# The Status of Nature Play in Guyanese Early Childhood Settings

Michelle Semple-McBean, Godryne Wintz, and Lidon Lashley

The authors discuss the shift in play-based educational experiences during the past decade in Guyana. They hold that nature-based play has become a type of pedagogy in decline and even at risk of extinction. Their study presents the status of nature play beginning with Guyana's national early childhood program in 1976 and employs a descriptive survey of teachers from the different geographical areas of Guyana about the nature play experiences of children. Using three categories of nature-based play—regular, messy, and risky—and introducing the culturally relevant peacock flower play, they outline the negative impact on play associated with over protectiveness, environmental worries, and ideological objection. They present recommendations for retaining, advancing, and creating nature play spaces and experiences in Guyanese early childhood settings. **Key words**: early childhood; Guyanese early childhood education; innovative play; nature play; outdoor learning; play-based pedagogy

## Introduction

Play-based pedagogy was the driving force in the introduction of Guyana's national early childhood program in 1976. The program, known as "nursery education," is a free, two-year early childhood development (ECD) service for children aged at least three years and three months at the start of the academic year in September. The play-based approach introduced in 1976 replaced and improved on the academically focused private services offered since the 1930s (Anderson and Sukhdeo 2005). The era of the play-based approach to teaching and learning dominated Guyana's ECD sector for three-and-a-half decades from 1976 to 2012. In contrast, the curriculum reform of 2012 framed a shift in the delivery of play-based interventions and allocation of time to use them. In



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2012 the 145-minute, three-session play schedule was reduced to 45 minutes in two sessions. To preserve play-based learning in Guyana, it was necessary to reposition play-based pedagogy within the framework of such reduced playtime.

A nationwide attempt to preserve and reposition play-based pedagogy commenced in 2021 with the National Symposium on Play-Based Pedagogy. The symposium brought together a wide cross-section of education stakeholders who addressed maximizing the developmental possibilities of children's play encounters within the context of the reduced play schedule. During the conversations, discussions, and provocations concerning the play activities examined, the symposium flagged nature-based experiences as being at greater risk for decline or extinction.

Associating this decline to the technologically advanced and structured world, one of the facilitators proved instrumental in provoking discussions among participants. Participants held the undisputed notion that many children in Guyanese ECD settings are losing connection with the natural environment. The participants stated the worrisome consensus that "children's social, psychological, academic, and physical health, which are positively impacted by daily contact with nature, are compromised" by this decline (Ministry of Education, Guyana 2021 n.p.). Revisiting nature play experiences and exploring practical ways of connecting or reconnecting children with this type of play were identified as major areas that needed immediate and deliberate remedial interventions.

Therefore, we planned an empirical investigation to deepen understanding into the kinds of nature-based play that have declined in ECD settings in Guyana, the factors that might have contributed to the decline, the relevance of the learning possibilities promoted through these types of play, and the measures that might be necessary to ensure nature-based activities remain central to children's play experiences.

Through a review of the background of play in the ECD sector in Guyana, the symposium set a rationale for prioritizing attention to play-based pedagogy. By examining the literature surrounding nature play and by introducing the outcomes and implications about the state of nature play in Guyana, we hope this article will ignite or reignite the kind of ambitions and promote the kind of courage in keeping with Moore and Wong (1997): "Upscaling the status of nature play to a comparable level of priority as updated literacy and numeracy instructional materials. Without this weight of value, no matter how strong the commitment of individuals in the school community, the effort will eventually wither away" (241).

## Evolution of Play Pedagogy in Guyanese ECD Settings

Guided by developments in early childhood education in the United States such as the Head Start program, the government of Guyana took responsibility in 1976 for providing early-education services to all Guyanese children in the three-to five-year-old age group (Taharally 1988; Anderson and Sukhdeo 2005). Before this time, services had been offered privately. Compared to the 342 nursery schools in Guyana that currently offer "quality" early stimulation and developmental activities, before 1976 only four had been deemed "fit" for young children (Taharally 1988, 28). To be specific, the curriculum that existed before 1976 was epitomized by reading, writing, and arithmetic; by rote learning; and by copying from chalk boards (Anderson and Sukhdeo 2005).

Most educators viewed the reshaped curriculum of 1976 as flexible and encouraging of play, child-centered learning, and exploration of activities outside

| Time | Learning Sessions | Focus | Sample Activities | Duration (Minutes) |
|---|---|---|---|---|
| 08:00 - 08:30 | Arrival & Free Play | Open-Ended Inquiry-Based Child-Directed | Sand and water play. Table-top activities; reading materials; blocks; puzzles; shop; dress-up; toys; construction materials; musical instruments etc. Teachers also use this time to question children about their activities to stretch their minds and help children think critically and creatively | 30 |
| 08:30 - 08:35 | Assembly & Registration | Didactic Teacher-Directed | Singing; devotion; value sharing, stories, etc. | 5 |
| 08:35 - 08:50 | Large Group Meeting | Teacher-Directed | Introduction/reinforcement of new concepts for follow-up in small groups and individual activities (through nature walks, show and tell, picture discussion, etc.) | 15 |
| 08:50 - 09:10 | Small Group Activity | Didactic Teacher-Directed | Activities to reinforce concepts and practice skills learnt or introduced at large group meeting | 20 |
| 09:10 - 09:30 | Snack | Teacher-Directed | Cleanliness and healthy eating; foods and culture/religion etc. | 20 |
| 09:30 - 10:30 | Outdoor | Open-Ended Didactic Teacher-Directed Child-Directed | Gross motor activities to help develop mastery in body control; exploring and wondering outdoors. Teachers also use this time to question children about various things observed outdoors to stretch their minds and help children think critically and creatively | 60 |
| 10:30 - 10:35 | Quiet Time | Didactic Teacher-Directed | Quiet soothing music to help children rest and relax | 5 |
| 10:35 - 11:30 | Choice | Open-Ended Inquiry-Based Child-Directed | Children could carry over activities from the earlier sessions or participate in new activities similar to the Arrival and Free Play | 55 |
| 11:30 -11:55 | Pre-dismissal | Didactic Teacher-Directed | Singing, rhyming; listening to and/or telling own/published stories; answering questions and sharing view and opinion about the stories, songs, and rhymes | 25 |
| 11:55 – 12:00 | Dismissal | Didactic Teacher-Directed | Children and teachers take leave of each other in a warm and reassuring way | 5 |

Figure 1. Daily Schedule of Guyana's Nursery Education Program Prior to 2012

the classroom. The daily schedule offered opportunities for play-based learning in all activities, with specific sessions earmarked for both indoor and outdoor play in which children engaged in games, exercises, and structured and free-range types of nature play. The schedule in figure 1 suggests that in 1976, when the national ECD program was introduced, the education leaders in Guyana were confident in the possibilities of play-based pedagogy.

