

Partners through Playgrounds: Building a Play Community

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Abstract

Play is an integral part of young children's physical and cognitive development. Outdoor play has been shown to have numerous physical and mental benefits for children. The Partners through Playgrounds program was a collaborative effort among university, Head Start, and community members to transform a traditional playground into a natural playscape. This program demonstrates the ability of a community to transform a playground on limited funding. Donations, volunteerism, and a strong community presence were major components in the renovation. The purpose of this report is to illustrate strategies and community efforts to improve young children's outdoor environments.

Keywords: natural playground, Head Start, community, early childhood education, preschool

Introduction

The Partners through Playgrounds program grew out of an existing relationship between the Department of Child and Family Studies at the University of Tennessee, Knoxville (UTK); the Early Learning Center for Research and Practice (ELC), the associated early childhood laboratory school at UTK; and a local Head Start agency. Dr. Mary Jane Moran, early childhood education faculty member and head of the Department of Child and Family Studies had been engaged with the Head Start program for about nine years as a volunteer and later as a provider of professional development to the Head Start early childhood teachers. Meanwhile, the ELC program on campus, directed by Robyn Brookshire, had developed a nature-based learning initiative. Over three years, the ELC had transformed its existing, manufactured playground spaces into natural playscapes, introduced a wide range of garden programming, and revised its curriculum to place a heavy focus on nature-based experiences both indoors and outdoors.

Impetus for the Program

For at least 9 years, I (the lead author) had been working primarily on professional development with the teachers at the Head Start center where the current program took place. As I traveled back and forth between my office at the university and the low-income housing development where the Head Start center was located, I became increasingly aware of the big differences between the Head Start children's outdoor play activities and play spaces and those of the children at our university center. My focus began to shift to the rights of all young children to have beautiful, engaging, and safe spaces to learn and play, both inside and outside.

I thought about the ways the ELC outdoor spaces had transformed from a typical swings-and-slides playground into one rich in natural play areas that included mini-forests for hide-and-seek, a wooden gazebo to shelter children from the hot southern sun, and large "walking logs," and gave children opportunities to tend and harvest the beautiful flower and vegetable gardens. At Head Start, however, the playground had no shade and included metal swings, slides, a balance beam and stationary riding toys that had become stuck in the deep mulch underfoot (Figure 1). The dominant activity among Head Start children was to race up and down one side of the playground. The comparison of the two outdoor spaces and the children's play patterns could not have been starker.

I started to wonder what could be done to change the Head Start playground when a university Outreach and Engagement call for proposals was posted. Proposals were to include evidence of building upon already strong university-community partnerships through the creation of new initiatives funded through small grants. I wondered if we could find a way to create a beautiful, natural playground for the more than 100 preschool children who attended the Head Start center and learn how these changes would impact children's activity levels and play. Over the next six months with \$2,000 from our successful proposal, we used our experience of the university playground renovation to inspire and guide the installation of a natural playground designed with our Head Start partners.

Figure 1. Stationary riding toys and seesaw stuck in mulch at the original Head Start center playground



Our introduction of building a natural playground was initially met with mixed responses from our Head Start partners. Immediately, concerns about whether these new materials would pass state child care licensure safety standards were voiced. In particular, we discussed both “fall zones” and “use zones” that addressed safety measures for structures from which children could fall. We discussed how our university school staff had worked with local licensure offices to address similar concerns. Then, we made plans to bring Head Start administrators to our university playground to see a natural playground in action.

On the day of the visit to the ELC’s natural playground, we walked together among the trees, plantings, boulders, and log structures and slowly began to imagine what could be installed on the Head Start playground. Our partners returned to Head Start with an “inspiration book” created by the ELC teachers that included various photographs of natural playgrounds, park areas, and back yards to identify the elements that they most wanted to install. They spent time pouring over the pages and tagging the elements they felt were the best to provide the Head Start children.

