Early Childhood Educators' Perceptions of Play and Inquiry on a Nature Playscape

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Abstract

Play serves an important function in early childhood, and more specifically, play in nature provides an optimal venue for holistic development. Teachers play a critical role in providing and protecting these experiences for young children. This study aimed to understand and make more explicit the perceived benefits of a nature playscape from the perspective of teachers. Participants in this phenomenological study were preschool teachers at an urban Midwestern university early childhood laboratory school (n=13). Surveys and interviews were used to answer the central research question: What benefits do early childhood educators attribute to experiences in an urban nature playscape for children and teachers who regularly access this environment? Findings suggest that both children and teachers demonstrated more relaxed behaviors in the playscape than the classroom, that children's holistic development was supported within the playscape environment, and that the playscape affordances fostered freedom and autonomy that sparked meaningful play and inquiry.

Keywords: nature playscapes, early childhood education, play, teacher perceptions

During the early childhood period, children spend many of their waking hours at play (Pellegrini, 2013). Although play is often depicted as merely recreational, developmental psychologists conceive of play as serving important functions in our evolutionary history, specifically in early childhood as a preparatory mechanism for adulthood (for a review, see Bjorklund & Beers, 2016; Bateson, 1976; Gopnik, Griffiths, & Lucas, 2015; Nielsen, 2012; Pellegrini, 2013; Weisberg, Kittredge, Hirsh-Pasek, Golinkof, & Klahr, 2015). Child development experts, parents, and educators have long recognized that play promotes children's social and cognitive development (e.g., Piaget, 1962; Vygotsky, 1978). In their *Declaration on the Importance of Play*, the International Play Association states "Play is a fundamental part of life; it is a biological, social, cognitive necessity for individual children, but also has benefits for society and the human species" (2014, p. 1). Research has shown that play, particularly imaginary play, stimulates children's brains, strengthening focus, attention, and self-regulation (Berk, Mann, & Ogan, 2006). Play serves a role in facilitating understanding of other people's feelings and beliefs (Astington & Jenkins, 1995; Youngblade & Dunn, 1995), spatial perspective taking (Matthews, Beebe, & Bopp, 1980), language and literacy skills (Pellegrini & Glada, 1991), causal mapping and counterfactual reasoning (Buchsbaum, Bridgers, Weisberg, & Gopnik, 2012), and executive function abilities (Carlson, White, & Davis-Unger, 2014; Carr, Brown, Schlembach, & Kochanowski, 2017; Diamond, Barnett, Thomas, & Munro, 2007; Pierucci, O'Brien, McInnis, Gilpin, & Barber, 2014; Thibodeau, Gilpin, Brown, & Meyer, 2016). Put simply: through play, children experience the world around them, learning critical information about people, objects, and actions in their environments.

Play in nature provides an ideal context for children's development and learning. (Kloos, Waltzer, Maltbie, Brown, & Carr, 2018). Children are inherently attracted to living things and natural patterns and processes (i.e., the biophilia hypothesis; see Kellert, 2018; Kellert & Wilson, 1993; Wilson, 1984). Van Wieren and Kellert (2013) called attention to the diversity of plant and animal life, geology, weather, and landscapes present in the natural world and noted that

> *Nature, in fact, is the most information-rich and stimulating environment a child ever encounters...These dynamic elements command a child's attention, have the capacity to promote adaptive behavior, and often provoke opportunities for challenge and adventure* (p. 262).

Research indicates that interaction with the variation and diversity of living and nonliving things in nature provides important learning opportunities (Beery & Jørgensen, 2018) and that, like play, children's experiences in nature may have adaptive benefits for brain and cognitive development (Dadvand et al., 2017; Kahn & Kellert, 2002) and enhance attention (e.g., Berman, Jonides, & Kaplan, 2008).

