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Interdisciplinary Academic and Community Partnerships to Promote Child Well-being at School: The Outdoor Classroom

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ABSTRACT

This community-based participatory research (CBPR) project involved academic-community partners working together to design, build, and implement an outdoor classroom at a local elementary school to improve the school environment and foster child health and learning. A two-week pilot period took place prior to implementation and formative research was gathered. The formative research findings revealed that the school partners had initial concerns with the environmental conditions and outdoor classroom space, timing of the program within the school day, and materials in the outdoor classroom. The concerns were reported and addressed. The participating teachers completed a survey and reported satisfaction with the partnership and offered further suggestions for the future. This partnership provides important lessons learned for public health practitioners and applied researchers.

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BACKGROUND

This Community-Based Participatory Research (CBPR) project involved academic-community partners working together to design, build, and implement a nature contact intervention for children at a Northeast Florida elementary school. A CBPR approach was used to facilitate mutual benefit among the community and academic partners and to ultimately foster engagement, translation of science into practice, and health and quality of life for school-aged children (Israel et al., 2008; Wallerstein & Duran, 2010). The nature contact intervention in this study was an outdoor classroom to be used in place of a standard indoor classroom. The outdoor classroom intervention was grounded in ecological theory (Meyers & Hickey, 2014) and on previous findings on the importance of nature contact for child health, development, and learning (Frumkin, 2001; Larson, Green, & Cordell, 2011; Louv, 2005). The intervention was designed to increase children's exposure to nature contact while, at the same time, maintaining the instructional curriculum and meeting instructional needs. In other words, the outdoor classroom was designed as an environmental health promotion effort that allowed children to increase

daily nature contact just by having class instruction in a defined outdoor classroom space.

Literature Review in Brief

From an ecological perspective, the school's structure, physical environment, and infrastructure are powerful determinants of child health and well-being. The school space impacts school culture around health, contributes to facilitation of or impediment of health behaviors, and can impact a child's perception of stress and well-being (Meyers & Hickey, 2014; Sallis, Owen, & Fisher, 2008). Past findings suggest that environmental exposure to the outdoors ("nature contact") at school is important for child health. For example, young children that spent more time outdoors at school experienced less hyperactivity and better attention than their counterparts (Ulset, Vitaro, Brendgen, Bekkus, & Borge, 2017). Findings like these highlight the importance of outdoor or "green play" at school. However, whole-child, nature contact initiatives such as green play can be a challenge for schools today because of the increasing emphasis on assessment of student learning and resource-related constraints (Bohn-Gettler & Pellegrini 2014; Council on School Health, 2013). These school pressures pose challenges. This interdisciplinary

academic and community partnership developed an innovative nature contact intervention – an outdoor classroom – because it had the potential to provide a “large dose” of outdoor exposure without disrupting instructional plans and realities.

PURPOSE

The purpose of this study was to explore the effectiveness of the interdisciplinary academic and community partnership and approach.

METHODS

This community-based participatory research (CBPR) project involved academic-community partners working together to design, build, and implement an outdoor classroom at a local elementary school. The classroom was designed to be used for daily literacy lessons among the kindergarten classes, as part of a larger study. University researchers (n=6), university facilities and landscape personnel (n=1), the school’s administration (n=1) and teachers (n=5), and parents of the kindergarten children participating in the study (n=36) partnered to design and build an outdoor classroom (Figures 1 and 2).

After the construction of the outdoor classroom, a two-week pilot period took place prior to implementation of the outdoor classroom for daily literacy instruction in the kindergarten classes. Formative research focused on the project partnership and approach was gathered during the two-week pilot period and modifications were made prior to implementation. Also, a meeting among partners (researchers, teachers, principal) was held to gather input and answer questions. After implementation, the participating teachers completed an online survey. The survey consisted of five essay questions related to recommendations related to practical application and best design for teachers and children.

RESULTS

The pilot test formative research findings revealed that the teachers and principal had concerns with the environmental conditions and outdoor classroom space, timing of the program within the school day, and materials in the outdoor classroom. The specific concerns included: disruption from researchers observing lesson, need for more shade, more definition of space of the outdoor classroom, heat, flying insects, dirt and ground cover, uncomfortable position of the chalk board for teacher writing, self-selected seating, and need for consistent and familiar materials. The concerns led to changes during the pilot test including: the researcher observers moved back to reduce potential distraction, the schedule changed from afternoon to morning data collections, three pop-up tents were added to protect from direct sun and insects

from an overhead tree, the circular boundary of the outdoor classroom was made tighter with a definable entrance, the ground was covered with playground-safe mulch and maintained, the chalk board was raised to teacher height, assigned seating for the children was implemented, and additional writing materials were purchased.

