1. Title

Case Study on Boston Schoolyard Initiative

2. Location and Dates of Operation

The Greater Boston Area, 1995-2013

3. Abstract and Keywords

Top-down program, public-private partnership (PPP), outdoor classroom, community-based planning and design

4. Type of Case: Green School

The purpose of the Boston Schoolyard Initiative is well-captured by the vision set forth by most green schools, which aim to create resilient and ecologically-sensitive landscapes that in turn serve as places for learning and self-discovery.

5. Mission and Goals

According to BSI, the mission is to transform Boston's schoolyards from barren asphalt lots into dynamic centers for recreation, learning and community life, to engage students, staff, family and community for increased physical activity and creative new approaches to using the schoolyard for teaching and learning.

6. Context: Origins, Organization, and Operation

The BSI was initiated by the previous Mayor Thomas Menino collaborating with the Boston GreenSpace Alliance and the Urban Land Use Task Force. It started with several public and private sectors working together including the Mayor's office, Boston Public Schools(BPS) and the Boston Schoolyard Funders COllaborative, individuals including public artist Ross Miller, urban environmental health expert Dr. Russ Lopez, and several management, design and construction firms and non-profits.

7. Programs

- Average timeframe: 2-3 years.(5-8 years according to BSI's website, and we do get different feedback from interviewers, who mostly claimed an average timeframe less than 4 years)

8. Assessment

Strengths:

- "learning landscapes" become an asset for the whole community.
- Reliable public-private funding model. Grant application requires schools to take initiative in developing unique, site-specific projects.
- Detailed documentation in design guidelines is produced and successfully guided later projects to carry the same scheme, such as outdoor classrooms.
- Successfully transformed 88 schoolyards into physically more permeable, environmental friendly and lively space for kids in a relatively short period of time

Weaknesses:

- Gap in information. No one knows how much things cost. A lot of trial-and-error. Downscaling becomes commonplace.
- Funding model creates limitations, e.g. state is strict about hiring consultants; only *private* funding allows schools to hire consultants.

- Funding model only plan for the construction part without thinking in long-term maintenance and training.

Opportunities:

- Incorporate green technology into buildings (e.g. energy-efficiency)
- More Community engagement is expected.
- Time-based use of the schoolyard as public gathering place has its potential.

Threats:

- Maintenance. Typically, schools transfer maintenance responsibilities to volunteers and/or custodial staff, however, this is not always the case…
- Lack of professional trainings for faculty and staff

9. Lessons for Philadelphia

Notes from a conversation with Russ Lopez:

- It's important to have a school principal who is closely involved with the project.
- It's most beneficial to students when teachers design their curriculums around learning opportunities in the schoolyard.
- Expect a lot of trial-and-error.
- Funding programs should require each school to get know their own site and develop their own plans to address to site-specific challenges.

Notes from a conversation with Holly Ben-Joseph:

- A green school: an opportunity for children to be immersed in nature.
- Challenges include a recent "boom" in "green schoolyards", which has subsequently led to new building codes that restrict the design of play yards. Safety rules limit creativity in designing interesting nature-based play yards for children.
- As people grow increasingly invested in the idea of "nature spaces", their conception of a "nature space" becomes a man-made, highly designed space in nature. There's less focus on using nature as a playground.
- Another challenge is getting staff on board with nature-based play yards. Teachers and administrators tend to be risk-averse; schools try to limit their liability. However, risks are inherent in most nature-based play yards. In fact, some risks are beneficial to children, who are curious and tend to learn quickly. By contrast, man-made play structures often become boring to children, who then try to play on the structures in ways it was not designed for, making it riskier for children.
- Another challenge: Public schools that are cash-strapped don't necessarily see the value in nature-based play. They'd rather invest funding in other resources, such as textbooks, teacher support, etc.
- Goals of designing a nature-based play yard: To provide quiet time for full immersion in nature. For children who enjoy art and/or building things.
- **Recommended reading:** 'Last Child in the Woods' by Richard Louv

Photo: Holly's work at the Beacon Hill Nursery School. The design transformed a small, asphalted parcel into a natural environment that includes sand and water play, gardening, a climbing and rolling hill, and a stage for performances. The resulting yard invites children to play in an open-ended way while learning and interacting with nature.