Emphasis on play in Guyanese ECD settings proved not only in keeping with international good practices but also in keeping with the country's geographical, cultural, and territorial landscape. Guyana boasts diversified and rich mineral deposits—like gold, diamonds, granite, and bauxite—and petroleum. The country features fertile agricultural lands, extensive waterways, large tropical rain forests, and has an average of only 747,884 residents in an area of approximately 215,000 square kilometres (Guyana Population and Housing Census 2012). The tropical climate in Guyana allows its citizens to enjoy flora and fauna throughout the country. Therefore, outdoor spaces for diverse types of children's play could be accessed at any time of the year.

The cultural heritage, influenced by Amerindians, Africans, Indians, Europeans, Portuguese, Chinese, and Dutch, offers a source for distinct types of play activities among young Guyanese children (see Campbell 2021; Lambert 2021; London 2021; Peters and Peters 2021; Sharma and Basdeo 2021; G. Wintz 2021; P. Wintz 2021). Additionally, as the sole English-speaking country in South America (a result of its British colonial heritage), Guyana shares and builds its play pedagogy with other English-speaking, Caribbean countries through a regional organization called the Caribbean Community (CARICOM). CARICOM endorsed the play-based approach from 1976 to 2012 that dominated the ECD sector in Guyana as an important element for promoting quality learning outcomes in ECD settings (Caribbean Child Development Centre 2010). Concerning half-day settings, as in the case of Guyana, CARICOM recommends a minimum of 150 minutes of play-based activities per day. With these caveats in mind, we find promoting a play-based approach reasonable.

The activities in figure 1 show that up to 2012, children attending nursery schools in Guyana were involved, at minimum, in 145 minutes of play daily. Given that the school day runs four hours (240 minutes), in measurable terms this means that 60 percent of the nursery day consists of activities focused on play-based, self-initiated learning. Three sessions (8:00–8:30 a.m., 9:30–10:30 a.m., 10:35–11:30 a.m.) offered opportunities to accommodate both indoor and outdoor nature play activities. Depending on the learning objectives, these

activities were either didactic and teacher lead or open-ended with opportunities for the children to initiate and direct.

After 2012 the schedule has seen a decline in play opportunities (see figure 2). To achieve the outcomes set by the Guyana Education Strategic Plan 2008–2013 in raising standards of literacy and in aligning the nursery curriculum with grades 1 and 2 at the primary level, the plan reorganized the daily schedule to accommodate the use of standardized instructional materials. This resulted in the reduction of play-based activities from 145 minutes to the present 45 minutes (8:00–8:25 a.m., 10:25–10:45 a.m.). From 2012 schools planned children's learning activities around a series of workbooks, readers, and assessment booklets aimed at targeting literacy and numeracy instruction (Ministry of Education Guyana 2014). With emphasis on academic-oriented skills, the national ECD program in Guyana shifted from the goals that underpinned its introduction in 1976—flexible and encouraging play, child-centered

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| 08:00 - 08:25 | Arrival & Free Play | Open-Ended Inquiry-Based Child-Directed | Sand and water play. Table-top activities; reading materials; blocks; puzzles; shop; dress-up; toys; construction materials; musical instruments etc. Teachers also use this time to question children about their activities to stretch their minds and help children think critically and creatively | 25 |
| 08:25 - 08:35 | Assembly & Registration | Didactic Teacher-Directed | Singing; devotion; value sharing, etc. | 10 |
| 08:35 – 09:10 | Language Experience | Didactic Teacher-Directed | Discussion about pre-determined topics and documentation of sentences on chalk/white board. Workbooks are also completed. | 35 |
| 09:10 - 09:30 | Large Group Meeting | Didactic Teacher-Directed | Introduction/reinforcement of new concepts for follow-up in small groups and individual activities (picture discussion, etc.) | 20 |
| 09:30 - 10:00 | Small Group Activity | Didactic Teacher-Directed | Activities to reinforce concepts and practice skills learnt or introduced at large group meeting | 30 |
| 10:00 - 10:25 | Snack | Teacher-Directed | Cleanliness and healthy eating; foods and culture/religion etc | 25 |
| 10:25 - 10:45 | Outdoor | Open-Ended Didactic Teacher-Directed Child-Directed | Gross motor activities to help develop mastery in body control; exploring and wondering outdoors. Teachers also use this time to question children about various things observed outdoors to stretch their minds and help children think critically and creatively | 20 |
| 10:45 - 10:50 | Quiet Time | Didactic Teacher-Directed | Quiet soothing music to help children rest and relax | 5 |
| 10:50 - 11:25 | Shared & Guided Reading | Didactic Teacher-Directed | Big books assigned by the Ministry of Education are used to develop reading skills | 35 |
| 11:25 – 11:45 | Mathematics | Didactic Teacher-Directed | Mathematics work/activity books assigned by the Ministry of Education | 20 |
| 11:45 -11:55 | Pre-dismissal | Didactic | Singing; rhyming; listening to stories; answering questions | 10 |

Figure 2. Daily Schedule of Guyana's Nursery Education Program 2012 to 2022

learning, and the exploration of activities outside the classroom.

Given that the present ECD curriculum in Guyana falls short of a framework that supports the play-based practice encouraged in 1976, ideas about repositioning play surfaced at Guyana's first symposium on play-based pedagogy in November 2021. Hosted by the Ministry of Education in collaboration with UNICEF (Guyana), the University of Guyana, Syracuse University (United States), Pennsylvania State University (United States), and Bloomsburg University (United States), the symposium presented a formal space for revisiting play-based opportunities in the Guyanese ECD system: presenting and interrogating pedagogical issues relating to play; exploring good play practices globally, regionally, and locally; and consensus building about the way forward so that children in Guyana can be exposed to culturally appropriate play activities for reaching optimum developments.

