview lasted between 30 and 60 min and took a reflective approach to exploring motivations for nature-based play and arising aspects of pedagogy.

The interviews and the participatory activities were digitally recorded via an MP3 player (which I wore on a string around my neck during the more active activities with the children). I transcribed these as soon as possible after each visit, which aided in identifying the voices of the children. The collages were photographed so that the original collages could be left at the centers to share with parents and as a record of the children's work. The field notes were typed up and collated with the photographic material and transcriptions. I took a thematic approach to analyzing this combined data, initially organizing it under overarching headings: childhood, play, learning, nature, and risk (Lofland, Snow, Anderson, & Lofland, 2006). I then used manual coding and memoing to cyclically readjust, collapse, and expand the emergent themes and subthemes (Glaser, 1965).

Ethics

The research was granted ethical approval by the University's Human Ethics Committee (grant number ECN-12-274). In addition, influenced by the ERIC Charter and Guidance (Graham, Powell, Taylor, Anderson, & Fitzgerald, 2013), ethics was approached as an ongoing reflexive endeavor throughout the study. For instance, the settings were recruited for the study through initial contact with the educators. Once they indicated an interest in participating, the directors of the settings were contacted officially to request permission. This aimed to increase the likelihood that the educators would be interested in becoming involved in a participatory way in the study and to reduce the risk that they might feel obliged to participate through workplace hierarchies. Formal informed consent was then sought from each of the individual educators.

The educators were asked for assistance in identifying a diverse range of children based on attendance patterns and likely interest in being involved. They generally suggested the oldest children at the centers, for whom they felt the study would offer a new and different experience. Invitations and consent forms were sent to the children's parents. In addition, in line with contemporary ideas about ethical research involving young children (Ruiz-Casares & Thompson, 2016), a child-friendly information sheet with pictures was enclosed, and parents were asked to discuss it with their child. This information was also reiterated to the children at the beginning of the observation and participatory phases, along with their right to discontinue or

restart their participation should they wish to. The children were also monitored for physical signs of assent or dissent throughout the study (Dockett, Einarsdóttir, & Perry, 2012). Notably, some children choose to briefly stop and restart their involvement during the study, and the youngest child, Dr. M., chose not to participate in the collage-making.

Even in research seeking to be participatory, there can be potentially limiting power hierarchies between the researcher and the children (Graham et al., 2013). The puppet, Wattle-Pottle, acted more powerfully than expected in helping to diffuse some of this. The children used him as a conduit to steer the direction of conversations or activities, to voice concerns, or to indicate dissent. For example, on one occasion Dr. K said, "I think Wattle-Pottle would like to paint now." Conversing through Wattle-Pottle, I was able to clarify that she was suggesting that we all do some painting on the easels on the verandah. This impromptu, child-initiated activity generated some of the richest inter-child dialogue regarding nature and nature-based play.

At the end of the study, summaries of anonymized results were prepared and disseminated to the educators and parents, along with a child-friendly version with pictures suitable to be read aloud to the children. The children were also given their wooden necklaces to take home as a memento of their participation.

Findings from the Study

The study found that the children's experiences of nature-based play could not be uncoupled from the pedagogy of their educators. Accordingly, while this Chapter focuses upon exploring pedagogy, it is necessary to preface this with an overview of the children's experiences. Central to these was the identification of a continuum, from nature providing a backdrop to activities through to the children experiencing "immersion" in nature-based play. Immersion in nature-based play was identified as a twofold experience. It encompassed children's *physical embodiment in nature* (Payne, 1997) – the opportunity to step into the mud, let the rain pour onto their face, hold a lizard in their hand, or experience the risky thrill of climbing a tree. At the same time, it reflected an experience of flow (Csikszentmihalyi, 1997) – children's deep and purposeful *absorption in the activity of play*. Through the links to flow, the experience of being "immersed" in nature-based play can be understood as an "optimal" childhood experience with nature (Csikszentmihalyi, 1997), with potentially important benefits for children's health and wellbeing, their experience of education, connection to nature, and possibly the sustainability of the planet (Bowden et al., 2011; Louv, 2008; Sobel, 1996).