Goals and Context of the Project

In setting out to redesign the outdoor play space at Head Start, the team considered what we knew from research about the value of these spaces for children’s play, learning, and well-being. As described above, the Head Start playground was a relatively small, fenced-in space that included traditional playground equipment, small open areas of grass and mulch, and no shade. The university team, led by Dawn P. Coe and made up of faculty members and students from the Child and Family Studies department and the Kinesiology, Recreation, and Sport Studies department, aimed to not only transform the outdoor space to benefit the children’s play and health, but also to investigate how the changes led to

observable differences in children's use of the space. The benefits of physical activity for young children are well established, including positive weight status, mental health, social, and emotional outcomes, as well as school readiness indicators (Timmons et al., 2012). Recent Institute of Medicine recommendations suggest that childcare settings offer daily opportunities for children to accumulate at least 15 minutes per hour of physical activity, which includes light-, moderate-, and vigorous-intensity activities (Institute of Medicine, 2011). The majority of 3- and 4-year-old children are enrolled in preschool or childcare programs (OECD, 2012). Therefore, these environments have the potential to be an ideal setting for providing physical activity opportunities. This is particularly important for programs that serve at-risk children as these children often experience disproportionately high levels of obesity and poorer health outcomes. We were interested, therefore, in studying playground modifications in a Head Start program, since it is a federally funded program providing educational, physical, social, and emotional support services to nearly one million young children and their families in the U.S. each year.

Outdoor playtime on playgrounds is a critical time for young children to engage in physical activity. The majority of care and school settings for young children typically feature a playground for outdoor play and recess. Natural playgrounds are gaining popularity in early childhood programs (Little, Elliott & Wyver, 2017; Masiulonis & Cummins, 2017; Moore & Cosco, 2012; Nelson, 2012; Rivkin & Schein, 2014). These are typically inspired by features occurring naturally in green spaces and forest areas that include logs, boulders, creek beds, garden areas, and may contain a variety of loose parts for open-ended play. The incorporation of natural elements in playgrounds has been found to have a positive influence on children's motor skill development (Fjørtoft, 2001) and physical activity (Coe, Flynn, Wolff, Durham, & Scott, 2014), as well as cooperative and constructive play behaviors (Kuh, Ponte, & Chau, 2013). Although the benefits of exposure to natural features and engagement on natural playgrounds is well documented, little work has been done to add these features to most playgrounds at child care centers in the U.S.

Informed with this broad view of the potential for natural playgrounds to support both the health and play possibilities for children, the university team initiated pre-intervention data collection and observations of children's play. We needed to collect pre/post data in order to observe how the children's play might be characterized differently after the installation of natural elements on the playground. Our approach involved collecting data on physical activity levels using accelerometers. Additionally, we used direct observation to describe activity behaviors [Observational System for Recording Activity in Children – Preschool, OSRAC-P (Brown et al., 2006)] and play behaviors [Play Observation Scale (Rubin, 2001)].

Meanwhile, the Head Start leaders and the university team met several times between April and June, 2014 to create a vision for the playground transformation. This involved mapping out possibilities to create new elements and replacing existing elements with natural options. The emerging plan took shape as a hybrid of conventional and natural playground designs. The Head Start team identified which

elements would remain, including a swing set, a climber with slides, and a small water table (Figure 2). These were viewed as indispensable parts of the existing playground and ones that children used frequently. Other, less-frequently used elements were identified for removal, including chin-up bars, spring rocking toys, and a seesaw. We planned new natural elements based on the team's prior inspiration from visiting the ELC playground and looking over photos from other playgrounds. The wish list included walking logs, tree stumps, and boulders (Figures 3 and 4). All of these elements would ultimately be included in the new natural playground along with a dry rock creek bed and boxed gardens, a small walking bridge, and a gazebo and trees for much needed shade. The final options were determined through an emerging process of collaboration, community involvement, and feasibility for the space.

Figure 2. The sand and water table from the original playground preserved on the re-designed playground



Figure 3. Boulders and logs added to the Head Start center playground



Figure 4. Natural materials added to the Head Start center playground



Transformation of the Playground

The Partners Through Playgrounds team brainstormed possible programs, businesses, city and UTK departments that might be able to provide in-kind donations or services. Several partners were recruited to assist with the installation of the new elements, donations of materials, and volunteer support. Securing donated services and materials was one of the aspects of this program that worked especially well. Table 1 lists the multiple organizations and contributions made towards the project.