Notes from a conversation with Ross Miller:

- Historically, there's been a focus on urban play, little attention on nature play
- In most schools where I have worked on, 80% of children are on free, reduced lunch
- Most kids that attend urban schools have very limited access to nature
    - Their parents generally don't like kids playing outside
- Outdoor schoolyard play (having structured play things… which over time evolved into the idea of bringing nature into the schoolyards… nature-based school yards require more maintenance, and is scary for teachers who have to assume risks inherent in students playing in nature)
- Some schools don't have "recess"
- Elements of a green schoolyard typically include: native plants, sundials, bugs, ring of stones, planting beds…
- Green schoolyards weren't being used (only occasionally by science teachers)
- We realized that teachers don't have much experience teaching outdoors
- So we designed full-day workshops to teach teachers (raising funds from different foundations for professional development programs; funds for paying teachers to come to workshops)
    - Incentive for teachers: They receive "professional development points" for accreditation
- Another challenge: Parents these days don't bring their children to the arboretum, because their kids may ask them questions they don't necessarily know the answers to.
- Schoolyards with public art (sculptural element, murals, gate) received better care and maintenance.
- **Recommended reading:** Design Workbook on Boston Schoolyard Initiative website

Notes from a conversation with Jason Gallagher (Principal at Harvard-Kent School)

The process of making a schoolyard

- Funding: BSI project, applied grants from private donation and the city's public school dept. During the 1st round it was more the planting works, and left more work to be done; then additional funding was found by working with the Mayor's office to finish. The school kept updating the yard every year and it's always a work in progress.
- Approach: the school's teachers, parents and students are working with local architect and landscape architects, and they got a lot of sayings to realize in the design part.

Success

- The biggest success was to turn the concrete/asphalt yard which has been 35 years into a livable, pretty gathering place for both the school and the communities.Teachers and students have very positive reaction. Principal was happy to be part of the team but had not to push really hard.Community nearby loves the look of the new yard.

Environmental education

- Outdoor classrooms are heavily used for both science and literacy class, on studying rocks, plants, bio-degradation; reading/writing class

Challenges

- Maintenance; no professional service, not enough knowledge for landscaping and plants: custodians only take care of the trashes, with no knowledge on plantings, community group come in and help clean up but nor on a regular basis (usually in summer and before spring)
- Winter weather can be a challenge but teachers still take kids outside to observe.
- (EINC http://www.einc-action.org/, Charlestown-based environmental education center, "Kids Greening their Schools", professional trained teacher gave year-round classes for 1-5th grades, activity-based lessons, will use the outdoor classrooms)

'Green School' definition: energy-saving, sustainable recycling, green spaces (He talks about green roof, too), which is not closely associated with the schoolyard so far.

Photos: The Harvard-Kent Schoolyard in the sunlight, featuring painted playground in curvy shape, photo credit Colleen Xi Qiu.

1. Title

Gardner Pilot Academy: a tour with green schoolyard designer Ross Miller

2. Location and Dates of Operation

the Greater Boston Area, since 2000

3. Abstract and Keywords

city-initiated pilot project, public-private partnership (PPP), outdoor classroom, place-based learning, environmental literacy

4. Type of Case: green schoolyard and outdoor classroom

Gardner Pilot Academy has part of the open space renovated into a gated garden, used as an outdoor classroom. Harvard-Kent Elementary School has a new outdoor classroom replacing what had been a rusty, dilapidated chain link fence and basketball court.