Depending upon the activity they were engaged in, the children's play at each of the study centers could be located at either end of the continuum or somewhere in between, sometimes shifting across the continuum as their play evolved. However, the study children at the community center appeared much more commonly to be "immersed" in nature-based play. This occurred usually through sociodramatic or

creative play based around natural materials, which they often sustained in pairs or small groups for 40 min or more. These observations were reinforced in the conversations with the children and educators who talked extensively and with enthusiasm about this play. By contrast, the study children at the daycare did not often use natural materials or affordances in their play and engaged in much less imaginative or creative play. Instead, they tended to engage in physical play on the equipment (the swings, slides, etc.), in rule-bound games such as "What's the time Mr. Wolf" with the educators, or to walk around chatting to one another. In these activities, the children were rarely, or only fleetingly, observed to be in a flow-like state. Perhaps for this reason, the study children at this center verbally expressed feelings of boredom and frustration several times during the conversations I had with them, emotions that were never mentioned nor identified among the children at the community center.

There is a risk of overgeneralizing the nature-based play experiences of the study children from each center, and it is important to reiterate that the children were not engaged in one form of play experience all of the time. There is also potential to overstate the differences between the centers, although it will be recalled that the initial intention was not to compare the centers – they were chosen for their likely similarity. Indeed, given the similarity in natural affordances and materials in the outdoor areas of the two centers, it was a surprise to find such disparity in the children's nature-based play experiences. This begged further examination and offered an illustrative opportunity to explore the wider influences that might be shaping the children's experiences of nature-based play. Of particular prominence were facets of their educators' pedagogy – varying values, beliefs, and behavior that may have been acting to constrain or enhance the children's opportunities to become immersed in nature-based play. Below, results pertaining to four of these most prominent aspects of pedagogy are presented: values toward nature, parent partnerships, beliefs about children's capabilities, and approach to play and learning.

Values Toward Nature

The educators at both settings described the sustainable practices or wildlife gardening initiatives that were in place at each center, such as small vegetable plots, minibeast habitats, and frog hotels. At the community center, these initiatives had usually been driven by the educators, and tasks such as collecting produce from the gardens, monitoring levels in the water butt, and collecting scraps for the worm farm were particularly well-established within the routines of the center. Both educators at this center described with enthusiasm their personal passion for being in nature, for its beauty and wellbeing benefits, and the importance of preserving the environment for its own sake, as well as for future generations. As such, they appeared to feel deeply connected to nature and to hold the sorts of eco-centric values that resonate with the concept of childhoodnature. It was clear that they felt personally motivated

to foster opportunities for the children at their center to nurture their personal connections with nature.

> Christina: To me it's...the children kicking through the bark and the smell of the bark and...the emotional benefits of being connected with nature that they can take with them through their lives. It's not just the bigger picture [climate change etc.], which is really important, but it's actually something that is important for your emotional wellbeing...that relationship with nature is so important...Well, it is for me, so I suppose I would like that for them as well.

Correspondingly, the educators allowed and actively facilitated the children to have hands-on, full sensory experiences. The children frequently mixed up "potions" in the birdbath using water, petals, bark, and mud. They were allowed to climb low trees and sometimes cut fresh, "springy" branches to play with. There was also a "mud pit" where they could step right into the mud and allow it to ooze through their fingers and toes. As such, at this center, there appeared to be a fairly straight forward link between the educators' personal connections to nature, their values around nature and sustainability, and their rationale for nature-based play.

At the daycare, these connections were a little less clear. It was the owners of the center who had initiated the changes to the grounds, adding circular garden beds, hay bales, shrubbery patches, and a small bridge, as well as introducing the other features such as the vegetable plots. Both of the educators were appreciative of these, and Danielle described the playground as previously being "just blank from one end to the other." However, Danielle did not describe any particular connection to or personal interest in nature, although she did not describe any fears or dislikes either. Donna also did not have a strong personal interest in sustainability, but she did clearly articulate a personal preference for natural spaces:

> Donna: I've worked at a few different centres and [our backyard] always makes me feel better than the fake backyards, like they give me a different feeling. I really feel enclosed by them rather than comfortable...