## Zooming In on Nature Play

When the different issues and forms of play experiences were examined at this symposium, nature-based play was recognized as being at greater risk of extinction and decline. The discussions pointed to many nature-based activities that have declined (e.g., activities including mud, sand, water, parts of plants). The discussions also unearthed boundless developmental possibilities as portrayed in the reflective writing about the childhood play experiences of Joan Bobb-Ward (2021), an ECD advocate who grew up in Trinidad and Tobago.

> Plants meant so much to us! They became whatever we desired, and they never resisted. I remember that we owned no commercially designed slippers but created beautiful ones using cocoa leaves for the soles and uppers, and coconut midribs as the fastening agents. . . . Although we did not know that boat racing was a sport, we staged many regattas using the split shells of coconuts, with their natural boat-like shapes. I recall our excitement as we raced alongside our boats as they glided along the stone-based streams formed by heavy downpours. . . . I have no recollection of the number of times I won or lost, but my experiences were priceless. (55–56)

Bobb-Ward's childhood play setting as described in the vignette above is

comparable to many areas of Guyana where the current study takes place. The play experiences shared by Bobb-Ward illustrate how nature play is interpreted in this study. Nature play consists of those experiences that allow children to create, design, and invent play with natural materials (such as pebbles, seeds, sticks, and leaves) and perform this play in natural or nature-oriented settings (for example, near and in puddles; under trees that are homes for birds and animals; within ladybug and butterfly gardens; around anthills, birdbaths, and nests; and on tree stumps). They are described by Finch and Loza (2015) as "existing since the dawn of humanity, with changes in its details but not in its essence" and "had long served human children well: firing their imaginations, building their physical endurance and coordination, testing their initiative and courage, nurturing their people skills, and fostering lifelong friendships with other kids and with nature" (5).

## Nature Play and the Developing Child

The strong connection of nature play and child development has led to a description that views it as "part of their [children's] genetic endowment, their pathway to learning" (Moore and Wong 1997, 202). Unfortunately, research has evidenced that children's experiences with nature are becoming increasingly rare (Beery 2020; Dankiw et al. 2020; Louv 2005; Schutte et al. 2017; Ward et al. 2019). This disconnect with the natural world has implications for children's overall health and well-being.

In line with this concern, Engemann and colleagues (Engemann et al. 2020) described reduced contact with nature as a health risk. Schutte and her associates (Schutte et al. 2017) added that a lack of nature experiences may have consequences for children's health and well-being, particularly for children who suffer from developmental disorders such as attention deficit hyperactivity disorder (ADHD). Beery's (2020) study concluded that nature as an abstraction causes children (especially those who suffer adverse experiences and disruption) to miss out on an "embodied connection" that is fundamental to their physical, affective, and cognitive development. Engemann and her associates (Engemann et al. 2020) found that early exposure to rich natural spaces is associated with reduced rates of psychiatric disorders. Conversely, low exposure is closely linked to worse mental health during adult years (Preuß et al. 2019) and to a disconnection from cultural and communal formations (Grindheim 2021). This research

strongly suggests that childhood exposure to natural elements and environments is critical to children's healthy development.

Studies subscribe that nature play positively affects children's holistic development—cognitive, creative, cultural, emotional, physical, social, and spiritual (Bell and Dyment 2008; Dankiw et al. 2020; Finch 2012; Grindheim 2021; Kuo et al. 2019). For example, children's creative thinking flourishes when they see themselves as—and act out roles as—natural scientists, researchers, engineers, and inventors (Wojciehowski and Ernst 2018). Dyment (2005) noted additional positive effects of green school grounds, including enhanced student learning, renewed teacher enthusiasm, healthier and safer learning, environmental awareness and stewardship, and improved social interactions. Examining nature play through a cultural lens, Grindheim (2021) underscores the taken-for-granted understanding of natural environments as the best spaces for children's socialization, play, and cultural formation in Nordic societies, where nature, people, and culture tend to be inseparable. Such wide-ranging benefits of spending time in nature and participating in nature play underline its power and potential in promoting children's overall health and well-being.

Through nature play, nontraditional pathways to learning become possible. Findings from Kuo and associates (Kuo et al. 2019) demonstrate that nature is an invaluable learning resource, especially for children who are not effectively reached through traditional instruction. The study also revealed that children's learning offers many benefits—improving learners' concentration, stress levels, self-discipline, interest, motivation, physical activity, and fitness. For children who are sensitive to noise and cluster (e.g., children who are autistic), nature play offers a calm and quiet learning context, a warmer, more cooperative social context for learning, limitless loose parts, and a strong sense of autonomy.

Other studies show that outdoor play in natural play spaces enhances children's physical activity, potentially reducing incidences of childhood obesity (Coleman and Dyment 2013; Dankiw et al. 2020; Ernst and Burcak 2019). Coleman and Dyment (2013) noted that a lack of physical activity outdoors among preschoolers contributed to a dramatic increase in childhood obesity, which has links to adulthood obesity. ECD programs have an important responsibility to provide opportunities for physical activity outdoors to help combat childhood obesity, which is a public health challenge of the twenty-first century. Although several social factors, such as increased electronic-device screen time, safety concerns, and a lack of suitable space, have been identified as limiting children's

physical activity, closer scrutiny must also be given to ECD program policies and practices that limit children's outdoor play.

Nature play as a context for healthy risk taking (Finch 2012; Little et al. 2012) offers another important aspect for consideration. Finch (2012) posited that risk drives children's growth and development; boosts their self-confidence; helps them form good judgment and make good decisions; and develops their courage, persistence, and resiliency. Finch believed that risk helps children progress; without risk children's growth becomes stagnated. Seen in this light, ECD provisions must create opportunities and spaces for children to actively explore their environment and take on healthy challenges and risks. Through risk taking children learn about their competence and limitations. Children learn through trial and error, success and failure. Risk teaches children many important life lessons. In a sense, risk prepares children for adulthood where risk forms part of daily living—part of their very being.