While the benefits of nature are well known (Bratman, Daily, Levy, & Gross, 2015; Chawla, 2015; Dennis, Wells, & Bishop, 2014; Ginsburg, 2007; Ward, Duncan, Jarden, & Stewart, 2016), Louv (2008) documented the lack of contemporary children's free play in nature, coining it "nature deficit disorder." To counteract this national concern, grassroots efforts, such as *Leave No Child Inside*, and a dramatic

increase in nature preschools and forest schools (NAAEE, 2017) have spurred programming aimed at connecting children to nature; however, these are not yet the norm. Although not to the same extent, an increasing number of early childhood programs are enhancing the flora on their playgrounds with the intent of "greening" their playgrounds, which has been met with positive learning and developmental outcomes (Dennis et al., 2014). Nature playscapes are also growing in number across the country (Keeler, 2008). Nature playscapes are intentionally designed, dynamic, sensory-rich play environments that support children's biophilia (Wilson, 1984; Carr & Luken, 2014; Keeler, 2008). Playscape principles and design elements, defined by educators and landscape designers and supported by research, include affordances that elicit play and inquiry in young children (Cosco, 2007; Carr & Luken, 2015; Elliott, 2008; Luken, Carr, & Brown, 2011; Moore, 2014). As defined by Gibson (1979), *affordances* speak to the functional possibilities inherent in an environment. Within the context of a nature playscape, affordances are designed to foster children's active play and participation in healthy risk-taking, problem-solving, inquiry, experimentation, and learning—the essence of informal science learning and environmental education for young children (NRC, 2009; NAAEE, 2010; 2016). Details among playscape design differ across biomes as the plant-rich environments should reflect local habitats, but elements are included to engage children in playful ways as they explore and investigate these natural environments. These elements include circuitous paths, digging pits, water features, sensory-rich plantings, hiding and gathering spaces, uneven topography, boulders, gardens, and structures (Carr & Luken, 2015).

Well-designed nature playscapes offer environments that support both play and learning in ways that are grounded within a pragmatic and constructivist epistemology (Dewey, 1938; Piaget & Inhelder, 1969; Vygotsky, 1962). Carr and colleagues' (2018) seminal investigation supported by the National Science Foundation (#1114674) described how playscapes support science literacy, executive function, and self-determination while serving as a "third teacher" for young children (Carr et al., 2017; Carr & Kochanowski, 2014; Kochanowski & Carr, 2014). The third teacher, a term popularized by the schools of Reggio Emilia, suggests that the environment plays an important role in learning. The first of the teachers is the child, whereby he or she constructs knowledge, integrating new knowledge into existing schemas. The second teacher is the adult who poses questions and makes comments to deepen thinking and expand experiences, and the third is the environment that provides important messages and cues for exploring and understanding (Carr & Kochanowski, 2014; Carter, 2007; Gandini, 1998; Heft, 1988). As Gandini (1998) suggests, "In order to act as an educator for the child, the environment has to be flexible: it must undergo frequent modification by the children and the teachers in order to remain up-to-date and responsive to their needs to be protagonists in constructing their knowledge" (p. 177). Change and flexibility are inherent in natural environments and provide optimal levels of stimulation (Kloos et al., 2018). A well-designed nature playscape harnesses the naturally occurring benefits of nature along with intentionally designed affordances, such as forts, hiding places, and digging pits, that stretch children's intellect through discovery, observation, classification, understanding of environmental transformations, and creation and testing of hypotheses (Meier & Sisk-Hilton,

2013). In this dynamic view of the environment, it is necessary to acknowledge the teacher as a mediator of the space. Specifically, in the case of nature playscapes, teachers dictate how the space is *allowed* to be interacted with—that is, they influence the structure of the play environment. The possibilities within a nature playscape are therefore shaped by not only what is physically available, but by how teachers regulate children's interactions with the space. Teachers' guidance is based largely on their own set of beliefs, values, pedagogical content knowledge, and comfort levels with regard to play in natural environments. It is critical to decipher these in order to inform instructional practices that can empower children and lead to quality learning experiences in playscape environments.

This study aimed to understand and make more explicit the perceived benefits of a nature playscape from the perspective of early childhood educators who regularly access this unique learning environment. Teachers from an urban, Midwestern university laboratory preschool, who had access to an intentionally designed nature playscape located on campus, were surveyed and interviewed about their perceptions of the space and what the experiences meant for both the children and themselves as teachers. Teachers were asked to provide examples of children's play and inquiry for the various affordances within the built environment and describe instances of children's learning. They were also asked to talk about social and emotional attributes of the playscape and what the playscape represented to them within the scope of their teaching day. Teacher responses were supported by the researchers' collection of observational data, and video and photo analyses of children's play in this environment.

