

Caring For Colorado Grant Report Narrative

Learning Landscape Initiative Eagleton, Munroe, and Remington Elementary Schools

1. What did you seek funding for?

Since 1998, through a successful collaboration between multiple stakeholders, the Learning Landscape Initiative has transformed neglected Denver elementary school playgrounds into attractive and safe multi-use playgrounds that are tailored to the needs and desires of the local community. This program has been sponsored by a broad-based, public-private partnership and directed by expert faculty and masters-level students from the Department of Landscape Architecture at the University of Colorado at Denver. The Learning Landscape Initiative transforms playgrounds by creating fun, participatory play areas that encourage outdoor play and learning, improve opportunities for physical activity for children of all ages, “green” the grounds, and facilitate community ownership and use of the playgrounds.

The funding from the Caring for Colorado Foundation utilizes the Learning Landscape Initiative as a catalyst for uniting health professionals, urban planners and designers, and educators to assess the strengths and weaknesses of the current educational policies and programs at Denver Public Schools as they relate to the promotion of physical activity and healthy nutrition among elementary school students. This assessment also examines how the Learning Landscapes are used in relationship to promoting children’s physical activity. This project seeks to use the knowledge gained through the assessment process to create and implement pilot site-based physical activity and nutrition programs at three Denver elementary schools: Eagleton, Remington, and Munroe. Ultimately, the results of this study are intended to inform future decision making with regard to physical activity and nutrition curriculum and policies.

2. What is the target population served by this grant (geographic region served, demographic make-up of program participants etc.)?

The target population served by this grant is elementary school children from Eagleton, Munroe, and Remington Elementary Schools. These schools are located in West and Northwest Denver and serve rapidly expanding, ethnically and racially diverse student populations, and they face difficult social and economic problems.

Eagleton Elementary is an urban school located in the northwest section of Denver and had a population of 484 students in the 2003-2004 school year. Ninety-six percent of students at Eagleton are Hispanic and 51% are English language learners. Ninety-three percent of Eagleton students qualify for the free or reduced lunch program.

Munroe Elementary, located in the Westwood neighborhood in West Denver, served a large and rapidly expanding student population of 605 students during the 2003-2004 school year. Ninety-four percent of students at Munroe are Hispanic and 62% are English language learners. Ninety-seven percent of Munroe students qualify for the free or reduced lunch program.

Remington Elementary School is located in northwest Denver and had a student population of 331 during the 2003-2004 school year. Ninety-one percent of Remington students are Hispanic, 40% are English language learners, and 97% qualify for free or reduced lunch.

3. List each of your project’s objectives (from the grant proposal). Describe the progress you have made toward each objective, including any relevant data.

Children, Youth and Environments Center for Research and Design
Learning Landscape Initiative

Objective 1: Join with health, education, design, and community development professionals and other stakeholders to collaboratively supplement current knowledge about the links between increased physical activity, decreased obesity, and improved health status.

- An extensive literature review was undertaken during August 2004 to understand how playground improvements are expected to impact children's physical activity levels (see Attachment A).
- In the fall of 2004, an advisory committee composed of health, education, and design professionals was formed to identify the specific steps for meeting the objectives proposed in the project plan for the Caring for Colorado grant. Members of this committee met several times and also provided information regarding the district, state, and national standards for physical activity with elementary school children. The committee includes the following members:

Lois Brink, M.L.A., Director Learning Landscape Alliance, University of Colorado at Denver

Jim Hill, Ph.D., Director, Center for Human Nutrition, University of Colorado Health Sciences Center

Beverly Kingston, Ph.D., Project Director, Children, Youth and Environment Center for Research and Design

Eric Larson, Director of Physical Education, Denver Public Schools

Ed Melanson, Ph.D., Assistant Professor, Division of Endocrinology, Metabolism, and Diabetes, University of Colorado Health Sciences Center

Bambi Yost, Project Manager Learning Landscape Alliance, College of Architecture and Planning, University of Colorado at Denver

Objective 2: Identify potential program, curriculum, and policy interventions after gathering and analyzing relevant data about each school's physical environment, physical education curriculum, and the student's physical activity awareness and fitness levels.