Several studies support claims that nature play contributes to the development of resilience in early childhood (Beery 2020; Ernst and Burcak 2019;

| Developmental Domains | Example/Descriptor |
|---|---|
| Social | Self-concept/esteem; Friendship; Altruism; Principles to get along; Perspective taking; Socio-centrism; Understanding of role concepts; Concentration; Skills to maintain cooperation; Follow simple instruction; Taking turns; Learning to respect others' opinions; Making up rules; Working together for a shared goal; Sharing discoveries; Practicing negotiation |
| Physical | Endurance; Body coordination; Better sleep; Safeness (how to climb trees, how to react to bugs, snakes); Movement (building, running, jumping, digging, climbing, hiking, balancing, tumbling, skipping, negotiating uneven surfaces); Risk taking; Respiratory health; Muscle building (carrying/lifting loads) |
| Intellectual | Metacommunication; Social interaction; Communication skills; Socially transformed speech; Skills to plan/refine/adapt themes or roles; Functional/meaningful writing & reading experiences; Initiative/imaginative verbalization; Motivation to read & write; Narrative competence; Problem solving; Creativity; Convergent/diverged thinking; Math concepts; Abstract thoughts; Complex language; Science concepts - observation, concentration, exploration, collecting, sorting, experimenting, life cycle - things grow and die; Senses - texture, colour, shape, scents; Safeness – what not to eat, touch |
| Creative | Imaginations; Initiative; Experimentation; Problem solving; Artistic projects; Construction; Demolition; Engineering and architectural skills; Making up stories and pretend play; Painting and drawing; Patterns and trends |
| Emotional | Courage; Friendships; Positive feelings; Confidence; Focus; Calmness; Happiness; Relationships/bonding; Resilience; Self-confidence; Joy of movement; Motivation and enthusiasm; Self-regulation; Risk taking; Reduce stress, boredom; Strengthen empathy, responsibility |
| Spiritual | Calmness for patiently observing, daydreaming, and reflecting on sense of beauty; Appreciation, wonder, awe; Concentration; Empathy for other living things by tending a little garden or caring for pets - including temporary visitors such as tadpoles, lizards, caterpillars |

Figure 3. Developmental domains promoted through nature play

Children and Nature Network a, n.p.; Finch 2012; Kou et al. 2019). Nature-rich learning and experiences serve as a protective element that enables children to "bounce forward in the face of disruption and adversity" (Beery 2020, 13). When children engage in nature experiences, their imagination stretches beyond the required limits for sustaining curiosity dampened by adverse experiences (abuse, disaster, illness, migration, neglect, poverty, violence). The correlation between nature play and resilience is so strong that the Children and Nature Network advanced it to a status of "powerful antidote to the negative impacts of trauma and stress" (Children and Nature Network b, n.p.) with a potency high enough to "close educational achievement gaps or reduce health disparities" (Children and Nature Network 2020 a, n.p.).

Collectively, these studies point to a dire need for all children to encounter nature spaces and participate in nature play outdoors in order to thrive and grow. A summary of the prominent benefits is offered in figure 3.

## Recognizing Constraints

The benefits of nature play are undeniably profound. But we should note that constraints and impediments exist. Finch (2012), Little and colleagues (Little et al. 2012), Louv (2005), Moore and Wong (1997), and Sandseter (2014) are among the researchers who identify constraints ranging from concerns about injuries to problems related to politics, laws, gender, and cultures. In comparing nature play to other childhood activities, Finch (2012) reiterates that "[c]hildren can and do get hurt, as they have throughout human history, and as they always will" (n.p.). But Finch reminds us that this does not justify the removal of these types of play. Comparing risk factors associated with nature play, Louv (2011) recommends that the thinking around it should be "in terms of comparative risk" (146).

Although in Guyana there exist no published reports of children's injuries from participating in outdoor nature play at ECD institutions, the recommendations by nature play advocates about necessary precautions and considerations should not be overlooked. Children should not be allowed to wander freely in spaces that have not been vetted for danger levels, especially high-risk dangerous situations that are not obvious to children. Allowing children access to spaces that have not been vetted should be, writes child rights activist Priscilla Alderson (2000), "dismissed as dangerous nonsense" (114). Regulatory requirements and

the potential for litigation need to be considered, even though they often serve to mitigate nature play (Little, Sandseter, and Wyver 2012). For these reasons, advocates such as Bailie and associates (Bailie et al. 2023) and Larimore (2019) have suggested how practices, policies, and procedures could be implemented to restore, sustain, and accomplish adequately the desirables of nature play.

## Research Questions

Given that there are no recorded studies about Guyanese children's nature play experiences in ECD settings, exploratory questions were framed: What is the extent of changes to children's experiences with nature play forty-six years after the introduction of the national ECD program? Have specific factors influenced teachers' offerings of nature play experiences and, if so, how might they be explained?

## Methodological Considerations

This study required interaction with participants who had knowledge of nature play in Guyanese ECD settings before the 2012 reform of the national early childhood curriculum or who are positioned to produce such knowledge about ECD settings at various levels of practice from classroom to policy. Another important criterion for selecting the teachers required they be located in the different physical and geographical areas of Guyana (urban—city or town; sub-urban; rural—coastal, land, or road; and rural—river, lake, creek, or interior). Thus, the positioning of the study made a descriptive survey approach suitable. The descriptive survey helps us understand the interests, situations, and issues the participants experienced, lived, or interpreted (Bulbulia et al. 2019; Jackson 2009). The descriptive survey allows participants to reflect actively on the process involved in describing the state of play-based practices in Guyana.

## Data Source

Seventy teachers who enrolled in the bachelor's program of ECD at the University of Guyana fit the criteria for the group participating in the survey. They have

initial teacher training and work experiences in settings established before the curriculum reform of 2012. And, given that only the University of Guyana offers a bachelor's in ECD, teachers in this program are all residents of the different geographical areas. One does not need to acquire a bachelor's degree in ECD at the University of Guyana to become an early childhood teacher in Guyana, but initial early childhood teacher certification is a prerequisite for entry to the bachelors program in ECD at the University of Guyana. Initial teacher certification can be obtained over a two- or three-year period at preservice and in-service institutions such as the Cyril Potter College of Education (CPCE), which is Guyana's premier teacher-training institution. Secondary school-leavers (at an average age of eighteen) and individuals up to fifty years old attend CPCE. Some individuals do not access training until they almost reach the retirement age of fifty-five, after spending many years as untrained teachers. This means on average more than 50 percent of teachers access the bachelor's program at the University of Guyana after a decade into their teaching careers.