This phenomenological study documented teachers' perceptions regarding children's experiences in a playscape, including the importance of nature play for young children, how play in nature contributes to informal learning and inquiry, and the teacher's role in supporting and facilitating play and inquiry in the playscape. To uncover the intrinsic nature of this phenomenon, this research addressed the question: *What benefits do early childhood educators attribute to experiences in an urban nature playscape for children and teachers who regularly access this environment?* These personal accounts are meant to bring awareness to practitioners, program directors, and landscape designers, and promote the significant role of playscapes as a new paradigm for playgrounds and informal learning.

Methodology

This study utilized a phenomenological approach informed by Moustakas (1994). The goal of phenomenological research is to uncover the essence of lived experiences related to a specific phenomenon. For this research, an online survey and in-person interviews, supplemented by observation, field notes, and video and photo documentation were used to gather descriptive details of early childhood educators' lived experiences of an urban nature playscape.[1]

[1] The laboratory preschool is housed at a Research One-designated university. Approval for the research project was granted from the university Institutional Review Board. Consent

Setting and Participants

In 2010 a 0.23-acre nature playscape was created on a public Midwestern university campus. The playscape was designed for use by the children at the university laboratory preschool but is also open to the public. The preschool is funded through both Head Start and tuition fees and serves a culturally, ethnically, and socioeconomically diverse population of approximately 160 children of university faculty, staff, and students, as well as from families in surrounding communities. Classrooms are inclusive, blended settings serving children ranging from ages three to five.

Teachers and children at the preschool have regular access to the nature playscape throughout the school year, during all four seasons. The nature playscape is a 10-minute walk through campus from the preschool center, and teachers include classroom visits to the nature playscape as part of their weekly plans. As informed by the design principles of Moore (2014), the fully enclosed playscape was intentionally designed for young children with both natural and fabricated affordances. The playscape includes a spigot-fed creek, platform deck centered in a canopy of maple trees, a circular log play space, a tunnel, a curriculum headquarters (storage for tools and supplies), shrubs, herbs, trees, a grape arbor, a map of the playscape, a grassy hill, and primary, secondary, and tertiary paths. See Figure 1 for rendering and detail of playscape.

Figure 1. Left to right: Sketch of playscape; image of playscape; view of urban campus where playscape is located

Employing a purposeful sample, all teachers working in full and half-day classrooms were invited to participate in this study. Thirteen out of fifteen teachers participated. Table 1 provides an overview of participant demographics.

and permission to participate was obtained prior to data collection, from all participating preschool parents, children and teachers at the beginning of the school year.

Table 1. Participant demographic information

PARTICIPANT DEMOGRAPHICS: *N*= 13				
Gender	**Male**	**Female**		
	1	12		
Age Range	**30-39**	**40-49**	**50-59**	**60+**
	4	2	5	2
Education Level	**Associate's Degree**	**Bachelor's Degree**	**Enrolled in Master's**	**Master's Degree**
	2	1	4	6
Years in ECE	**0-5**	**6-10**	**11-15**	**16-20+**
	0	4	5	4

Researchers conducted an online survey and in-person interviews. Eight of the teachers completed both the anonymous survey and the in-person interview; five teachers participated in the in-person interview only. The preschool consisted of five classrooms, with three teachers per room. Two teachers, from separate classrooms, chose not to participate in the interview due to scheduling conflicts. Four teachers (two from one classroom and two from another), requested they be interviewed together for scheduling purposes. The remaining nine teachers elected to be interviewed individually. For the purpose of this study, the survey responses and interview data were combined to provide rich, first-hand descriptions of the experiences and impressions teachers encountered during regular visits to the nature playscape.

Data Collection

Data collection was completed over an eight-month period, beginning with the anonymous online survey in the fall of 2014 followed by the in-person interviews conducted in late spring of 2015. This procedure provided a forum for member-checking survey findings. The online survey included 10 open-ended response items. The survey was distributed to teachers via Survey Monkey, a free online platform for developing and distributing surveys.

The researchers employed an interview guide designed by the first and fourth authors to elicit teachers' perceptions of experiences in a nature playscape for themselves and the children in their classrooms. Teachers were interviewed at the university campus in one of the researcher's offices at a time determined by participants. The 17 semi-structured interview items were nearly identical to the 10 online survey items, with the addition of probes and prompts interjected to elicit clarification and elaboration when necessary. Permission to audio record interviews was granted by each teacher. Interviews lasted approximately 45 to 60 minutes. The interviewer took brief notations during each session to record salient ideas, questions, and contextual nuances. Immediately following each interview, the

interviewer reviewed their notes and completed detailed memos in order to document emerging themes related to the research question.

