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Research Article

REVITALIZING OUTDOOR PLAY AREAS AT CHILD CARE CENTERS

Cansu Undeyoglu[1,*]

[1]*Department of Landscape Architecture, Faculty of Applied Science, University of British Columbia, Vancouver, Canada.*

*Corresponding Author:
cansuundeyoglu@hotmail.com

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ABSTRACT. This study explores the impact of landscape interventions on children's play and development in early childhood education centers in Vancouver, Canada. Led by Susan Herrington at Rewilding Play: Kids in the Park Studio, my classmates and I, graduate students from the University of British Columbia (UBC), implemented interventions. We utilized natural materials and planting to enhance physical and cognitive development, encourage imaginative play, and introduce challenges in play spaces, employing the 7Cs framework. The initiative aims to reintroduce nature play, aligning with the ecological concept of rewilding. Findings highlight the positive impact of diverse play elements, such as sand, water, and vegetation, on children's development. The studio project advocates for rewilding play spaces, fostering connections between children and nature, and promoting holistic growth by challenging them with varied and manipulable materials, catering to infants/toddlers to 5-year-olds. The Enchanted Oaks Child Care Center project site at Hastings Park was selected by Vancouver Social Policy and Projects and Vancouver Parks and Recreation staff.

Keywords: *outdoor play spaces, natural materials, imaginative play, challenge, children's development*

INTRODUCTION

Children spend substantial hours in early childhood education centers, and the outdoor play space holds immense potential for enriching experiences. These spaces offer vital contact with living elements, fostering physical and cognitive development, imaginative play, and empathy, all within an ever-changing seasonal environment. Despite this, many play spaces lean towards standardized, pre-fabricated equipment, neglecting the unique qualities of outdoor play and diminishing program individuality. [4]

Landscape architecture underscores the vital role of outdoor play spaces, highlighting benefits such as physical and cognitive development, imaginative play, empathy stimulation, and restorative experiences for children. The 7Cs serve as an informative handbook written by Professor and Landscape Architect Susan Herrington with Landscape Architects and Designers Chandra Lesmesiter, Jamie Nicholls, Kate Stefiuk, and Alison Maddaugh. It is for individuals to design outdoor play spaces that facilitate the development of young children while incorporating the distinctive aspects of outdoor play. The 7Cs refer to Character, Context, Connectivity, Change, Chance, Clarity, and Challenge. According to their research, manipulable and natural materials, like sand, water, and planting, provide developmental opportunities, with their absence linked to increased aggression and depression among children. The challenge lies in the dominance of pre-fabricated structures in existing outdoor play spaces. [4]

At the Rewilding Play: Kids in the Park Studio, we, a group of graduate students from UBC, took the initiative in outdoor spaces for the children of Vancouver based on 7Cs. Our emphasis on rewilding play, achieved through the incorporation of natural materials and loose

components, is in harmony to nurture diverse and stimulating play environments. This paper investigates the choices of planting and materials in two aspects—physical and cognitive—advocating for a renewed connection between children and nature through purposeful outdoor play, following the presentation of crucial information about the site and regulations.

HASTINGS PARK AND CHILD CARE CENTER REGULATIONS

Hastings Park, located in Vancouver, British Columbia, Canada, is a prominent urban park with a rich history and diverse amenities. Originally established in the late 19th century, the park has evolved into a popular recreational space, featuring sports facilities, a racecourse, a golf course, and a sanctuary. The Pacific National Exhibition (PNE) Fairgrounds are also situated within Hastings Park, hosting annual events and exhibitions. Notably, the park has undergone various developments and renovations to enhance its offerings and maintain its significance as a cultural and recreational hub for residents and visitors alike. [2]