She also had a fascination with insects, bugs, and spiders, something that was recognized by the children and staff throughout the center. At the same time though, she described that nature could be problematic or aesthetically unappealing, and there was a sense that she liked nature to be managed and under close control: "You just have to kill a few [spiders] and get rid of them." Both her enthusiasm for nature and desire to engage with it in a managed way were further evident in her wish for a professional to add "more adventure" into the playground area and to add natural landscaping features such as "a hill there, and tunnels there." As such, she emerged as having an ambiguous connection to nature, and although she certainly seemed to

value it, this was in a more anthropocentric way. When compared to the educators at the community center, there was much less passion for the messy reality of nature-based play. Indeed, it became apparent that some of the changes to the grounds at the daycare, while ostensibly driven by the nature-based play movement, may have been as much for adult aesthetic appeal as for the children's experiences of nature-based play:

Danielle: I think the circle garden was probably the first thing that they did, because before the garden was there it was just a big mud patch...
Researcher: OK, and so did the kids use to play in that mud?
Danielle: Um, yes and no, but tried to encourage them not to do it because the parents didn't like them getting too dirty, because...as soon as it rained it was just a big slosh pile.

It seemed then that differences in the educators' personal connections and values toward nature were likely contributing to some of the differences in the children's experiences of nature-based play. These values may have been particularly central to educators' commitment to overcome complexities or barriers to nature-based play, such as the weather, dirt, and parental attitudes, as explored further in the following theme.

Parent Partnerships

The interview narratives of the educators also revealed differing levels of parental engagement and rapport between the centers. The educators at the community center described feeling very close to the families who attended their center, often knowing various members of the extended family and sometimes having taught more than one generation. At the daycare, the educators did not feel they knew the children's families so well, something they reflected may have been influenced by the shift work required by long daycare staff, whereby it may not always be the same staff member who is there at drop-off and pickup times. Donna described finding that the same parent could react differently on different days (or to different staff members) to the report that their child had had a small injury or fall. She found this undermined trust in the parent-educator relationship and found it personally quite stressful: "It's like being on a trampoline all the time, you never quite know which way it is going to bounce." To deal with this, she described having to curtail the children in their nature-based play.

Donna: It is never going to be as good as the home environment. . .It's just not really comparable because you do your best, but it is still an environment where you have lots of staff looking after a lot of children who belong to other people. So you do have to reduce the risks as much as possible.

In addition to keeping risk to a minimum, Danielle lamented that parents complained if their children got too dirty or if they learned that their child had been playing outdoors in inclement weather.

Danielle: If it's too cold we're not allowed to take them out, because the parents don't like them being outside if it is cold. Even if it is a sprinkle of rain they have to come in, they're not allowed to stay out in that, because parents don't like them out in the rain.

In contrast, at the community center, Christina mentioned that "parents sometimes check whether the children are allowed to be barefoot as some centres don't allow it," suggesting that, rather than dictating to the educators, the families respected their professional judgment. Indeed, perhaps by virtue of their long-standing, close relationships with the children's families or the educators' personal commitment to nature (as explored earlier), it appeared that the educators at the community center had established themselves as trusted professionals in the context of young children and nature. Consequently, rather than bearing ongoing tensions and worries about parental complaints, there was a sense that the educators had positioned the center as a key site, within the landscape of modern childhood, where the children *could* experience the risks of nature-based play, play out in the rain, and get muddy:

Cath: ...with playing outside, and in the dirt and stuff like the mud pit, sometimes these children go home in quite a state! Anyhow, parents are like, "Oh well, that's what they're here for."

These shared understandings about the experiences on offer at the center seemed to further contribute to relaxed educator-parent relationships, allowing the educators to feel less anxiety about risk or minor accidents. Reflecting upon her long tenure as Center Director, Christina explained, "Generally our community of parents is quite comfortable with what we do. Certainly no one has ever complained that I can think of." It emerged then that the quality of reciprocal trust that the educators were able to build in their relationships with the children's families influenced the nature-based play opportunities they were willing and able to provide for the children.

Beliefs About Children's Capabilities

In addition to the above differences, the educators described varying beliefs about the capabilities of the preschool children in their care. At the daycare, the educators seemed to default to a developmental stage-related conceptualization, largely referring to the children's capabilities in relation to their age. For example, being the oldest group at the center, the children were framed by Danielle as being more

competent than the younger children: "Not so much the young guys, but these guys will know if there is something sharp not to go near it." Along a similar vein, Donna drew attention to the children's limited capabilities in relation to adults: "A child's not going to differentiate [between dangerous and non-dangerous spiders]; I actually find it very hard to differentiate between them."