- Assessment of the physical environments from each site took place between November 2004 and March of 2005.
 - The assessments utilized the DPS Site Assessment "Kit of Parts" Survey. This survey provides an understanding of how physical activity is influenced by type, quality, user capacity, and location of traditional play equipment, non-traditional play areas, and other elements.
 - A Play Equipment Rating Matrix developed by Denver Public Schools, play equipment vendors, and the University of Colorado faculty was also used to determine the effectiveness of installed play equipment.
 - Safety Assessment Forms were utilized to determine whether there was a need for the replacement of equipment.
- Assessment of the physical education curriculum and current policies regarding physical activity at each of the schools:
 - A series of meetings were held in April and May of 2005 with the PE teachers from Eagleton, Munroe, and Remington to discuss:
 1. Their current physical activity curriculum
 2. Their perceptions of the playground equipment in terms of what is working well and what needs to be improved in terms of physical activity opportunities
 3. A list of possible physical activity interventions involving the playgrounds.
 - These meetings allowed the interventions to be tailored to the needs, resources, and policies that are specific to each site.
- Assessing the fitness level of the students

Children, Youth and Environments Center for Research and Design
Learning Landscape Initiative

- A questionnaire was developed and administered to 3rd through 5th grade students at Eagleton, Munroe, and Remington to assess children's attitudes towards physical activity and their physical activity levels (see Attachment B).
- Qualitative data was collected based on observations of the student's playing on the playground during recess and PE classes.

Objective 3: Experiment with creative and motivational site-based strategies promoting physical activity. Integrate those site-based physical activity programs that are deemed successful into the school's physical education curriculum or after school program.

- From April to June 2005, two program interventions were implemented at Eagleton, Munroe, and Remington. These interventions involved children in grades 3 to 5 and included the following:
 - A pilot warm-up circuit program as part of the regularly scheduled physical education classes using the outdoor playground equipment. This program aims to increase awareness of play equipment, improve attitudes towards physical activity, and increase levels of physical activity. There was consensus among the three PE teachers and the Director of Physical Education for the District, Eric Larson, that this type of intervention could be implemented with the least amount of disruption to each school's physical education curriculum.
 - Interactive art projects including the creation of an outdoor community service banner for display on each playground. The students were presented materials provided by the Department of Health on nutrition and physical activity. After learning about these topics students designed and painted a mural that reflected what they learned and provided a public display for the community to observe.
- Documentation to evaluate the effectiveness of these interventions includes photos, a series of evaluation questions listed below, direct observation, and the physical activity questionnaire discussed above.
 - Results from the physical activity questionnaire are still being analyzed and will be included in a report highlighting the results of this study that will be developed for the participating schools, Denver Public School administrators and the Denver Public Schools Physical Fitness and Nutrition Committee.
 - Evaluation questions included the following:
 - *Who did the program serve?* All 3rd to 5th graders at Eagleton, Munroe and Remington Elementary Schools.
 - *Did the PE teachers demonstrate support for the program by implementing the warm up circuits and tests into their existing curriculum?* Yes, at all schools. Eagleton had the greatest participation among students and included students in the organization and leadership of the circuit activities. Remington only tried the circuit with one 3rd grade class. Munroe implemented the circuit with 3rd graders but all classes participated. Both Remington and Munroe PE teachers felt that doing circuits on play equipment with older students was more dangerous than with younger students. They said that since 3rd graders use the equipment more than 4th and 5th graders, they were less likely to be injured doing circuit activities. A perceived "fear factor" seemed to affect teacher responses to the circuit curriculum even though there have not been any documented injuries related to 4th and 5th graders playing on the equipment.
 - *How many students participated in the warm up play equipment circuit activities?* Eagleton = 100% of all 3rd-5th grade students (195 students); Munroe = 100% of 3rd graders or 37% of all 3rd 5th

Children, Youth and Environments Center for Research and Design
Learning Landscape Initiative

grade students (110 students); Remington = 1 class of 3rd graders or 19% of all 3rd-5th graders (24 students)

