Design Guidelines for Outdoor Classrooms and School Gardens

This document provides design guideline for outdoor classrooms (the structure where students gather to learn) and the school garden (the larger area encompassing the outdoor classroom). Outdoor classrooms complement and expand school garden sites by providing a gathering area for teaching, but they are also multi-use spaces that serve as classrooms that support standards-based learning across subject areas. Developing an outdoor classroom may be the starting point for a school garden program, or it may increase the impact of an existing program by providing a suitable venue for instruction.

Outdoor classrooms and school gardens may be initiated by school administration, teaching staff, PTA's, Home and School Associations, community organizations or included as part of whole school modernization. Because they are highly visible to the neighborhood, it is important to design outdoor classrooms and school gardens through a documented participatory process with input and buy-in from the broader school community. It is useful to enlist a consortium of people who will be invested in the project on an on-going basis. A successful outdoor classroom and school garden may be possible on a modest budget with minimal construction.

Expected Site Elements:

- Planting beds
- Organic soil (60% top soil/ 40% compost)
- Mulch (shredded hardwood or straw)
- Hose bib with hose rack (with two spigots- one for hose and one for irrigation, exterior and easily accessible placed within the garden if new construction)
- Plants (a variety of edible and non-edible species)
- Shade tree(s), trellises or awnings.
- Seating (may be moveable)
- Worktables (may be moveable)
- Pathways (around planting beds, through pollinator garden, etc.).
- Tool shed (large storage bench/box that is weatherized and secure no further than 100ft from gardening area. Storage immediately available inside the school may supplement outdoor storage space).
- Signage
- Fencing (height and type depending on local context)
- Access for large vehicles/supplies
- All-weather electrical outlet
- Drip Irrigation (for gardens larger than 200 square feet)

Potential Site Elements:

- Composting area
- Pollinator garden with paths to invite investigation
- Wildlife habitat area with paths to invite investigation
- Drip Irrigation (for gardens smaller than 200 square feet)
- Rain garden
- Outdoor kitchen

- Digging bed (for younger students)
- Hand washing station
- Outdoor science lab
- Arboretum
- Greenhouse/ hoop house
- Interactive learning stations
- Community garden plots
- Wi-Fi access
- Beehive
- Chicken coop
- Pond
- Mounding

Siting: The school garden should be clearly defined and located with the possibility of expanding activities in the future. The space should be inviting and encourage classroom use any time the weather is at all agreeable, including during a warm snap in winter. Capitalize on site features available by deliberately connecting to an existing stream or using a large shade tree for the gathering area or linking pathways to a natural habitat area. Ensure that enthusiasm for the garden does not overwhelm space that students require for active play and athletic activities.
The outdoor classrooms should be located within the school garden in a well-used and highly visible part of the school grounds that is easily accessible for students and teachers. Consider environmental factors, including noise, fumes from passing vehicles, sunlight, and slope; it should articulate with existing or planned natural wildlife habitat areas. If there are plans to expand or re-build the school in the foreseeable future, try to ensure the outdoor classroom and school garden is in a place that will remain undisturbed.

Solar aspect/shade: The school garden plots must receive 6-8 hours of direct sunshine a day. However, the outdoor classroom must be shaded either naturally with trees or trellises or with awnings, umbrellas or canopies. Student seating should not face south.

Accessibility: Walkways should be well defined, and accessible to students including those with disabilities. Refer to the current ADA standards for minimum design requirements. Remember to apply these standards as well to other program spaces associated with the outdoor classroom. Garden beds should be no wider than 4 feet for middle school and high school students and 3 feet for elementary school and early childhood students. Consider having at least one raised bed accessible to students in wheelchairs. The school garden and the outdoor classroom will need large enough work areas so that all students can easily pass through. The tool shed/box should including shelving, and storage options for both adult and children tools and located in a central area possibly near the outdoor classroom.

Visibility/Safety: There should be clearly defined perimeters for the outdoor classroom and garden areas; a fence may be preferable, with clear lines of sight throughout avoiding potential hiding spaces. If possible, the outdoor classroom should also be visible from points within the school (windows in nearby classrooms, administrative spaces).

Materials: The outdoor classroom should be built with natural materials. If water is being collected from the roof of the outdoor classroom the roofing material must be non-toxic and non-leaching. Strictly limit use of concrete to

high traffic areas; if hardscape is required, permeable paving or local stone (that is too heavy to throw) is encouraged. Note that high-grade engineered wood fiber playground surfacing is certified for wheelchair use. Raised beds should be built of a minimum of 2-inch thick wood or non-toxic manufactured wood, not permanent masonry and filled with organic soil/ compost at a 60/40 ratio. Soil should be filled to 4 inches below top of garden bed and 2 inches of organic mulch (shredded hardwood or straw) is placed on top of the soil. Pressure treated wood, plywood, plastic lumber with wood fibers, tires are strongly discouraged as these products contain toxins that leach into water at dangerous levels. Because teachers need to re-design garden plot locations from time to time as program needs change, garden plots must be re-locatable. Avoid weed cloth as it has little impact on suppressing weeds in the long term and creates maintenance issues.

Outdoor Classroom: The outdoor classroom must be a well-defined shaded space that includes student workstations where teachers can easily engage with each student. An outdoor whiteboard is desirable (flipchart stands stored inside could substitute) and must be situated so that all students can easily read it. Seating can be either fixed or flexible, depending on the site, but should easily accommodate up to 35 students. A teacher demonstration table and student workspaces should be available. If not permanently on site, as with picnic tables, these should be easily portable and on-hand in a storage shed or nearby in the school. The outdoor classroom area may include elements such as an outdoor kitchen and/ or science lab.

Plants: Perennial plant material should be chosen based on each specific site condition and with interest in all four seasons. Preference should be given to a variety of native plant species. The visual unity of the site is less important than the educational value of a broad range of different plants that can be used as teaching examples and that are sustainable in terms of biodiversity and susceptibility to extreme weather, insects and disease. Take care to avoid poisonous plants.

Signage: Educational signage must be placed throughout the garden. Signage must be age-appropriate and student-centered. Consider writing signs in multiple languages. Signs should identify elements as well as describe various processes and systems such as:

- Entrance sign with space for posting announcements (highest priority)
- Garden Rules and Procedures
- Native and edible plantings
- Composting systems
- Pollination
- Storm water management
- Soil composition
- Nutrition
- Beneficial Insects
- “Do Not Mow” for in-ground beds near lawns.

Maintenance: The outdoor classroom should be designed for low maintenance with a specific maintenance plan written for each outdoor classroom and garden area. A maintenance agreement must be signed by the principal, and the school garden coordinator. Planting beds, pollinator garden areas and habitat areas must be very clearly differentiated from lawn areas that require mowing in order to avoid having native plants mistaken for weeds and mowed. Ensure that the irrigation system (if applicable) is simple enough so that the school community can maintain it. Hose bib should be given to the school garden coordinator, building engineer, and principal (three keys total).

Approval: Plans, details and specifications should be submitted to the School Garden Specialist at the Office of the State Superintendent of Education for approval.

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