By comparison, at the community center, when Christina had facilitated the implementation of the EYLF (DEEWR, 2009a), it had resulted in a shift in mindset for Cath in terms of how she understood children and how they learn:

> Cath: It was a big change. . .I just thought, ". . .If we don't have things drawn and they don't learn to cut on a straight line, and then a semi-circle and then a circle, how are they ever going to do it?" And I thought, "Look this is fine. . . we'll start this, but at the end of the year I don't think we're going to have children with skills. . .ready for school." And it probably took a term and I was totally blown away, because I could not believe what they were cutting and what they were doing and it was because it was driven by them. . .I understood then that that was what it was all about, and their skills are amazing and what they can do is absolutely incredible.

Consequently, Cath now felt that children should not be limited by adults' pre-conceived ideas of their capabilities, and throughout the interview, she repeatedly described the children in her care as predominantly capable through statements such as "I think we just learn with them," "You never expect that they can't do it," and "I think sometimes people underestimate children."

In accordance with these beliefs about the children's competence, the educators at the community center worked with the children to develop their understandings of the risks associated with nature-based play and aimed to instill a sense of responsibility toward these. For instance, when talking about the "dry creek bed," a wide hollow at the center filled with large pebbles, Christina described trusting in the children's ability to play safely with the stones. She found that by extending trust to the children, they tended to react responsibly: "They don't tend to throw them. 99% [of the time] they're doing something constructive with them, occasionally someone might throw them, 1% of the time maybe." Through these everyday experiences with risk, Cath believed they could trust in the children's ability to react appropriately should a potentially dangerous creature appear in the playground: "They know, they can identify them [snakes, spiders], and they know that they get an adult."

At the daycare, Donna took a more cautious approach. She preferred not to allow the children to play with sticks, "because they tend to start whacking each other with them." Although, Danielle clarified that it is just the "big [sticks], just because they are quite rough these boys." She explained that they were allowed to play with small sticks as long as they did not "start running around after each other with them," if that happens, then they "encourage them not to play with [the

sticks]." In addition, Donna felt she could not trust the children to react appropriately if they encountered a dangerous snake or spider, something she attributed to their nature as children:

Researcher: How about the children themselves? Do you have a level of trust in them if there was a snake or something in the garden that they would react appropriately?
Donna: No.
Researcher: No?
Donna: No! (laughs).
Researcher: Do you think that is because it has not been tested? Or just through your experience...?
Donna: It's because they are children. They are going to touch whatever they want to touch, they really don't understand risk as such... It's like, "Oh God we just [talked / taught you about] snakes! You're not supposed to chase the snake." No, I don't trust them at all.

Overall then, it was clear that the educators' *beliefs* about children's capabilities influenced the degree to which they were willing to trust them, particularly in relation to navigating the risks associated with nature-based play. In particular, these underlying *beliefs* influenced whether and how the children were allowed to use natural objects in their play.

Approach to Play and Learning

The above themes highlight considerable differences in the educators' underlying values and beliefs between the two centers, aspects that are likely to contribute to their pedagogy outdoors. Further, it became apparent that there were fundamental differences in their approaches to play and learning, with the two centers interpreting the notion of collaboration quite differently.

At the community center, the educators explained that following the launch of the EYLF (DEEWR, 2009a), they made the decision to maintain routines but had done away with much of the structured planning at their center. The educators described with enthusiasm the way in which they actively sought opportunities for spontaneous collaboration with small groups of children, both inside and out:

Cath: You know most days what we think that we'll do, that might flow on from the day before, [well] something else kind of evolves, but...we follow them, listen to them, and follow them. And it's just not how it was, really, but...I think it's very good. It's much more creative.

This occurred in many different ways. On one occasion, Dr. M spotted that the cherry tomatoes were ripe on the vine. After tasting one, she approached an educator

who invited her to fetch the collection basket and helped her to wash them to serve at snack time. On another occasion, a parent dropped off an enormous cardboard box. An educator worked with a group of interested children outdoors to plan what they could use it for, and they spent the morning working together to turn it into a cubby house, carefully cutting windows and doors and decorating it. At other times though, the educators barely seemed to interact with the children at all, leaving them to develop their own play narratives with as little interruption as possible, just occasionally reminding them, for example, to turn off the tap on the water butt if they left it running for too long without using it.

