

SCHOOL GARDENS

School gardens can have great promise as they can positively impact children's food choices by improving their preferences for vegetables, increasing their nutrition knowledge, and prevent nutritionally related diseases (i.e., diabetes and obesity). In their natural state, fruits and vegetables have high water and fiber content and are low in calories and energy density. Additionally, it has been demonstrated that the use of a garden as part of an outdoor environmental studies program can have a beneficial impact on performance of standardized achievement tests, as well as attention and enthusiasm for learning in school children.

In June of 2004, national legislation was signed into law as part of the Child Nutrition Bill that was designed to help cover the initial costs of starting a school garden that would be part of a larger nutrition education program.

Integrated into School Curriculum

There is a growing movement in the United States in light of the overweight/obesity epidemic to stimulate youth to consume or eat more fresh produce. Fresh produce is a healthy (low in calories, high in nutrients, high in vitamins, and high in fiber), all superior reasons to consume them daily. Other benefits of having a school garden in the curriculum is that it can act as an “outdoor learning laboratory” to teach science, math, nutrition, environmental science, sustainability/recycling, and health. Cultivating a garden is thought to be an excellent hands-on opportunity for students to gain a greater appreciation for where food comes from and supplements the classroom curricula which is thought to have a greater effect on lifelong

behavior over solely teaching nutrition information.

Purpose

In a school garden program, the purpose is for students to grow edible produce and learn science health, and nutrition concepts while growing food and working in the garden. While students harvest fruits and vegetables, the overarching goal is for them to become connected to “mother earth” and recognize that fresh fruits and vegetables often times taste better than their canned or processed cousins. Some outdoor school gardens also include cooking demonstrations or lessons so students can literally harvest their food and producing from scratch a healthy meal.

Some schools who don't have a the option of implementing a garden because of outdoor space, workload, or maintenance issues; have subsequently implemented a “farm-to-school” component where the school actually purchases produce from local farmers for the school's lunch program, and students visit the farm to see where food comes from and how it is grown.

(For more information on the National Farm to School Program, go to

<http://www.farmentoschool.org>).

Programmatic Structure

School gardens and curricula are built on hands-on lessons, problem-based environmental, health, and science education. They are mini-community gardens so to speak, that double by the “learn by doing” approach which force other disciplines in the school setting to work together for garden sustainability (courses include: economics, science, math, health, physical education, and environmental study classes). According to the research, when school principals were surveyed, most garden programs in the United States are less than 3 years old and focus mainly on

environmental education and nutrition with most gardens operating in the elementary school setting.

School gardens vary widely in scope, intensity of participation, and integration into a course curriculum. If space is a concern, above ground planting boxes have been suggested as an alternative to a separate building (i.e., greenhouse) or in the ground garden.

Funding

In 2006, Assembly Bill 1535 allocated \$15 million to the CISGP to provide California public schools with funds to implement, sustain, and utilize instructional school gardens. All schools that applied to the program were awarded funds. However, the California state budget crisis negatively impacted over 1/3rd or 38% of schools and some schools reported not receiving all of their funds. Only 39.4 % of schools reported accomplishing all of their garden-related goals. On-site, personal interviews were conducted with key members of schools with outstanding instructional school garden programs to determine best practices. Best practices included having teachers, administrators, parents/community volunteers and a part to full-time garden coordinator, and obtaining materials and assistance from the local community.

Several highly developed garden programs that represent sustainability between school sites and not-for-profit organizations, one such organization is The Edible Schoolyard in Berkeley, California, and Earthworks in Boston, Massachusetts. The Edible Schoolyard has weekly garden classes for 6th graders and full-service kitchen lessons for weekly cooking demonstrations and classes (for more information on The Edible Schoolyard, go to <http://www.edibleschoolyard.org/classroom>). Earthworks in Boston has planted more than 20 fruit orchards in urban schools since 1989 and have “outdoor classrooms” in elementary schools

with the theme of connecting students to the natural world while making science relevant and interesting.

Challenges

Schools do face multiple challenges in the implementation of garden programs, mainly due to limited resources of funding, personnel, and time. Other factors for garden closure or sustainability include; ineffective integration into the curriculum, vandalism, challenges in maintaining the garden when school is out (on vacation/summer months), illness or death of teacher leading the program, and the school garden not being valued as a teaching tool in a time of increased accountability for student achievement.

For success and sustainability for a thriving school garden program it is necessary for the school to cultivate a widespread, long-term commitment or support from the school administrator, principal, teachers, parents and students. The continued commitment to the garden is cited as one of the biggest challenges as student's cycle through the school and has been identified as one of the main reasons school garden programs fail.

Recommendations

Because of the current obesity crisis in the United States and the potential of school gardens and farm-to-school programs for promoting healthier eating, this outdoor laboratory model is expected to receive more attention in the coming years. Researchers are interested in evaluating the effects of school garden programs on nutrition and weight outcomes for students and the potential influence gardening has being eco-friendly; see *Green Politics* (i.e., eco-sustainability. recycling, composting, and reducing the reliance on oil for transporting food, or

reducing the carbon footprint in the U.S.).

It has been suggested that for schools to sustain a school garden in difficult times, some schools have opted to plant and replant low-maintenance annuals instead of fruits and vegetables to help sustain the program during times of limited resources. Recruitment of interested parents and/or community members to serve as garden coordinator is also recommended to bolster a successful school gardens program.

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See also Nutrition, Food, Gardening, Nutrition Instruction, Fruits and Vegetable Consumption, Teaching Methods, Environmental Health, Nutrition and Nutrition Promotion for Families, Carbon Footprint, and Obesity Prevention.

FURTHER READINGS

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