The City of Vancouver has recognized the necessity for two additional childcare spaces within Hastings Park. Referring to Susan Herrington's Child Care Outdoor Space Evaluation Tool Kit, commissioned by the Department of Social Planning City of Vancouver, we acknowledge the guideline that outdoor play areas should maintain a minimum distance of 500 meters from major thoroughfares, especially truck routes with diesel vehicles. If achieving this distance is impractical, an alternative is a minimum distance of 200 meters, accompanied by mitigation strategies to protect children from air pollution. Additionally, play yards should not be closer than 100 meters to a gas station, and the noise levels at the selected site for childcare development should be assessed, ensuring they do not exceed 55 dBA. Lastly, children should receive 2-3 hours of exposure to natural light each day throughout the year to prevent vitamin D deficiency. [1,5]

Taking into account these regulations, we identified a suitable location for the implementation of the Enchanted Oaks Child Care Center Project in Hastings Park.

Fig. 1. *The location of the Proposed Enchanted Oaks Child Care site in Hastings Park by Cansu Undeyoglu, Jenn Richards, Sheena Jain and Zahra Hijri*

Fig. 2. *Proposed Enchanted Oaks Child Care Center Site Plan by Cansu Undeyoglu, Jenn Richards, Sheena Jain and Zahra Hijri*

PHYSICAL CHALLENGE WITHIN THE OUTDOOR PLAY AREA

Young children exhibit a natural curiosity about the processes of growth and change, embarking on an early understanding of daily sequences. Sand, mud, gravel, and vegetation, whether fallen or picked, stand out as materials recommended by the majority of literature focusing on high-quality childcare environments. The incorporation of manipulable materials such as sand, dirt, gravel, and water into a play space allows children not only to exert control over their environment but also to transform it to meet their needs. Responsive materials that can be carried, collected, dammed, dug, floated, filled, scooped, sifted, spilled, sprinkled, and thrown become crucial elements of play that cater to children's desire for exploration and experimentation. [4,6]

Ground materials play a crucial role in the development of gross motor skills in toddlers as they navigate the early stages of learning to walk, spending a significant portion of their daily lives crawling on the ground. For example, a stone streambed can be designed to facilitate mobility by allowing bending, providing access to water, enabling stacking and balancing activities, and encouraging collaborative play. Similarly, children can climb through wooden stumps and navigate boulders to reach elevated points, promoting physical activity and a sense of adventure.

The 7Cs study has highlighted the absence of challenging activities in a play space as a key factor contributing to an increase in instances of bullying. In alignment with Play for All Guidelines, the study recognizes that a child's full potential to learn is hindered without the inclusion of risks in their play environment. Emphasizing the importance of challenging and adventurous elements in play spaces not only fosters physical development but also contributes to a more inclusive and supportive environment for children's overall well-being.[4,7]

In our project, we focused on designing challenging playgrounds using plant elements. For instance, scratching a tree becomes a challenge for a child, prompting considerations about climbing, potential falls, and strategic hand and foot placements. This approach contributes to the development of physical and cognitive skills. Moreover, accomplishing these challenges enhances a child's self-confidence and courage. In selecting trees for our project, we deliberately chose climbable varieties to provide children with opportunities for growth, learning, and personal achievement. Some of these climbing trees are Arbutus menziesii (Pacific madrone), Acer palmatum (Japanese maple), Koelreuteria paniculata (golden rain tree), Prunus x yedoensis 'Akebono' (Yoshino cherry) and Cercidiphyllum japonicum (Katsura tree).

Fig. 3*.The sketch of climbing tree by Cansu Undeyoglu, Jenn Richards, Sheena Jain and Zahra Hijri*

COGNITIVE DEVELOPMENT

The importance of thoughtful planting and material choices in outdoor spaces for children cannot be overstated, especially in fostering cognitive development. Varied plant selections and manipulable materials contribute to a rich sensory environment, stimulating a child's curiosity and igniting the flames of imagination. Exposure to different textures, colors, and scents enhances cognitive processes as children actively engage with their surroundings. The act of manipulating materials and plant elements promotes problem-solving skills, spatial awareness, and fine motor development and sparks a sense of wonder, and excitement. Furthermore, strategically chosen plants can serve as educational tools, introducing children to nature's diversity and life cycles. By immersing children in a carefully curated outdoor environment, planting and material choices become integral components in nurturing cognitive abilities and creating a conducive space for holistic learning. [3,4]