5. Mission and Goals

Resonating BSI, this pilot project was one of the first five projects to carry out the mission of transforming Boston's schoolyards from barren asphalt lots into dynamic centers for learning and community life and to engage students, staff, family and community for new place-based approaches of teaching and learning in a more natural setting.

6. Context: Origins, Organization, and Operation

The Gardner Pilot Academy, a brick building sitting on a asphalt lot, was built in 1910 as one example of "factory model of education." Its building typology resembles a factory in the industrialized society during the twentieth century. It was designed to train students with rural background to get used to "clocked" schedule and to promote efficiency. Originally, the ground was paved with bricks and was pervious, but later was renovated and covered completely by asphalt. About 18 years ago, some students' parents expressed their dissatisfaction towards the built fabric at school and urge to have the environment improved. The city responded to such calls and initiated the BSI seeking to impact all 88 schools in Boston. The strategies is to convert gray infrastructure into green infrastructure gradually and incrementally. Artist Ross Miller let a group of activists, design and built the outdoor classroom in this school.

7. Programs

Describe the programs. Include images.

- The school is built within 2-3 years with a small budget (25,000 to 35,000 dollars).
- Ross would encourage teachers to use the classroom by introducing curriculum examples and demonstrate to the teachers how to use the classroom.
- The goal of the classroom is not only bringing a variety of vegetations and living forms, but also create a habitat.
- Ross carefully selected the kinds of plants and trees to include in the schoolyard, and planted them a way that resembles the wild conditions.
- He also brought in a variety of rocks, gravels, tree stumps, and planters to shape and divide different areas of the outdoor classroom for various learning activities, such as sit and observe, round-table discussion, writing platform, crawling area, digging conner, and so on.

- There are different naturally rotting substances hidden in the corners of the schoolyard, which attracts worms, insects and birds.
- Additionally, Ross designed an armature, placed in the center of the classroom with scientific equipments attached to it for measurements of wind, sun, rain, and temperature.
- Overall, the classroom is fenced with a carefully designed gate.

