



Why Start a School Garden

If you are already thinking about a school garden, you probably have given some thought to the goals for your garden. Here we provide some background on the issues that are motivating educators in Lancaster County, nationwide, and throughout the world. However, every school is unique and every garden is unique, so think carefully about what a garden can accomplish for your students. These topics will influence the planning, implementation, and assessment of your program.

Many educators and health care professionals are motivated to start gardens as a way to address serious issues about the health and nutrition of Americans, particularly overweight and obesity. Lighten Up Lancaster County and Living Well Lancaster County are joining local efforts to address these problems broadly.

The CDC reported in 2010 that 35.9% of Americans ages 20 and older are obese and 33.3% are overweight¹. For Americans ages 2-19, 16.9% are obese and 14.8% are overweight; nearly 1 in 3 U.S. children and adolescents was overweight or obese. The obesity percentage has tripled in 30 years among children and doubled among adults¹. A recent study in Lancaster County indicated that 15% of children in grades K-12 are obese and 16% are overweight².

It is no surprise that children who are exposed to predominantly sugary and fatty foods early in life will tend to prefer the same types of foods throughout their lives. The inadequate intake of vegetables and fruits is related to the national problem of overweight and obese children. The vegetables and fruits that can be grown in a garden are major sources of important nutrients, especially vitamins and minerals, yet many of these are often inadequately supplied by the typical American diet, with significant consequences. A lack of access to these healthy options via fresh markets, nearby stores, and school and community gardens is one of the largest barriers to helping individuals maintain a healthy weight. Lancaster County has its share of rural and urban

¹ Obesity and Overweight. Center for Disease Control and Prevention. 2012. [Retrieved July 16, 2013]. www.cdc.gov/nchs/fastats/overwt.htm

² Lancaster County Community Health Improvement Program. Lancaster General Health. 2012

“food deserts”, areas where access is limited. Unhealthy food and beverage choices may be more readily available and less expensive.

Of the vegetables and fruits American children do eat, large proportions are French fries and fruit juices. These foods, though high in calories, may displace other more nutritious foods. Children ages 6-11 consume slightly more than half of the minimum recommended vegetable servings³. While adolescents are reported to have vegetable intakes closer to recommendations, potatoes, most of them fried, account for more than a third of the servings³.

According to the American Heart Association, well-documented research has shown that⁴:

- Garden-based nutrition intervention programs may promote increased fruit and vegetable consumption among youth.
- Children may be more willing to try new vegetables if they grow them.
- In addition to the potential to improve nutrition habits, community and school gardens can teach and reinforce responsibility, leadership, group cohesion/team building, environmental awareness and concern, science processes, problem-solving skills, math skills, pride, confidence, and self-esteem.
- Children who have been educated about sound nutritional choices will pass that knowledge to others, especially their families.



The California School Gardens Network has identified the following four major benefits of school gardens⁵. Although the climate in California is different from ours and thus some aspects of their gardens are different, programs in California are models for the “why” and “how” of school and community gardens. **As you plan your garden, think about how it can help achieve each of these goals:**

Environmental Stewardship

A school garden is a powerful environmental education tool. Through gardening, students become responsible caretakers. They have an opportunity to engage in agricultural practices on a small scale, learning about the responsibilities and impacts of land cultivation. They explore the web of interactions among the living and nonliving players that sustain life.

³ USDA Fruit and Vegetable Program. USDA Economic Research Service. 2012. [Retrieved July 16, 2013]. www.ers.usda.gov/topics/food-nutrition-assistance/child-nutrition-programs/usdafruit-and-vegetable-program.aspx

⁴ American Heart Association Teaching Garden Manual -

⁵ Why School Gardens. California School Garden Network. 2013. [Retrieved July 16, 2013] www.csgn.org/why-school-gardens

Community and Social Development

Community and social development lessons do not receive the attention of academic achievement, but they are as crucial to the survival of our country as reading and writing. Children must learn how to take responsibility for their environment and develop a strong sense of community to ensure the continuation of our society.

A Healthy Lifestyle

Beyond academics, the garden provides broader life lessons including contributing to students' knowledge of how to maintain a healthy lifestyle. The state of California is experiencing a major health crisis as the number of overweight and obese youth is growing at an epidemic rate, as also seen across the country in a number of other states.

Academic Achievement

Academic achievement is the primary focus of educators throughout the country. Emphasis is placed on ensuring students perform at satisfactory levels guided by local, state and national academic standards. All lessons and activities must complement mandatory standards to merit the use of valuable classroom time.

When considering exemplary garden projects around the world, in a variety of settings, researchers with the United Nations Food and Agriculture organization established a wide-ranging set of benefits, shown below. Those planning a school garden will be inspired by reading about the history, philosophy, and successful outcomes of model programs^{6 and 7} (Gardens provide authentic learning opportunities across disciplines, emphasizing hands-on work and the development of problem-solving skills. A garden offers opportunities for students with different learning styles, different academic and personal strengths, and different career aspirations.