Survey and interview items focused on teachers' perceptions of experiences in an urban playscape. Items included questions and prompts related to teachers' perceived differences in children's play at the nature playscape, center playground, and center classroom (e.g., *Talk in general about how (if) children's play on the playscape differs from their play on the playground or in the classroom*). Survey and interview items also focused on the value the teachers attributed to experiences in the space, and what the experience meant for both the children and themselves as teachers (e.g., *Describe what the playscape has meant to you as a teacher and what you believe it means to the children*). Teachers were also asked to provide anecdotes of children's play and inquiry with the various affordances found in the nature playscape, and examples of specific learning experiences (e.g., *Talk about how you have seen children play in or near the stream; Talk about a few (if any) powerful incidences where you saw play as learning in the playscape.*).

The researchers collected supportive supplemental information during eight data collection sessions, approximately 30 to 60 minutes in length. The sessions were conducted by the first author at the nature playscape during the fall, winter, and spring seasons of the school year. The eight data collection sessions were conducted after teachers completed the online survey and prior to the in-person interview. Observations, field notes, and visual documentation in the form of video and still photographs were employed to gather supplemental data during regularly scheduled classroom visits. The additional field data provided direct experiential information, capturing interactions of teachers and children in the playscape environment, and served to corroborate findings from survey and interview data.

Data Analysis

Data analysis was informed by Moustakas' inductive data analysis method (1994). Initial coding consisted of reading and indexing raw data. Survey data, audio recordings, interview notes and memos, and the supplemental data from detailed field observations were reviewed and indexed by the first author. Indexing entailed interpretation of raw data for meaning, and summarizing salient key words, quotes, and phrases. This first-cycle coding of raw data followed an inductive process (Miles, Huberman, & Saldaña, 2014). Inductive coding allowed the researchers to hear, and later reflect on, participants' rich descriptions of nature playscape experiences. In vivo codes emerged during the first-cycle coding, derived directly from survey and interview data (e.g., *different, peaceful*, *calm*, *free, opportunity, learning, space,* and *nature is the teacher*). Second-cycle coding consisted of systematically analyzing summaries and codes for patterns, and eliminating codes unrelated to the phenomenon being studied, resulting in meta codes (Miles et al., 2014). Analysis during second-cycle coding was informed by findings from the literature review spanning topics of early childhood education and development, informal learning and inquiry, and the importance of nature play for young children. Meta codes were clustered based on related meanings. The first author condensed clusters into themes representative of teachers' perceptions. The second author reviewed and nested themes within three *a priori* categories based on relevancy.

These categories emerged from findings in the literature and field observation data and consisted of: the importance of nature, learning through play, and facilitating play and inquiry in nature.

Reliability and Validity

The researchers established reliability through documentation of detailed field notes and audio recording of interviews. Validity is said to be established through prolonged engagement in the field and the triangulation of multiple sources of data (Creswell, 2013). As discussed above, the present study utilized a variety of data sources including an online survey and in-person interview, and visual documentation of field observations conducted at the nature playscape site.

Results

One overarching theme and two sub-themes capturing the overall essence of teachers' perceptions of benefits of nature playscape experiences for children and themselves emerged from the thematic data analysis process. Freedom and autonomy emerged as the primary theme; play and inclusion, and learning and inquiry surfaced as sub-themes. Teachers perceived freedom and autonomy for children, as well as themselves, to be the paramount benefit gained from experiences in the nature playscape; thus, the concept of freedom and autonomy is a common thread running through each of the three *a priori* categories. The following section offers a discussion of the primary and sub-themes nested within the three *a priori* categories of the importance of nature, learning through play, and facilitating play and inquiry in nature.

The Importance of Nature

Teachers understood that children's sense of confidence and competence are facilitated by the freedom and autonomy they experience in the playscape environment. Children challenge themselves in the wide-open green space, which invites them to test, for example, their agility, coordination, and strength.