In addition to the teachers enrolled in the ECD program at the University of Guyana, others included in this study had experience that spanned both the 1976 introduction and post-2012 reform and fit our urban-rural criterion. We had to access the database of teachers who have been working in the ECD sector since its introduction in 1976 and within ten years of this introduction. Six teachers from this database who participated in our study had retired but were still active in the ECD field. Easy access to this diverse group of teachers influenced the sample selection.

Of the seventy-six teachers targeted, fifty-nine responded (78 percent). All the retired teachers responded. Females outnumbered the males (fifty-seven females and two males). This figure reflects the gender distribution of the ECD workforce in Guyana. Although the response rate was high, a diversity in attributes, such as range in years of experience and different geographical areas influenced the quality, representativeness, and appropriateness of the data generated.

A significant proportion (70 percent) of the participants came from rural or nonurban areas. Over half (56 percent) of the participants considered rural—coastal, land, or road and 14 percent considered rural—river, lake, creek, or interior the best description of the locations where they worked. The description urban—city or town represented locations of 27 percent and suburban some 3 percent. This pattern of urban or rural distribution reflects Guyana's most recent Population and Housing Census (2012). One retired teacher has experience with the national ECD program from its introduction, and the remaining five

joined within ten years of its introduction (1979, 1982, 1983, 1984, and 1986). Fourteen teachers recorded having six to ten years of teaching experience, and thirty-nine reported experiences ranging between eleven and thirty years. The fourteen teachers with ten or fewer years of experience completed the questionnaire in collaboration with a senior or retired teacher who had more than ten years of experience.

## Data Collection and Analysis Protocols

We use questionnaires, followed by questionnaire-stimulated conversations, to encourage participants to share their experiences and opinions. Given Michelle Semple-McBean's experience conducting research with teachers in Guyana, we deemed conversation-generated data preferable to written, open-ended responses, especially relying on closed-ended, check-the-box responses. Where the closed-ended questions on which some responses were based could not offer adequate insights, we used the questionnaire-stimulated conversation to establish key issues for discussions and offer opportunities to reflect on variances in nature play practices.

The questionnaire focused on four key elements generated from comments and questions about nature play by teachers, discussions with educators operating within the ECD field in Guyana, and what the literature has to say about nature play. They were, first, the physical and social settings within which teachers operate; second, nature play between 1976 and 2012 that is still currently offered, been discontinued, or has declined; third, the new nature play activities introduced during the ten years between 2012 and 2022; and last, the rationalization behind the evolutions and changes in nature play.

Our statistical interpretation of teachers' closed responses capitalized on the automatic integration with Google sheets using frequency counts, percentages, and statistical commentaries. We applied our interpretations to the open-ended responses to generate trends and patterns within three categories: thriving or existing experiences; declining or discontinued experiences; and agents of change.

Two of the authors of this article—Godryne Wintz and Lidon Lashley—scrutinized the database from which we generated these categories to eliminate epistemological predilections, misrepresentations, or inadequate conceptualizations by Michelle Semple-McBean.

Where relevant, we have shared comments and stories from the respon-

dents as vignettes and quotations to support the categories we generated.

We followed the British Educational Research Association (2018) ethical obligations throughout the study. We wrote anonymity and confidentiality clauses into the questionnaire, giving particular consideration to the small population of Guyana—747,884 (Guyana Population and Housing Census 2012). We scrutinized the descriptions given by the participants of their places of work and play spaces, their years of experiences in particular settings, and identifiable events and objects (flowers, plants, and animals) to prevent traceability. For those teachers who were still employed, our findings could have had repercussions for retention at their place of work if their views had been deemed disruptive, contentious, or indicative of poor performance.

## Findings

### *Thriving Versus Declining Experiences*

We begin our analysis with a vignette from one respondent to illustrate nature play before and after the 2012 era. This play occurred at an ECD institution situated close to a primary school, and we categorized it as rural—coastal, land, or road. The school compound is considered relatively safe—fenced, with a secured gate and a security guard. The presence of the peacock flower (scientific name: Delonix regia) at the outdoor location where the play occurred allows us to characterize the play as nature based. Thus, we assign the vignette the sobriquet "Peacock Flower School."

### *Peacock Flower School*

As our respondent described it:

> Our children love playing under this tree. It is their main hang-out spot when outside. I think they love it there because of the shade it provides and because it provides flowers for peacock game. Most of the children who remain at school after dismissal (from noon to 2:00 p.m.) would play under that tree …. [Some children attending nursery school are usually picked up by their older siblings, relatives, or trusted child attending the primary school.]
>
> During the flowering season, the children play with the flowers and whenever the pods fall, they play with those too. On most occa-

> sions, their play outdoors would be okay. But when they play this peacock game, they very often have disagreements, and this results in them complaining. They usually complain about their peers cheating, hiding, or stealing their peacocks. On other occasions, the complaints might be about someone not counting [the winning rounds] correctly, or that someone started the game before the other was ready. Anyway, the good news is that they don't remain mad with each other for long; as soon as you miss them, they are under the tree again, or playing in some corner of the classroom with the flowers they brought in.

What is peacock flower play? It is a game in which children remove the stamens from the peacock flowers and use them as the instrument for a "hock-and-pull" competition. Usually, two children play while the others observe, cheer, encourage, criticize, and express other emotions associated with competitive games. The contestants, once identified, grip the filaments (referred to as the poles), hock the anthers (called the curved heads) to each other, then make a sudden yank. The competitor with the most anthers that fall off is the loser. During the flower selection process, therefore, children pay careful attention

Figure 4. Peacock flower (Scientific name: Delonix regia)

to the strength of the stamens. The winners are usually those who know better which flowers will produce the strongest stamens. Sometimes, winning occurs simply by chance, but some children seem to have mastered the art of positioning their hands when making the jerk. Therefore, we might summarize this play as beautiful, competitive, and contentious, yet highly intellectually stimulating and emotionally rewarding.

Teachers did not relate many instances like the peacock flower game after 2012, and in fact, only one other shared, post 2012, nature play experiences with any scope that advanced children's holistic learning and developmental trajectory. Our analysis of the data did reveal, on a smaller scale, that some settings have continued to encourage play in nature and with natural elements. The data showed that sixteen kinds of nature play activities existed between 1976 and 2012, and many are now extinct or children no longer engage in them. In other words, after the curriculum changes of 2012, nature play did fade away in some settings. Yet a small number of settings found ways of keeping these activities alive.