At the daycare, the educators talked about observing the children while they were engaged in free play and drawing upon their interests to develop other activities. However, spontaneous collaboration was not described by either of the educators at the daycare, and none was observed outdoors. Instead, the educators explained that the children's play outdoors would sometimes inform the planning of themes for indoor play:

Donna: If they're collecting sticks outside and making [pretend] fires, we have brought that inside and made [pretend] campfires and added [cool boxes] and chairs and tables and tents and things.

Learning themes were often adopted for a week or more and sustained by the educators through structured art and craft activities, displays in the indoor space, or games and discussions to extend the children's conceptual knowledge. These structured activities were usually arranged for the whole class and planned often a week or more in advance, raising questions about the extent to which an individual child might recognize their contribution or experience a sense of collaboration in the process. Indeed, it was clear that collaborative opportunities were sometimes never followed up:

Danielle: They were quite into collecting those little nut seedy things from the trees, I don't know what they are. . .and we filled up quite a few jars of them last year.
Researcher: What did they do with them?
Danielle: They were going to use them for art and crafts but they never did they just sat in the jars! (laughs)

While the planned, structured activities usually took place indoors, occasionally the outdoor space was used, such as when the class went into the garden to catch spider webs and spray painted them onto black paper. Mainly though, the outdoor space was valued for allowing the children to expend "excess energy" because "it is a very long day when they are inside. . .and they don't like being inside all the time" (Donna). Weather permitting, free outdoor play was scheduled each day, and there

was a sense that being outdoors offered the children a break from the more structured indoor learning activities:

Danielle: It's more free play outside (long pause)...
Researcher: Why do you think you focus more on free play outside?
Danielle: Because normally it is very hard to get them to sit down when they are outside to do something (laughs), yeah they just like to run around. They are just happy doing their own thing rather sitting down doing a task that has been given...

As such, the educators described focusing mainly on supervision outdoors, interacting with the children predominately when they began to get "too unruly" in which case they would initiate structured playground games such as "What's the time Mr Wolf" or invite the children to listen to a story in the cubby house.

Therefore, the educators emerged as utilizing distinguishably different pedagogies: from spontaneous, flexible, collaboration with children indoors and out, to a more planned and bilateral approach delineating largely child-led play outdoors and educator-led learning activities indoors. These divergent pedagogies seemed to influence how the educators conceptualized the outdoor areas and the way in which they engaged with the children in these spaces.

Overall, the educators' values toward nature, their relationships with the children's parents, their beliefs about the children's capabilities, and their collaborative "teaching" behavior emerged as being considerably different between the two settings. While qualitative research conducted in sociodynamic contexts such as EC settings precludes the making of causal connections, the results of this study do strongly suggest that children's experiences of nature-based play within the naturalized playgrounds of EC settings cannot be uncoupled from their educators' pedagogy.

Discussion

The findings suggest that the various facets of educator pedagogy – the educators' values toward nature, their relationships with the children's parents, their beliefs about the children's capabilities, and their approach to play and learning – bear some influence upon children's opportunities for nature-based play within the everyday green spaces of early childhood centers. With reference to the continuum of nature-based play experiences, the various aspects of the educators' pedagogies may act to constrain or enhance the children's agency to reach the outer edge of the continuum and become fully "immersed" in nature-based play should they wish to do so. The scatter graph in Fig. 1 below has been generated as tool to help illustrate the nature-based play continuum and to further discuss the interplay between the children's experiences and the emergent aspects of educator pedagogy.