Figure 2. Examples of challenge and independence on the playscape

The clusters of bushes, small trees and shrubs nestled along the playscape perimeters often serve as a space for children seeking solitude. Teachers

commented that through experiencing opportunities where they can choose to isolate themselves from peers and adults while remaining within the safe confines of the playscape environment, children gain a sense of independence and confidence. Teachers communicated that playscape visits also had the effect of freeing children from their daily patterns, that it, "Pops them out of routines, ruts they can get into," and that at the playscape, "Children dictate their experiences" rather than an adult. Teachers related that they personally felt more free in the playscape as compared to the classroom, gross motor room, and playground because the need for micro-managing children's behavior generally decreased. Teachers viewed the playscape as a safe haven, an unencumbered green space where children had "room to roam and explore" and relax in nature, and that it was "a little piece of the wild world in a safe space."

Figure 3. Examples of children relaxing in the playscape

Teachers' attributed this decrease in micro-managing to several factors, one being the freedom to explore the novel features inherent in the environment, which kept children's interest and prolonged their engaged attention. Secondly, teachers believed the children inherently felt the playscape was *their* space, that it was seen as a safe space where they could "follow their own agenda," and this sense of ownership and belonging influenced children's behavior.

Findings from observations across the eight field sessions provided concrete examples signifying that children perceived the playscape as a safe, peaceful, calm environment. For example, it was common to observe a child sitting quietly on a rock or soft mulch among a small grove of cedar trees, or lying on the grass staring up at the sky, or perched on the wooden floor of the tree house looking out across the playscape. During this time, children typically did not seek attention from others, and seldom did teachers or peers interrupt.

Learning through Play

Teachers conveyed how the playscape environment met the needs of each child, stating, "The features are just the right size, just the right challenge" and that there were "opportunities for all children to be successful...to experience being competent at something." Teachers noted that children with challenging behaviors in the classroom often exhibited less challenging behaviors while at the playscape. They discussed how the playscape offered positive stimulation and is a less overwhelming environment than the classroom, playground, and muscle room. Teachers stated, "...it is a natural healer...offers positive stimulation… Seems to be

less restrictive than the playground...children are less likely to try to exclude others from participating, as it is a wide-open environment."

Teachers viewed the playscape environment as one that supports the development of the whole child, proclaiming that there is "not a lesson down there that can't be learned." Play at the playscape quickly evolves to more purposeful play where inquiry and deep learning take place. Teachers observed that when children are given opportunities to play and connect with the space and materials at the playscape, "...that's when the magic happens"; it is a time when more complex play and creative problem-solving occurs. Field notes and visual documentation from playscape observations revealed multiple examples of complex play. Children were observed in problem-solving, negotiating, creating and collaborating with peers. During play, children were involved in construction activities such as removing rocks and sand from the streambed to create a "swimming pool," and transporting large logs by hand or with wheelbarrows to build a "campfire." Children also demonstrated complexity in play, when experimenting with mixing natural loose parts such as twigs, dirt and leaves in a pail of water to create a "stew," or when gathering various sized leaves, twigs, and small insects to make a "salad" for squirrels they had noticed visiting the playscape. Teachers reported that compared with experiences at the center's playground where the features are primarily close-ended, "materials are open-ended at the playscape," enabling children to engage more frequently in "goal-oriented collaborative play to complete a task."

Teachers shared anecdotes of children who explored water movement, transportation, force, and gravity during playscape visits, gaining conceptual awareness they aptly applied to activities in the classroom. For example, during playscape observations, children were often observed experimenting with rolling objects down the grassy hill. Teachers reported that, "[The children] stand or sit at the top of the hill to roll logs, tree cookies, rocks, and twigs down the hill"; and that the children observe which objects roll fast, slow, or do not roll at all, and hypothesize about the reason for the different outcomes among the various objects. Teachers expressed that these rich, child-directed experiences "carried over to the classroom and developed into work with ramps."

Figure 4. Examples of child-directed inquiry at the playscape



In sharing another example of learning and inquiry, teachers discussed the process of a child in the classroom who used a measuring tape to measure themselves, and then asked to measure a tree at the playscape. Teachers reported that the child "measured and recorded the circumference of the tree throughout the school year." The tree-measuring activity was directly observed and documented in field notes and video by the first author during a data collection session.

Facilitating Play in Nature

When the idea of a playscape was first introduced at the preschool center, several teachers expressed feeling anxious about safety issues. The teachers thought the playscape would pose an increased potential for injuries, liability, and behavior management issues. A teacher spoke about the need for learning to "let go of the worries, of the what if's" associated with the playscape. Anxiety soon melted into the background and was replaced by an evolving understanding of just how capable children were of navigating the space. "We anticipated the need to more closely monitor children's behavior, their safety...[but] found [that we] didn't actually need to monitor as much as initially anticipated."