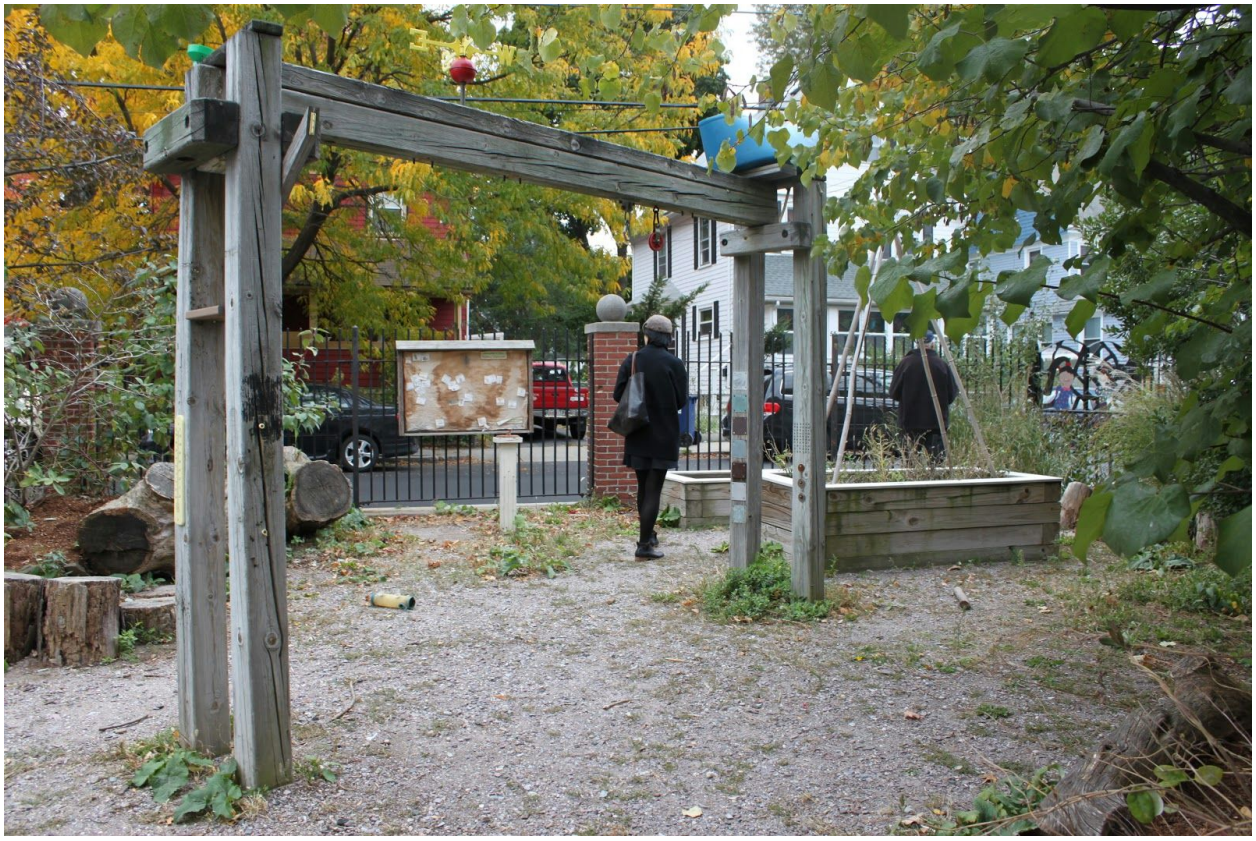

No Smoking
WELCOME
Gardner
Pilot Academy
ENTRANCE


STOP


STOP


SPARK
START


GO

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8. Assessment

Strengths:

- The outdoor classroom becomes an asset for the school to promote environmental literacy and place-based learning.
- The public-private funding supported the transformation of the school.
- With the fun activities design in the schoolyard, students and teachers are convinced of its benefits and are more engaged in learning about the environment.
- Successfully transformed this pilot schoolyard which demonstrated the power of such approaches to the successors.

Weaknesses:

- Due to limited budget, the transformation only took place in a limited area of schoolyard.
- Funding sources only supported implementation. There was insufficient funding or other forms of support for maintenance.
- It is difficult to manage the litter in the schoolyard. There is also work to do to maintain the habitat in this classroom. All such needs are neglected.

Opportunities:

- There is still room to expand such green space.
- Students enjoy activities in the schoolyard.
- More Community engagement is expected.

Threats:

- Maintenance is an issue. Who will be responsible for the stewardship remains unresolved.
- Professional trainings for teachers on how to use the classroom should be further promoted.

9. Lessons for Philadelphia

- Activist individuals with passion and great design ideas could initiate transformative impact.
- Professional programs oriented at training teachers and designing curricula are beneficial.
- Collaboration between experts and educators could inspire innovations.
- It is important to establish long-term partnerships which might generate more stable funding sources.
- A green schoolyard is a great way to start the transformation of a school into a green school, but it should grow beyond that.
- Safety issues and stewardship issues are crucial in design and maintenance of outdoor classrooms.
- How to design natural space that is closest to the natural condition could be important to the design of the green schoolyards.
- The design of the outdoor classroom should maximize the interaction between students and leave space for students to explore discoveries in the nature.
- Communication and education will be key in convincing school staff to favor such programs and thus invest in them.

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10. Related Theory and Recommended Readings:

Howard Gardner's Theory of Multiple Intelligences, especially the Naturalist Intelligence

Armstrong, T. (2001) Multiple intelligences in the classroom, 2nd. edition. Alexandria, VA: ASCD

Educational Leadership: Teaching for multiple intelligences. ASCD V.55, #1, September 1997. 8-13.

Gardner, Howard. (1999). Intelligence reframed: multiple intelligences for the 21st century. New York: Basic Books.

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