From the descriptions of the sixteen nature-based activities provided by the teachers in this study, we established three levels: regular, messy, and risky. Level one, or regular nature play, consists of experiences considered calm, peaceful, wandering, or nonmessy, which carry a low risk of dangerous outcomes. Level two, or messy nature play, attracts sweatiness, wetness, or muddiness and usually requires a change of clothes or protective wear. Level three, or risky nature play, carries some level of obvious danger or undesirable outcomes, such as the possibility of insect bites and stings or minor injuries from falling, slipping, or tripping. The three levels of nature play and their corresponding activities, along with the number of teachers who discontinued or continued to offer these activities are listed in figure 5.

Placing the sixteen nature play activities on a continuum from "currently offered" to "discontinued" indicates that one kind of nature play in Guyana did not belong to the period from 1976 to 2012 and another, different kind to that from 2012 to 2022. For example, nature play such as the peacock flower game illustrates "under the tree" play was offered before and after 2012, even though only two teachers encouraged it at the time this study was conducted and five teachers encouraged it exclusively before 2012. Indeed, rain play was the only nature-based activity restricted to the period between 1976 and 2012.

Based on the responses by the teachers, regular nature play seems most common and easily achievable, though it appears to be disappearing. The second

largest group of nature play experiences teachers reported in decline were those considered messy. Before the 2012 reduction in playtime, risky activities were less common than regular or messy ones. But the teachers who reported on risky play also said that after 2012, it too faced decline and the possibility of extinction.

The most popular (regular) nature play dating from 1976 to 2012—and still frequently practiced in Guyanese ECD settings—is sand and water related. Even though teachers conduct regular nature play less frequently today than they did between 1976 and 2012, almost all of them (95 percent) still do so. They offer these sand and water play experiences indoors in boxes or other suitable containers, and they usually form part of the structured lessons during the arrival and free play session (8:00–8:25 a.m.). The materials they use (e.g., sand, water, shells, and stones) support their descriptions of indoor sand and water play as a form of nature-based activity.

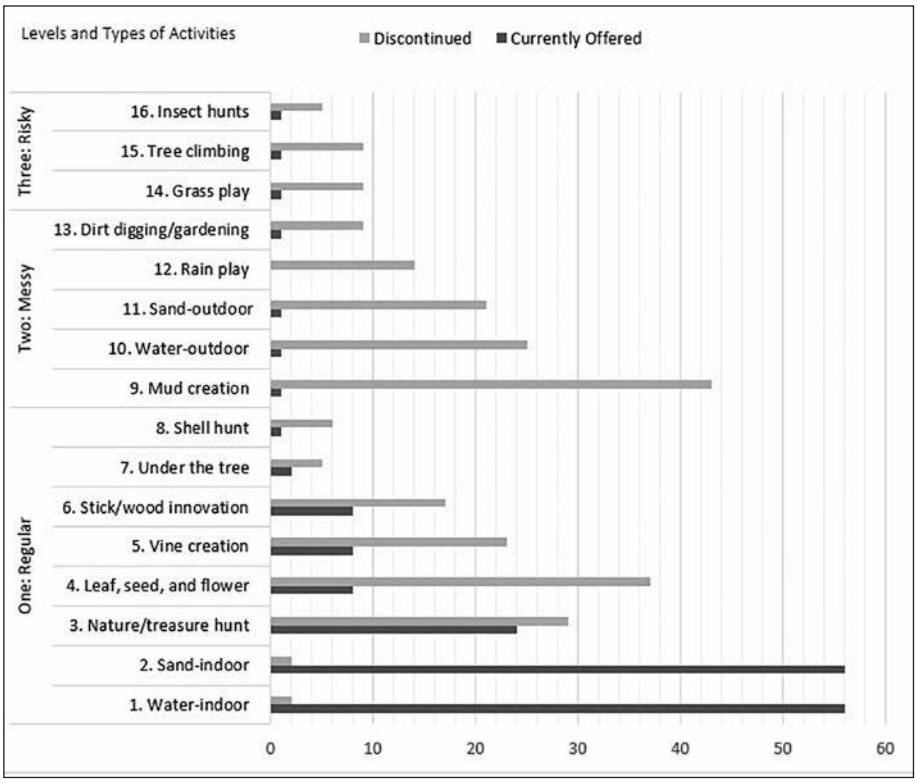


Figure 5. Nature-based activities offered in Guyana

The second most frequent activity still practiced and categorized by the teachers as nature related was the treasure hunt. Forty-one percent of teachers operating across all geographical areas reported that their students participated in treasure hunts. Unlike sand and water play, which are restricted to indoors, the treasure hunts occur both indoors and outdoors.

Nature play activities related to natural elements were among the less often reported, and these were listed principally by participants from rural locations. A maximum of eight teachers (14 percent) reported current outdoor play that included building, creating, and experimenting with leaves, bricks, dirt, sticks, flowers, and insects. Of these eight teachers, all but one (a suburbanite) identified as rural. All the teachers from rural locations reported regular nature play, such as under the tree and shell hunt; messy nature play, such as play in outdoor mud, sand, and water; and risky nature play such as hunting for insects, climbing trees, and playing in grass.

We observed an urban-rural divide. Teachers from urban and suburban areas recorded more often indoor forms of nature-based play. Nine teachers from urban locations listed activities other than indoor sand and water play. Of these nine, eight specified treasure hunts, and one noted outdoor gardening. All but one (the teacher who mentioned outdoor gardening) of the teachers who engage in nature play outdoors and with natural elements came from rural areas. Considering the findings about the locations of nature play and the number of teachers practicing, we can make an acceptable argument that some levels of nature play existing between 1976 and 2012 remain alive. And, of the play that is still alive, activities specific to outdoor natural elements are restricted to the rural schools. Irrespective of location, there has been no report by teachers of the introduction of new nature play activities after 2012.

## Change Agents of Nature Play

Justifications for reducing or discontinuing nature play came under five categories: fear of injuries, messiness, soiled clothing; promotion of an academic agenda; reduction in playtime; limited, unsuitable outdoor space and unavailability of natural elements; and public perception.