During several field observation sessions, the first author observed children climbing on the tree fort—a grouping of logs set vertically in the ground at varying heights in a semi-circle formation. Children climb up on top of the tree fort by pulling their bodies up onto the lowest logs and work their way up onto the taller logs, where they then sit or stand. Some of the children were not yet tall enough and/or strong enough to pull themselves up on the logs. Teachers standing in close proximity to the log fort supervised the children's activities but did not intervene. When children requested help in getting up on the logs, teachers positioned themselves next to the fort, but did not directly assist children with climbing up. Rather than picking children up or giving them an object to stand on to reach the logs, teachers offered verbal support, encouraging children to continue trying on their own, stating for example, "Try and get up by yourself." The teachers facilitated the children's problem-solving strategies for getting themselves up on the logs without the teachers' help. In some cases, teachers and children concluded that they needed to grow taller in order to reach and pull themselves up on top of the lowest log. At other times, teachers prompted children with open-ended questions, inspiring them to think about their options, such as what materials in the playscape could assist them in climbing the log fort.

Field observations highlighted that children did not always immediately ask for help from teachers when confronted with problems (e.g., transporting heavy objects, not sharing tools with peers, or even skinning a knee or elbow). Children often solved issues on their own or obtained assistance from peers. Teachers positioned themselves in the playscape so that they were within eyesight of children whenever possible. Teachers typically did not intervene in children's activities unless (on the rare occasion) a safety issue was involved. However, findings from field observations revealed the teachers did engage children in facilitating higher-order thinking and problem-solving by building on children's interests and ideas. For example, during an investigation of worms, teachers would thoughtfully scaffold children's critical thinking skills, prompting them to contemplate about where

worms might live, or suggest children speak with peers who had found worms on the playscape in the past.

After several visits to the playscape, teachers began to realize the environment was actually a calm, peaceful escape from the rigors of daily classroom life. Teachers expressed that the playscape elicited a sense of freedom, calm, and escape for themselves and the children. The playscape's serene, open green space with rich vegetation, water features and other natural elements was said to offer respite for the teachers. It allows time to relax, recharge and experience an "escape from the ordinary." Teachers felt that when at the playscape they gained a heightened sense of peacefulness, stating, "We have a chance to breathe," that "I feel better outside and the children do too," and "A calm teacher equals calm children."

Teachers viewed the playscape environment as a mediating mechanism for children's behavior. Teachers observed distinct differences in children's play behaviors at the playscape. Teachers noted that children behaved more calmly and engaged more purposefully with the affordances found at the playscape, than when playing at the center's playground, gross motor room, or in the classroom. Further, the composition of groups that children formed on the playscape differed from groups that formed during play in the classroom and on the playground. Teachers reported that children invited peers to enter into play whom they normally did not invite to play while in the classroom or on the playground. The differences in play group composition was seen as stemming from the amount of space available and the affordances associated with materials at the playscape. This led teachers to intentionally include playscape visits in their weekly plans. One teacher stated that, "no matter how challenging my class was, I would take them to the playscape once a week. I decided to do this because of the enormous social-emotional benefits the children receive while interacting with nature."

Figure 5. Examples of teachers interacting on the playscape



Teachers noted that children with challenging behaviors in the classroom often exhibited less challenging behaviors while at the playscape. They discussed how the playscape offers positive stimulation and is a less overwhelming environment than the classroom, playground, and muscle room. Teachers stated, "...it is a natural healer...offers positive stimulation…. Seems to be less restrictive than the playground...children are less likely to try to exclude others from participating, as it is a wide-open environment." One teacher reported that the playscape, "provides a

space where children with special needs can be successful," commenting that, "children with sensory issues, aggressive behaviors, have less problems regulating at the playscape." The teacher explained that when they observed a child with particularly challenging behavior having a "rough day," they would include a class visit to the playscape that day because it has a restorative effect and "is a perfect place for a child to regroup."