The transformative power of changing and manipulating materials extends to the realm of imagination. In the Hastings Park project, plant choices were made with a dual purpose: not only to create a play and learning environment for children but also to elicit specific emotions and sensations. The inclusion of grasses and meadows, for instance, serves beyond aesthetic purposes; it fosters activities like hide-and-seek, contributing to memory development and refining the fine motor skills of children.

Delving deeper into the emotional and experiential aspects, the curiosity category incorporates edible native plants such as Rubus spectabilis (salmonberry), Vaccinium corymbosum (highbush blueberry), Salvia officinalis (culinary sage), Allium cernuum (nodding onion) and Arctostaphylos uva-ursi (kinnikinnick). These choices not only pique children's curiosity but also provide tasty sensorial experiences. Plants with distinctive features, including Phyllostachys nigra (black bamboo), Equisetum arvense (horsetail), Cornus sericea (red osier), Helianthus annuus (common sunflower), Lavandula angustifolia (English lavender), Stachys byzantina (lamb's ear), and Echinacea purpurea (purple coneflower) were deliberately selected to inspire creativity and offer a distinct play environment. Each plant becomes a catalyst for imaginative exploration, encouraging children to engage in play that goes beyond the ordinary.

The proposed plant palette for the project also focuses on soft textures and appealing aromas tailored to the tactile senses of children, especially toddlers. Species like Pennisetum alopecuroides ‘Little Bunny’ (little bunny fountain grass), Calamagrostis x acutiflora (feather reed grass), Miscanthus sinensis (Chinese silver grass) Sarcococca ruscifoli (fragrant sweet box), Athyrium niponicum var. pictumpainted (lady fern), and Thymus serpyllum (creeping thyme) were carefully chosen to create a sensory-rich environment. The intention is to provide children with not just a visually stimulating landscape but also one that invites them to touch, feel, and immerse themselves in a multisensory experience, fostering a deeper connection with nature and promoting holistic development.

Fig. 4*.The sketch of bamboo forest and grass mazes by Cansu Undeyoglu, Jenn Richards, Sheena Jain and Zahra Hijri*

Fig. 5. *The perspective of Proposed Enchanted Oaks Child Care Center by Cansu Undeyoglu, Jenn Richards, Sheena Jain and Zahra Hijri*

CONCLUSION

The Enchanted Oaks Child Care Center Project focused on revitalizing outdoor play areas at child care centers through landscape interventions has proven to be a transformative initiative. Under the guidance of Susan Herrington at Rewilding Play: Kids in the Park Studio, we as graduate students from the University of British Columbia executed interventions to reintroduce nature play and challenge conventional outdoor spaces. The positive impact was evident in fostering physical and cognitive development among children through the incorporation of diverse play elements such as natural materials and manipulable components.

The project site at Hastings Park in Vancouver emphasized the importance of complying with regulations to ensure a safe environment for children's outdoor activities. The utilization of the 7Cs framework provided a comprehensive guide for designing play spaces that catered to the developmental needs of young children while embracing the unique qualities of outdoor play.

The deliberate introduction of physical challenges, including climbable trees and engaging elements, aimed not only at enhancing physical development but also at boosting cognitive skills and self-confidence in children. Furthermore, the project recognized the pivotal role of thoughtful planting and material choices in fostering cognitive development. The curated outdoor environment, rich in sensory experiences, ignited curiosity and imagination, encouraging problem-solving skills and spatial awareness.

In essence, the project successfully advocated for the rewilding of outdoor play spaces, promoting a renewed connection between children and nature. By challenging norms and integrating natural elements, the initiative has set a precedent for creating inclusive,

stimulating, and holistic outdoor play environments that prioritize the well-being and developmental needs of young children.

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