In addition, a partners’ meeting was held to gather input and answer questions. The partners’ meeting, including the researchers (n=3), participating teachers (n=5), and principal (n=1), revealed that there were unanswered questions. Despite working together on the development of the study and classroom, the teachers reported that the meeting was helpful because they needed more information about the purpose of the study and the timeline.

The results of the post-test online survey revealed that teachers were generally satisfied with the partnership and provided recommendations for the future in essay format. The recommendations for future partnerships consisted of design issues and involving the children more by including them in set up and clean-up of the space (Figure 3).

DISCUSSION

Effective academic and community partnership is an essential component of applied CBPR projects. Evaluating the academic – community partnership is central to advancing evidenced-based CBPR methods, research, and outcomes. Lessons learned, both the good and the bad, from this study should inform future academic-community partnerships (Israel et al., 2008; Wallerstein & Duran, 2010). The “good” lessons or successful strategies employed in this study included: initiating communication among all stakeholders from the start, involving all stakeholders in the study protocol and building the space, and daily and regular teacher – research contact and communication for meaningful formative data collection. These are critical steps that should inform future outdoor classroom or school-based applied studies. The “bad” lessons or unsuccessful strategies employed in this study included: need to facilitate focus groups among partners and stakeholders as the first step of the planning and need to jointly identify a method for the school (teachers and students) to practically use the outdoor classroom without being dependent on researchers’ assistance in setting up. In addition, children (students) should be more formally included in the process.

The findings from this study highlight the importance of fostering academic-community partnership through formative research. In this study, the concerns revealed during this formative research pilot phase were addressed, and post-test data revealed satisfaction with the partnership.

Figure 1. Outdoor Classroom formative (pilot-Left) and implementation (final-Right)



Figure 2. Teachers, parents, researchers, children/students at school, and neighbors building the *Outdoor Classroom*.



Figure 3. Teacher feedback on study and partnership

Concerns Reported: disruption from researchers observing lesson; need for more shade; more definition of space of the outdoor classroom; heat; flying insects; dirt and ground cover; uncomfortable position of the chalk board for teacher writing; child-selected seating; need for consistent/familiar materials

Changes Prior to Implementation: research observers moved farther away from the teacher/children and were very careful not to make noise or distract the children; a change in data collection schedule from afternoon to morning lessons and data collections; the addition of three pop-up tents to protect the children and teacher from any direct sun and from some insects falling from an overhead tree; circular boundary of the outdoor classroom was made tighter with a definable entrance; ground was covered with playground safe mulch and maintained; chalk board was raised to teacher height; assigned seating was implemented; additional writing materials were purchased

Suggestions for Future: larger space so students have more individual space; involving the students in the daily use of the outdoor classroom by helping set up and pick up

IMPLICATIONS FOR PUBLIC HEALTH PRACTICE

The primary goal of public health education is to facilitate lasting behavior change. It is widely established that efforts must be easy and practical in order to be produce lasting, sustainable health and lifestyle changes. Initiatives such as “Health by Design” and “Healthy People in Healthy Places” highlight the need for health education efforts to include environmental contexts to further facilitate lasting health and health behavior changes (Largo-Wight, 2011). Creating places that facilitate health and health behaviors by making healthy options, exposures, behaviors easy are some of the most promising and innovative approaches in public health. This is especially true in schools. “Coordinated School Program” and “Whole School” initiatives further reinforce the importance of the environment on children’s health, behavior, and well-being (Jones, Axelrad, & Wattigney, 2007; Kolbe, Allensworth, Potts-Datema, & White, 2015).

Such lasting efforts require coordinated and interdisciplinary approaches between academic and community partners. Public health practitioners and researchers should build interdisciplinary academic partnerships and build relationships and partnerships with community stakeholders. School-based public health research focused on child health should involve community members and representatives, school administrators, school teachers, parents, and children in all aspects of the research. Partners should share ownership and decision making with the ultimate goal of improving health and quality of life among children in the school (Israel, 2008).

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