### *Fear of Parents' Reaction to Injuries, Messiness, Soiled Clothing*

More than half of the teachers (64 percent) indicated negative attitudes of par-

ents toward children getting messy or sweaty as a leading factor in reducing or discontinuing the play. Respectively, this view accompanied a worry about insect bites and skin irritations (36 percent), injuries such as falling and tripping (24 percent), and the possibility of being sued for misfortunes (19 percent). One teacher who no longer offers opportunities for outdoor sand play said of her decision: "At our school we used to play in the sand. Our community is sandy.… I thought that was OK, but parents get angry when their children's clothes get a bit messy."

*Promotion of an Academic Agenda*

This category attracted views from 69 percent of our teachers. They noted that, due to the overwhelming number of workbooks they needed to complete, nature-based activities are necessarily sacrificed. About a third of the teachers (32 percent) indicated that play sessions are converted into "catch-up" sessions because, if children's workbooks are not completed during inspections by senior officials, teachers earn lower performance ratings. Teachers' satisfaction with the current academic-focused curriculum versus greater opportunities for nature play revealed that a significantly high proportion (92 percent) would rather see a return to nature-based activities. One teacher, who favors the current academic-focused curriculum, suggested that the time allocated for play between 1976 and 2012 detracted from more important academic work.

*Reduction in Playtime and Play Status*

Reductions in scheduled playtime over the past ten years seems to our teachers an indisputable cause for the absence of nature-based play. Ninety-two percent of the teachers recorded limited time allotted to outdoor play as a major factor. Like their observations about converting play sessions into catch-up sessions, 47 percent reiterated that the packed timetable causes other activities to take up outdoor playtime. Seventy-three percent held the view that education is now a more structured business, leaving little focus on play. Seventy-six percent indicated that this led to the complete removal of play sessions.

*Limited, Unsuitable Outdoor Space*

The fourth set of challenges involves a limited provision for natural or nature-oriented spaces. In order of ranking, 46 percent of the teachers reported inadequate outdoor space; 32 percent held the major challenge to be unavailability of materials and natural elements; and 27 percent identified the problem as

unsuitable and unsafe spaces such as paved and bare school yards or the presence of dangerous animals. Here is how they described some challenges: "We have a lot of space at the back of the school, but that is constantly flooded and most times in a swampy state…. We even see snakes out there sometimes." They also mentioned the sun as a mitigating factor: "While the new curriculum [of 2012] brought the final curtain down on play, a lot was cut down a long time before…. Personally, that ten o'clock sun was just too hot."

*Public Perception*

The final barriers to the promotion of nature play experiences involve the fear of the public's view. Fifty-four percent of the teachers seemed fearful that allowing children the freedom of nature play will be perceived as unconstructive and unproductive—and not educational. The teachers also documented as a barrier the public's view of good schools as those with clear, neat, and razed fields. Ten percent of the teachers indicated that the grounds of their schools are required to be kept clear—overgrowth is not allowed. Finally, 15 percent of the teachers reported that many communities are simply not advocates or promoters of play at school.

## Discussion

Both before and after 2012, nature play in Guyana had the scope to advance children's holistic learning and development. However, the scale of offerings is much smaller than during the period from 1976 to 2012. Our data established relationships between the decline of nature play and specific protection, environmental, and ideological concerns. The dominant elements currently mitigating nature play for the teachers in this study are protective issues such as fear of injuries, messiness, and soiled clothing; ideological concerns such as the promotion of an academic agenda, reduction in playtime, public perception, and personal preference; and environmental worries about limited and unsuitable outdoor spaces.

Of these concerns, those relating to ideological challenges dominated. The belief system involving a negative relationship between play and learning in pedagogy, in which children serve as recipients of academic instruction and content knowledge instead of an interactive and exploratory process, seems to have strong roots in Guyana. Over the past ten years, this system held that, to

achieve demanding academic outcomes, reductions in scheduled play and even complete removal of some play sessions were necessary evils. Fear of the public's notions about nature play as not educational—or the view that overgrown and rustic or rugged environments with unpainted play things are not usually good—added more barriers. The final ideological connection relates to teachers' satisfaction with the current state of nature play. Teachers who expressed a level of comfort with the current state of nature play introduce an additional cause for worry. Such expressions suggest that nature play advancements, developments, promotions, and resuscitation might be threatened.

Our teachers reported protection functions as the second most challenging obstacle to children's nature-rich experiences. Teachers seem weary of the efforts needed to keep children clean and tidy. Although legal implications—such as suing schools and teachers for certain play-related misfortunes—have not been reported or documented in Guyana, and there are no published reports of children being seriously injured from participating in outdoor nature play, participants raised this issue as a caution to their offerings of nature play. Therefore, as suggested by Larimore (2019), conversations and policy movements surrounding operational regulations in Guyanese ECD settings might have to expand focus on indoor facilities, that "leave licensing inspectors [and teachers and administrators] unsure how to proceed" (12) when it comes to matters of play in the outdoors.

Teachers identified challenges surrounding environmental functions as the least troublesome for the decline in nature play. Located in a tropical region, unshaded school yards offer too much sun, they say, which calls for reducing free-range play. (The average temperature in Guyana was listed as 30 degrees Celsius or 86 degrees Farenhiet.) Finally, teachers also offered cautions about dangerous animals such as snakes and made observations about limited and unsuitable spaces.

As a result of these challenges, children's experiences with nature play forty-six years after the introduction of the national ECD program in Guyana have undergone a noticeable decline. Nature play activities categorized as regular dominate and are still practiced in Guyanese ECD settings—and of these, sand and water play were voted the most popular. The second most popular nature play activity was the treasure hunt. These activities are evident across all geographical areas. The nature play activities specific to outdoor learning (e.g., building, creating, and experimenting with leaves, bricks, dirt, sticks, flowers, and insects) were among the fewest offered, and these were listed mainly by teachers

from rural locations and performed only during the dry weather.