Table 1. Our partners

Americorps
Knox County Head Start
City of Knoxville Urban Forestry Department
Community Volunteers
Kellum's Mulch and Rock
Knoxville's Community Development Corporation
Student Volunteers from UTK and Community Colleges
UTK Child and Family Studies Department
UTK Early Learning Center
UTK Kinesiology, Recreation, and Sport Studies Department
UTK Outreach Incentive Grants

The Partners Through Playgrounds team found that various agencies and businesses were eager to support this project. Timing was also on our side, as the City of Knoxville's Department of Urban Forestry had three large trees scheduled for removal at about the same time of the installation and they were able to donate

and deliver the tree trunks to the site. Additionally, we visited a local mulch and rock supplier to select boulders and river rocks and purchased these at a discounted price. In both cases the Forestry Office staff and mulch and rock business owner agreed to transport these items to the center at no cost. The ELC donated 12 bags of organic soil, and trays of plants were donated by Americorps for the new six garden boxes. Wood to make the boxes, dividers to separate plants, and plants, including some flowers, fruits and fruits and vegetables (i.e. tomatoes, strawberries and peppers) were also purchased and planted. Lastly, a Bobcat and Bobcat operator were loaned to the project from the area Community Development Corporation at no cost.

Installation of the playground took place over two days, on June 7 and 8, 2014. Prior to the installation weekend, tree limbs and stumps, and boulders and river rocks were delivered to the Head Start center. On the first day, old playground equipment was extracted using the Bobcat and a truck, and new natural playground elements were placed. The Bobcat was used to excavate long shallow ditches for imbedding walking logs, digging shallow holes for tree stumps, settling boulders so they would not roll, and placing the heavy objects. Several groups of that included 40 volunteers from a local community college, Americorps, Community Development Corporation, UTK, and Head Start contributed in a multitude of ways by (1) helping navigate and place large playground elements, such as shifting walking logs, pushing boulders, and digging holes; (2) repainting and reinstalling preexisting playground equipment (i.e., swing set and water and sand table); (3) building and filling the garden boxes; and (4) placing river rocks to create the dry creek bed (Figure 5).

Figure 5. Garden boxes and dry creek bed built at the Head Start center



While the majority of the playground transformation was completed over a single weekend, several additional elements were installed afterward. For example, three months later, a pergola was added to provide children with shade. Additionally, later in the fall, the City arborist returned with a gift of six medium-sized, young shade trees.

While a great deal of work was completed over a very short time frame, many pieces of the puzzle had to fall into place on installation weekend to ensure projects could be completed and the best possible use of volunteer services and labor were utilized. Some critical moments of the project involved the coordination of volunteers, donated services, and materials. For example, the removal of some of the existing equipment and the placement of the new equipment needed to be synced over the course of two weekend days so as not to interrupt the playground use by the children during the week. The intensity of the coordination effort was matched with high levels of enthusiasm by all those volunteering and coordinating the installation. Local media came on site during installation and broadcast our efforts on the evening news highlighting the partnerships in the community that contributed to the successful playground transformation.¹

The renovation of the playspace in this program can be viewed as an environmental and pedagogical intervention. As such, we were interested to learn how the changes made an impact on children's activity levels, play behaviors, and playground usage before and after the renovation. During the final stages of installation, the Head Start administrators and teachers noticed an immediate change in children's playground experiences:

The natural elements have added another dimension to the children's play. They are walking on tree branches and jumping off of boulders and watering plants and racing on rocks—yes, racing on rocks! What a benefit to our inner-city children to be able to form a connection to nature in this way.

As noted above, part of our program initiative involved a research project designed to observe possible changes in these areas and determine the effectiveness of the changes. Specific methodology and results from this study will be published in a forthcoming paper.

Building a Play Community Continues

At the close of the project, the Head Start administration noted,

We look forward to our next project together—now that we have established contacts and identified resources throughout the community, and the community has experienced the fruit of their labor, we are ready to tackle our next center playground renovation. This has been a great experience and we can't wait to do it again at the next center.