- *To what extent were the persons served representative of the target population?* 100%
- *What activities were promoted and how were they implemented?* These playgrounds have been in place upwards of three years. This was the first time that the teachers considered the value of the play equipment as a teaching tool for prescribed physical education curriculum. Murals reinforced this value and were created at each of the schools. At Eagleton we worked with students in 3rd through 5th grade who participated in the Denver Scores after school program. The murals served as part of their community outreach component. Eagleton does not have an art teacher so this was one of the only art projects these children participated in all school year. At Munroe we worked with interested students who stayed after school for 2 days to plan and paint banners. At Remington, we worked with the school art teacher who designed the banners and had the 3rd grade students help paint them.
- *Were the program activities implemented as intended?* Yes, since the program was designed for each school to determine and to direct their circuit activities. This meant the program was flexible and tailored to meet the needs of each site. Eagleton displayed the highest level of comfort with using play equipment for PE class. Remington was the least comfortable. In part, this was due to very different teaching philosophies and site conditions. At Eagleton elementary PE class time is shared with art and music. This means that a child only gets PE for two weeks out of a six-week cycle. At Remington the teacher has developed a very tight schedule that allows each child to have PE every day. It is difficult with a schedule this tight to embrace change. We respected that. Additionally, we have concluded that the different play equipment designs and the spatial layout of the playgrounds at each school affected use. Eagleton has more play equipment whose design was better suited for use as a circuit than Munroe or Remington.

Art projects were led by UCD independent study students and Bambi Yost, the project manager, as well as by the art teacher at Remington and implemented as intended.

- *How much of the program activities did various participants receive?* For the PE circuits, program activities lasted for 6 weeks at Eagleton, 1 day at Remington, and 1 week at Munroe. The activities were shorter than originally anticipated due to CSAP timing, scheduling conflicts with testing in the PE curriculum, weather, and other factors beyond our control like field trips and school events. Educational art projects lasted 1 week at Remington, 2 days at Munroe, and 2 weeks at Eagleton. All of the banners created are on display outside the school in an effort to increase community awareness about healthy living and eating.

Objective 4: Use findings to inform educators, administrators, policy makers, health and design professionals, researchers, and community members about how social and environmental context can influence children's physical activity.

While preliminary, findings from this research will be publicized through several venues:

- An abstract for a poster presentation was accepted for the Active Living Research Conference to take place in February 2006. This annual conference provides a forum for researchers interested in active living to share findings and be informed of the latest thinking, methods and research on policy and environmental issues related to physical activity.

Children, Youth and Environments Center for Research and Design
Learning Landscape Initiative

- A report highlighting the results of this study will be developed for the participating schools, Denver Public School administrators, and Denver Public Schools Physical Fitness and Nutrition Committee.
- Information from this study has already and will be used as a basis for future grant applications relating to Active Living Research and physical activity curriculum.

4. What are the next steps or activities for your project?

- Create a list of recommendations on how specific equipment and its spatial arrangement can be integrated into the physical education curriculum. This information will be incorporated into future playground designs with the district. It is intended that we will apply for a PEP grant that will examine the opportunity for district wide implementation for warm-up circuit training at elementary schools as part of the physical activity curriculum.
- Bambi Yost, the project manager for this grant, is currently encouraging the participating schools to write grants to fund pedometers for students in their school. The pedometers will continue to focus children's attention on physical activity and the children will gain the ability to track their own physical activity levels.
- The Learning Landscape Initiative has recently received funding from Active Living Research to evaluate the impact of the playgrounds on children's physical activity levels using direct observation at nine Denver elementary schools. This project began in May of 2005 and will continue through May of 2007. It is intended to further knowledge regarding how playgrounds can be utilized to increase children's physical activity levels.
- The Learning Landscape Initiative is also seeking funding to pilot an integrated nutrition program at Philips Elementary School. The purpose of this program is to create a model for the integration of the delivery of school and community based nutrition programs and physical activity opportunities to provide the most effective services to children, families, and communities. Partners in the initiative include the Learning Landscape Initiative, Integrated Nutrition Program, Healthy Eating by Design, Slow Food, and Denver Urban Gardens.
- We will continue to document and publicize policy changes in relation to physical activity and nutrition that may result in the aftermath of this project.

5. What has worked well with your project?

- Building collaborative relationships
- As explained in Objective 1, an important goal of this project was to build a collaboration of professionals from a variety of fields focused on increasing physical activity and decreasing obesity among children. This has been successfully achieved and the Learning Landscape Alliance has an excellent working relationship with nutrition and physical activity experts in the health science center. We have also developed a good relationship with the director of the physical education for the district. As the director, his buy-in regarding the incorporation of the Learning Landscapes into the physical activity curriculum is critical to its implementation throughout the district.
- Collaborative relationships have also been developed with the PE teachers at each of the three target schools. This aspect of the project was one of the most time consuming and difficult to achieve. Rather than coming into the schools and imposing the curriculum, the Learning Landscape staff on this project spent a lot of time meeting with PE teachers and school

Children, Youth and Environments Center for Research and Design
Learning Landscape Initiative

administrators and listening to their feedback about the playgrounds. This created an open honest dialogue about what was and was not working on the playgrounds.