Finally, establishing the extent to which changes to children's experiences with nature play occurred over the past forty-six years, the common account from the teachers holds that, before 2012, opportunities for nature play were more accessible. But contrary to speculations heard at Guyana's 2021 play symposium concerning the connection between technological advancement and the decline of such play activities, the participants did not flag the advancement of technology as a factor affecting nature play in Guyanese ECD settings. Also, unlike studies that show associations between the gender of teachers and specific types or frequency of nature play (e.g., Sandseter 2014), there was no indication of such association among the participants. This finding may come

| Peacock Flower Play | Developmental Domains | |
|---|---|---|
| *Our children love playing under this tree. It is their main hang-out spot when outside.* | SOCIAL | Friendship, Stress Reducer, Co-existing |
| *I think they love it there because of the shade it provides* | SPIRITUAL | Serenity, Beauty |
| *and because it provides flowers for peacock game.* | CREATIVE | Initiative, Innovation |
| *[...] when they play this peacock game, they very often have disagreements [...]. They usually complain about their peers cheating, hiding, or stealing their peacocks.* | SOCIAL - EMOTIONAL | Self-regulation, Resilience, Negotiation Contention, Morals, Values |
| *On other occasions, the complaints might be about someone not counting [the winning rounds] correctly,* | INTELLECTUAL | Mathematical Thinking |
| *or that someone started the game before the other was ready.* | SOCIAL | Rules Confirmation, Cooperation |
| *Anyway, the good news is that they don't remain mad with each other for long [...].* | SOCIAL - EMOTIONAL | Forgiveness, Relationships |
| *It is a game where the children remove the stamens from the peacock flowers and use them as the instrument of a "hock and pull" competition.* | CREATIVE | Imagination, Experimentation |
| *It is usually played by two children while the others observe, cheer, encourage, criticize, and express many different emotions and statements associated with competitive games.* | SOCIAL - EMOTIONAL | Teamwork, Contention, Motivation, Enthusiasm Competition |
| *After the contestants are identified, the competing children grip the filaments, hock the anthers to each other, then make a sudden yank.* | PHYSICAL - CREATIVE | Eye-Hand Coordination, Concentration, Confidence |
| *The competitor with the most anthers that fall off is the loser.* | EMOTIONAL | Courage, Risk Taking |
| *During the flower-selection process, it is therefore important that the children pay careful attention to the strength of their stamens. The winners are usually those with better knowledge about the flowers that produce the strongest stamens.* | INTELLECTUAL | Skills to Plan/Refine, Recall Pattern and Trends, Botany, Divergent Thinking |
| *Sometimes, the winnings are simply by chance,* | SPIRITUAL - EMOTIONAL | Risk Taking, Open-Mindedness, Resilience |
| *but some children seem to have mastered the art of knowing how to position their hands when making the jerk.* | PHYSICAL - INTELLECTUAL | Body Coordination, Concentration, Recall Pattern and Trends |

Figure 6. Dissection of the peacock flower play by developmental domains

from the minuscule number (n = 2) of males who participated in the study. Future research might be necessary to gain an understanding about relationships concerning technological advancement, the gender of teachers, and the nature play of children in Guyanese ECD settings.

## Introducing a Cultural Play Construct

The story of peacock flower play offers reassuring prospects for the kinds of activities that could be experienced by children in Guyana. The developmental possibilities presented in this vignette solidified the arguments by researchers about the importance of nature play (see Bell and Dyment 2008; Dankiw et al. 2020; Finch and Loza 2015; Grindheim 2021; Kuo et al. 2019; Louv 2005). The play with the peacock flower has established that it can use and expand children's social, physical, intellectual, creative, emotional, and spiritual well-being. For the sake of illustrating this interrelatedness, the vignette is dissected in figure 6.

Dissecting this vignette seems relevant since a search of the literature did not associate play with the peacock flower as a developmental activity. Neither did we find evidence to suggest that the educational elements of this play had been previously studied. Examination of the vignette in such detail also permitted the framing of a description of this play. To summarize, once again, peacock flower play might be defined as a culturally significant Guyanese game involving two players armed with stamens from peacock flowers in a hock-and-pull competition. Yanking the anthers off the opponent's flowers without breaking your own is the goal. The competitor with the most anthers to fall off loses. Onlookers (if present) observe, score, cheer, encourage, criticize, and express emotions and statements associated with competitive games.

## Prospects of Sustainability

After forty-six years of public ECD service in Guyana, the data indicates that the prospect for resuscitating nature play within these settings has not been lost. Most teachers in this study (92 percent) have expressed commitment to the introduction or reintroduction of outdoor, nature-based activities. We have not found promoting nature play to be difficult for ECD institutions in Guyana,

because access to existing outdoor spaces within and around many settings is abundant. And, in settings in which the introduction of outdoor nature play might not be possible, conversion of indoor spaces was also identified as an alternative. Previous research has shown nature play can occur irrespective of limited space. Finch and Loza (2015) point out that since the worlds of young children are "usually tiny and intimate, it [nature play] can occur in any place that is wild in the eyes of children" (7). A tall-grass patch in the school yard or a small garden could be considered wild. Also, given that urbanization is not yet listed among the necessary evils underpinning the decline of outdoor nature play in Guyana, the rural schools remain in a good position to take advantage of the opportunities available for outdoor nature play.

If advancements are made in expanding and creating outdoor play spaces, the possibility exists that this group of teachers might not encourage activities they deem dangerous or believe provoke anger in parents. Considerations should also be given to community-specific and culturally relevant experiences. Therefore, it might be necessary to introduce carefully crafted strategies and regulations to uphold nature-based learning activities that are parent friendly and collaboratively created and approved by the community served.

The role of nature play in the developmental trajectory of children could support a platform to attract key stakeholders and partners. For example, the peacock flower play connects many developmental and learning possibilities. A lack of nature play, as observed by a teacher, is associated with compromised development, confirming the "nature deficit disorder" metaphor of Louv (2005, 2011). After spending most of her teaching career in a nature-rich school environment before moving to an area in which there was the absence of such, she made the comparison: "Man, the children here are very hyperactive, they misbehave and have tantrums all the time. . . . Maybe it's because the children here don't have opportunities to soothe themselves, you know, like listening to the birds … relaxing under trees." These experiences and accounts about nature play could provide avenues for authentic awareness raising in Guyana.

We close with the hope that our findings raise awareness and stimulate conversations sufficiently to steer future directions of nature play in Guyanese ECD settings (and elsewhere that share similar or comparable structures), to one of acceptance and celebration—thus making it, as proposed by Charles (2011), "a way of life again, a right and rite of childhood" (149). On this note it might be reasonable to recommend reconsideration of the status of these types

of play within the daily schedule, or at least, to create the spaces for occasions when nature play is possible.

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