¹ <http://www.local8now.com/home/headlines/Volunteers-build-natural-playground-in-East-Knoxville-262261621.html?ref=621>

Sure enough, during recent years, two additional Head Start playgrounds have been renovated. In 2016-17 the staff of a second Head Start center located across town next to a city greenway began to clear ground on their traditional playground. Now, children take care of berry patches and flowers and vegetables, ride trikes along a circular mulched path that encircles a centrally located dirt "hill," and balance on walking logs and boulders. During the 2017-18 year the staff and administration of a third center, situated on a partially cleared hill adjacent to woods, transformed their hilly and sparse playground to include much-needed shade, a flattened area for a new bike trail, large rocks, walking logs, a new water spigot for making mud pies. Graduate students in the UTK Child and Family Studies Department raised \$130.00 through a campus popsicle fund-raiser to pay for the creation of a highly desired children's "mud kitchen."

Project Summary

Partners Through Playgrounds was able to accomplish three over-arching aims. This program enabled the creation and fostering of partnerships between the university and community that continue to flourish. The local media provided coverage of the program, relaying information to families, educators, programs, and communities in the region that first, all young children can benefit from natural playscapes and second, that community engagement is an answer to meet this need, especially for underserved child populations.

Implications

The Partners Through Playgrounds program illustrates a community-based effort to bring about changes in the environment that have the potential to positively influence the learning and development of young children. With limited funding, the *Partners Through Playgrounds* team and community partners were able to join forces to provide Head Start children with a renovated play space that included natural elements. This playground transformation can be used to enhance not only the physical activity and play behaviors among children, but also expand upon the preschool curriculum. For example, the addition of garden spaces can be used to cultivate reading, math, and science skills (Vandermaas-Peeler & McClain, 2015). Implementing these types of changes in the outdoor environment can be very cost-effective through the solicitation of donations, community partners, and hard work by all involved. Creating functional outdoor spaces in which children can play and learn will enrich their preschool experience and their physical and cognitive development (Gill, 2014). Planning committees for these renovations should take into account the current environment, the needs of the facility, the age and interests of the children, and the funding/community partnerships available. These factors were instrumental in the creation of the Partners Through Playgrounds program and the success of the playground renovation.

Mary Jane Moran is a professor in the Department of Child and Family Studies within the College of Education, Health, and Human Sciences at the University of Tennessee, Knoxville. Dr. Moran is also the Department Head and the Director of the Teacher Research & Documentation Center. Dr. Moran's research focuses on the professional development and critical reflective practice of early childhood teachers.

Specifically within this area, Dr. Moran is interested in the development of inquiry-oriented teaching achieved through teachers' critical analyses of their classroom practices.

Robyn A. Brookshire is the Director of the Early Learning Center for Research and Practice at the University of Tennessee, Knoxville. Dr. Brookshire's work focuses on the professional development and growth of early education teachers. Dr. Brookshire utilizes influences from Italian early care and nature-based pedagogy as the foundation for the educators within the center.

Dawn P. Coe is an associate professor in the Department of Kinesiology, Recreation, and Sport Studies within the College of Education, Health, and Human Sciences at the University of Tennessee and a Fellow in the American College of Sports Medicine. Dr. Coe's research focuses on physical activity behaviors related to the outdoor environment as well as the roles physical activity and physical fitness play on youths' academic performance.

Jennifer Oody Flynn is an assistant professor in Exercise Science at Maryville College. Dr. Flynn's research focuses on the influences of the family on children's outdoor time, physical activity levels, and health-related outcomes. Additionally, her research focuses on how outdoor time can be used to increase the physical activity levels of children and adolescents.

Meagan Green Shideler holds an M.S. degree in Child and Family Studies from the University of Tennessee, Knoxville. Ms. Shideler currently holds the position of Early Childhood Intervention and Prevention Program Coordinator at the Helen Ross McNabb Center in East Tennessee overseeing a variety of programs at this facility.

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