- Increased awareness and understanding of the policies that influence how the playgrounds are used
 - Through the meetings with the PE teachers and school administrators at all three sites, we learned that there is a lot of variation in policies regarding the playground. For example, at Remington they are very fearful for the children's safety and the possibility of law suits if the children get hurt, so they strongly limit the activities of the children. This was not uniform across the three sites. The PE teacher and principal at Eagleton had few restrictions on the activities of children on the play equipment.
- Changing perceptions of the PE teachers regarding the Learning Landscapes
 - At first the PE teachers were very resistant to the idea of implementing the circuit warm-up for their classes, in part because they did not realize it met the DPS regulations for physical activity. However, the buy-in of the director of physical education for the district, Eric Larsen, helped to overcome this obstacle and the PE teachers began to see the value in implementing the circuit.
- Student satisfaction and increased physical activity
 - Reports from the students confirmed that they enjoyed participating in the playground circuits. Students liked being outside and they had fun doing something different than usual during PE class.
 - About 10- 15% of students continued to practice the circuit on their own during recess.
 - The circuit involves a lot of physical activity. PE teachers reported the students were exhausted from participating in the circuits. This reveals that the circuit activity really challenged the students' in terms of the level of physical activity it offered. Often during the traditional activities implemented during PE class children are only physically active for short time periods. A lot of time is spent waiting for a turn or listening to directions. The circuit appears to be a useful activity because many kids can be involved at one time in sustained moderate to vigorous physical activity.
- Leveraging the successes on this project to obtain other funding
 - We attribute, at least in part, the fact that we received the prestigious Active Living Research grant from the Robert Wood Johnson Foundation to the groundwork that had been laid as a result of the Caring for Colorado project.
 - Since we have developed collaborative relationships between health sciences, the Learning Landscape Alliance, and DPS we are now in an ideal position to work collaboratively to apply for future funding to support programs and research aimed at increasing children's physical activity levels, improving nutrition, and ultimately improving the overall health of the target population.

6. What challenges have you experienced in implementing the project?

- Resistance to the initiative from the PE teachers
 - The PE teachers were reluctant to changing their curriculum. They expressed concerns as to whether the circuit program would meet the curriculum standards of DPS.
 - The PE teachers also varied a great deal in their teaching styles, which seemed to also contribute to their enthusiasm and willingness to implement the curriculum.
 - They also expressed safety concerns and concerns with liability if a student was injured on the equipment.
- Scheduling challenges

Children, Youth and Environments Center for Research and Design
Learning Landscape Initiative

- Teachers are extremely busy and overwhelmed with their day-to-day responsibilities. It was difficult to actually find times to communicate with the teachers and to schedule days to educate the PE teachers on the curriculum.
 - As a result, there was only a brief window of time for actual program implementation (May and June 2005).
 - Spatial challenges
 - The playground designs at the three schools are quite different. As the warm-up circuit was implemented at each site, it became clear that some playground designs are more conducive than others to creating an effective circuit. This finding is important for informing the design of future playgrounds.
 - Despite these challenges, the project manager worked closely with the PE teachers to design a warm-up circuit that would still be useful for their school.
- 7. How has the health of your target population improved (or how will it improve) as a result of the grant?**

Because of the short duration of the actual implementation of this project, it is unlikely that the health of the population improved during the project period. However, we believe that this project has initiated a course of action at both the school and district levels that involves utilizing the Learning Landscape playgrounds to promote physical activity and nutrition. As children become more physically active, their health is likely to improve.

8. Is there anything else you want to tell us about your project?

At the onset of this project we were uncertain as to what would be the most effective way to understand how quickly and efficiently the new Learning Landscape playground could impact physical education. To our delight the warm-up circuit emerged out of our discussions and seems to have immense benefits for increasing the physical activity levels of children. This funded effort has allowed us to see both the possibilities and the challenges involved in impacting children's physical education. This will position us quite well for the next level of research regarding the Learning Landscapes.