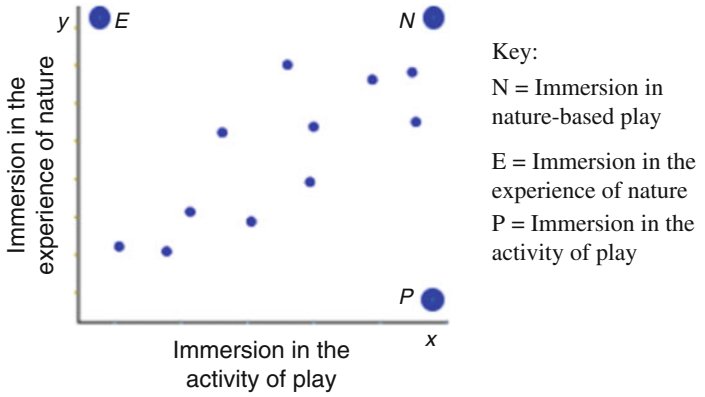

Fig. 1 Example representation of nature-based play continuum. Key: N = immersion in nature-based play. E = immersion in the experience of nature. P = immersion in the activity of play. Note. This graph is purely an illustrative aid for discussion. While the concept of the continuum arose from the findings and analysis, the points on the graph do not correspond to data gathered

As indicated by the x and y axes of Fig. 1, the analysis indicated that the children's experiences of nature-based play are reliant upon two critical conditions: their *ability* to become deeply and purposively *immersed in the activity of play*, i.e., *flow*, and the *opportunity* to become *immersed in the experience of nature.* Reflecting these dual layers, the experience of "immersion in nature-based play" would be situated at point N on the scatter graph and can be understood as an "optimal" childhood experience in nature, potentially offering the myriad wellbeing benefits reputed to be provided by flow and nature connection (Bowden et al., 2011; Csikszentmihalyi, 1997).

Three facets of the educators' pedagogy – their beliefs about the children's capabilities, their investment in relationships with the children's parents, and their own personal values toward nature – were identified as potentially bearing impact upon the extent to which the children were allowed to manipulate nature's polymorphic affordances in a hands-on way (e.g., the use sticks and stones in their play) and to experience nature in an embodied way (getting muddy, experiencing the rain, taking of their shoes, etc.). Therefore, these three facets of educator pedagogy can be understood to act in fairly direct ways upon the y-axis of Fig. 1, potentially influencing the children's opportunities to become *immersed in the experience of nature*.

Turning to the x-axis, the supervisory approach of the educators at the daycare might offer the children the freedom to become *immersed in the activity of play.* Certainly, adults' fond memories of playful outdoor adventures were usually times when they were playing freely and adults were not involved (Louv, 2008; Waite, 2007). However, the children at the daycare were rarely observed to be in a flow-like state in their play and on several occasions voiced frustration or boredom. This could be influenced by the confined nature of the setting, the necessity of certain rules in the group, the length of time the children spent at the daycare, and the absence of

older children to extend their ideas, creativity, and play skills, aspects that differ quite considerably from the play experiences of previous generations (Bodrova, 2008). Yet, frustration and boredom never arose during the fieldwork at the community center, and the children regularly seemed to become immersed (in a flow-like state) in their free nature-based play, something apparent in their creativity, deep and purposeful engagement, and enjoyment of this play (DEEWR, 2009a).

The greater freedom offered to the children at the community center to manipulate natural materials creatively may partly account for the differences in experience, offering them a greater sense of freedom. However, they most commonly used leaves, grass, or bark, which were also readily accessible to the children at the daycare. The difference in the type of setting may also have been influencing the children's experiences. The children at the community center had attended their center for a maximum of a year and a half; many did not attend every day, and opening hours were shorter. By contrast, some of children at the daycare may have attended the center for close to 5 years and may have been attending for full 5 days a week all year round. Yet, the type of setting cannot readily be changed. In fact, arguably it may be more important for children such as those at the daycare to have the opportunity to connect with nature and experience the well-being benefits of flow at their EC setting, given the dominance of this space to their early childhood experience. In a sense then, this places added impetus upon the educators to help facilitate these experiences for the children, pointing to the importance of educators' approaches to play and learning.