Discussion

The current study provides a rich description of preschool teachers' perceptions of the benefits of experiences in an urban nature playscape for children and themselves. A consistent theme that emerged from teachers' responses across the three *a priori* categories of the importance of nature, learning through play, and inquiry in nature is that the playscape provides opportunities for children to experience freedom and autonomy, which was also supported by observational field data. One quote in particular speaks to a teacher's feelings about the playscape: it is "like a backyard where children have freedom to play and roam." This quote reflects an image of the playscape as a safe space where children's need for self-directed, uninterrupted play is met.

The inherently diverse and flexible qualities of the playscape provide an environment that teachers perceive as being both an extension of the classroom and a welcome change from the daily routines and expectations associated with the classroom. Consistent with previous literature related to affordances and scaffolding (Cosco, 2007; Carr & Luken, 2015; Elliott, 2008; Luken et al., 2011; Moore, 2014; Vygotsky, 1978), teachers understand that being in nature with close access to supportive adults offers children a space where they are free to act as independent, autonomous individuals beyond the boundaries associated with the classroom environment. Yet, in order to fully embrace all the playscape had to offer, teachers had to first learn to let go of the "what ifs." By "letting go," teachers broadened their comfort zones, thus making the full range of playscape affordances more accessible for each child. Once empowered by coming to terms with the "what ifs," teachers were freed to view the playscape environment as a space "that draws the most power out of children" (Curtis & Carter, 2003). The teachers view the playscape as a resource, one where children can independently explore, investigate, collaborate, and engage in creative problem-solving. In this sense, the early childhood professionals in this study utilize the playscape as a mechanism for protecting young children's right to play (IPA, 2014) and promoting their learning and appreciation of the natural world around them.

Overall, the findings reported here indicate that teachers believe the playscape environment has the capacity to meet the individual developmental needs of the whole child—social, emotional, cognitive, and physical. Consistent with pragmatic and constructivist epistemology (Dewey, 1938; Piaget & Inhelder, 1969; Vygotsky, 1962), teachers realize that children learn foundational knowledge about themselves and the world around them when given uninterrupted time in nature to follow their interests, to follow their sense of wonder and curiosity, and independently explore in the playscape environment. Teachers' responses clearly depict children not only thriving at the playscape, but gaining a deep awareness of

how to negotiate and collaborate with others while there. Children were observed practicing skills of negotiation and collaboration with peers during dramatic play episodes and while working with materials and tools. Teachers reflected that children who are typically marginalized in the classroom are often included in play with peers at the playscape. This inclusion mediates a sense of being successful at something—fostering children's sense of belonging, self-confidence and competence. Children were observed, for example, enlisting peers to help move logs and rocks to build a dam at the stream. During this activity, children had to cooperate to engage in planning and problem-solving in order to remain an active participant in the play (see Carr et al., 2017). Teachers' comments about the minimal need for micro-managing behavior issues while at the playscape align with their responses related to children's growing capacity for creative problem-solving, negotiation, and collaboration. Thus, teachers' perceptions are consistent with research indicating that play is related to the development of children's learning and self-regulation (Berk et al., 2006), understanding of other people's feelings and beliefs (Astington & Jenkins, 1995; Youngblade & Dunn, 1995), reasoning (Buchsbaum et al., 2012), and executive function abilities (Carlson et al., 2014; Carr et al., 2017; Diamond et al., 2007; Pierucci et al., 2014; Thibodeau et al., 2016).

Future Research

Findings from observational data gathered in the playscape implicate teachers taking on the role of facilitator more often than the role of supervisor, directing children's play experiences. Teachers appeared to interact with children by employing purposeful scaffolding strategies that respected the child's play agenda, such as asking open-ended questions, prompting and making suggestions, and remaining in eyesight of children, yet distant enough so as not to interrupt the flow of the play. With this in mind, future research needs to target early childhood professionals' pedagogical practices in nature playscapes.

The topic of risk in play is currently being debated in the literature (see Gill, 2007). Future studies need to investigate how teachers assess risk versus hazards as well as how child care licensing might modify guidelines accordingly. Teachers' comments regarding "letting go of the 'what ifs'" is a testament to the ingrained fear of risk and prohibitions on opportunities in the natural world that promote adventurous play and learning. Additionally, it may be advantageous to explore educator perspectives and practices of "letting go of the what ifs" from a framework informed by the literature on educator playfulness.

Finally, investigations into foundational skills, attitudes, and dispositions important for early science learning and nature education are needed to ensure that play and learning environments are accessed or thoughtfully designed to support whole child development. This needs to become the norm in early childhood education.

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