In considering the role of educators' approaches to play and learning upon the children's *ability* to become *immersed in the activity of play*, it is important to highlight that while the educators at the community center did sometimes collaborate with the children outdoors, it was not necessarily during these experiences that the children appeared to experience flow. As indicated above, this was most evident in their self-directed, socio-imaginative, or socio-constructive free play. Critically though, autonomously sustaining this play required the children to collaborate with *one another*, so that play narratives could fluidly evolve, and conflict could be resolved swiftly and not interrupt play. Sociocultural theory would suggest that the children at the community center may have been mirroring or reconstructing the collaborative pedagogy of their educators (Rogoff, 2003; Smith, 2013; Vygotsky, 1978). Or put another way, by modeling and engaging with the children collaboratively, Christina and Cath may have nurtured the maturity and self-sufficiency of the children's play skills at the community center, allowing them to remain more purposefully engaged – immersed – during periods of free play. This connection differs slightly from the ideas of Fleer and Peers (2012) and Bodrova (2008) in both intention and timing. Rather than fostering the children's collective imagination (Fleer & Peers, 2012) or ability to sustain characterization (Bodrova, 2008), the facilitation of collaborative skills has wide-ranging social application. It also does not require the educators, necessarily, to involve themselves in the children's free play directly. The skills are acquired (over time) in interactions with the educators and can then be appropriated later in free play, allowing this to be wholeheartedly child-led.

A complex dynamic of beliefs likely underpins this pedagogical approach. For instance, although the educators' beliefs regarding preschool children's capabilities emerged in the findings in relation to access to risky natural materials, implicit within these beliefs is the extent to which the children are recognized as competent partners to collaborate with (Siraj-Blatchford, 2008; Smith, 2013; Vygotsky, 1978). Hence, these beliefs likely underpin the educators' approaches to play and learning (Department of Education, Employment and Workplace Relations, 2009a). Somewhat similarly, while a commitment to a collaborative pedagogy largely supersedes the need for educators to personally value nature, it is likely that personal connections motivate educators to overcome any difficulties or barriers (such as safety concerns, parental resistance, or complaints) and actively seek to position their center as a space where children can experience immersion in nature-based play (Asah et al., 2012).

Educators' personal connections to nature aside, it was somewhat surprisingly that there should be such a divergence in the educators' beliefs about children's capabilities, their investment in relationships with the children's families, and their approach to play and learning. These are key areas in which the EYLF (DEEWR, 2009a) seeks to foster shared beliefs and values among educators nationally. However, as Cath described in her narrative and as existing Australian research has highlighted (Edwards, 2007), making the paradigmatic shift from developmentalism to sociocultural theory and embracing a collaborative approach in practice can be very challenging. Yet, rising to this challenge is critical. Even in something as seemingly innate as nature-based play, the results of this study demonstrate that, within the confines of EC settings, it is not enough simply to naturalize the playground, stand back, and leave the children to play. Educator pedagogy plays a critical role both in affording children the agency to really engage with the natural affordances *and* to develop the skills to achieve and sustain flow-like states in their nature-based play.

Conclusion

While only a small-scale study, the findings shed new light on how contemporary preschool children experience nature-based play within the naturalized playgrounds of EC settings. The results highlight that children's experiences in these environments range across a continuum from "nature as a backdrop to activities" to "immersion in nature-based play." Children's nature-based play experiences shift across the continuum depending upon their interests and the evolution of their play. However, the results of this study also clarify that for children to *regularly* and *consistently* experience immersion in nature-based play at EC settings requires more than just physically naturalizing the playground environment. Two key conditions must be met: (1) children need the opportunity to become *immersed in the experience of nature* (e.g., to freely engage with nature's affordances such as mud, rain, sticks, etc.), and (2) they require the ability to become (and remain) deeply and purposively *immersed in the activity of play*. The findings suggest that sociocultural

influences, in particular educator pedagogy, act to constrain or enhance children's opportunity and agency in both these regards. Specifically, educators' beliefs about children's capabilities, their investment in relationships with the children's parents, and their own personal nature-connectedness influence children's *opportunities* to become immersed in the experience of nature. In addition, educators' approaches to play and learning (underpinned by their beliefs about children) influence the development of children's autonomy to sustain collaborative play – their *ability* to become immersed in the activity of play. Therefore, while making environmental changes to the playground are a critical first step toward affording children opportunities to become immersed in nature-based play, these must be concurrent with a commitment to shifting mindsets and to working with intention to foster the children's autonomous collaborative play skills.

Cross-References

- ▶ Child-Nature Interaction in a Forest Preschool
- ▶ Children's Imaginative Play Environments and Ecological Narrative Inquiry
- ▶ Posthuman Theory and Practice in Early Years Learning
- ▶ Remembering and Representing the Wonder: Using Arts-Based Reflection to Connect Pre-service Early Childhood Teachers to Significant Childhoodnature Encounters and Their Professional Role

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