Your school garden, a very local activity, can also help your school and community make global connections. In our increasingly diverse schools, students can learn through the garden about the various cultures of other children in their classes. As part

⁶ Desmond, Daniel. Gieshop, James. Subramaniam, Aarti. "Revisiting Garden-Based Learning in Basic Education" International Institute for Educational Planning. 2004. [Retrieved June 21, 2013] <http://www.fao.org/sd/erp/revisiting.pdf>

⁷ Garden Based Learning: Considering assessment from a learner-centered approach. Center for Youth Development, University of California. 2003. [Retrieved June 21, 2013]. <http://ca4h.files.1314.pdf>

of curriculum units with a global focus, a garden enables students to develop a broader perspective about the world. Imagine the power of garden pen-pals across the county or across the world.

Applications and Uses of Garden Based Learning

Academic skills

- To support core academic training, particularly in science and math
- Real world hands on experiences
- Enrichment of core curriculum in language arts through introduction of new learning landscapes
- To support standards based education in countries with national or regional education standards

Personal development

- To add a sense of excitement, adventure, emotional impact and aesthetic appreciation to learning
- To improve nutrition, diet and health
- To teach the art and science of cooking with fresh products from the garden or local farms
- To re-establish the celebratory nature of a shared meal

Social & Moral Development

- To teach sustainable development
- To teach ecological literacy and/or environmental education
- To teach the joy and dignity of work
- To teach respect for public and private property

Sustainable Development

- Gardens are an appropriate arena to introduce children to the interconnections that link nature to economic systems and society

Vocational Education

- Gardens represent a historic and contemporary model for developing vocational skills in agriculture, natural resource management, and science

Vocational and/or Subsistence Skills

- To teach basic skills and vocational competencies
- To produce food and other commodities for subsistence consumption and trade

Life Skills

- To teach about food and fiber production
- To engage youth in community service and environmental care.
- To engage youth in lessons of leadership and decision-making

Community Development

- Gardens often serve as a focal point for community dialogue capacity building, and partnerships
- Gardens often organize individuals for action for water delivery, cooperatives, and transportation

Food Security

- Gardens can address hunger at the individual, family, and community levels through planning, growing, and sharing
- Gardens can be the beginning point for teaching and developing food policy

School Grounds Greening

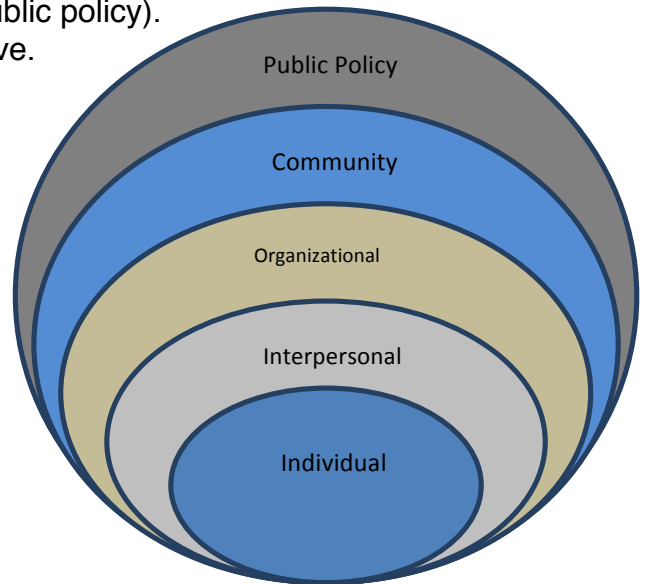
- Gardens provides practical productive strategies to transform sterile school grounds into attractive and productive learning centers
- Hands-on activities in outdoor classrooms make learning more interesting while demonstrating other benefits such as decreased absenteeism and discipline problems

⁸ Desmond, Daniel. Gieshop, James. Subramaniam, Aarti. "Revisiting Garden-Based Learning in Basic Education" International Institute for Educational Planning. 2004. [Retrieved June 21, 2013] <http://www.fao.org/sd/erp/revisiting.pdf>

Your garden can become a *key component* of broader community efforts to change behavior. Gardens can bring people together across generations and cultures. Good nutrition and health can best be understood as depending on influences from the individual, group, community, and government (public policy). Efforts at multiple levels are often the most effective.

But why a school garden, at a time when student attainment of standards-based benchmarks is a top priority? Here is one educator's response:

"...[T]here is a danger that the standards will become a series of rote lessons. A garden in every school is even more essential to make our standards come alive. We must not lose the creativity, problem solving, and sheer love of learning that come from hands-on, experiential learning.... Gardens should not compete with our standards; gardens should be an avenue to high standards."⁹



High quality education should not be based solely upon what takes place within the four walls of a particular room. The garden functions as an extension of the classroom – a dynamic place where students experience learning on many levels. Experiential learning, a key feature of school gardens, helps address the issue of varied learning styles among students. A garden can expand the ways that educators teach the standards.

Additional information on the role of the garden in the curriculum and in other school programs will be presented in the “Curriculum and Other School Programs” section of this manual.

Below is a reflection written by a dedicated and experienced gardener and environmental educator. This essay captures one person's motivation to help others.

⁹ A Child's Garden of Standards. California Department of Education. 2002. [Retrieved July 16, 2013]. <http://www.cde.ca.gov/ls/nu/he/documents/childsgarden.pdf>

A Personal Perspective

**Lydia Martin, Lancaster County Master Gardener and
Land Steward with Lancaster County Conservancy**



Gardens are springing up everywhere to meet the growing need for children and adults to get dirty while learning! Exploring nature through hands-on observation has never been so important. What child would not be inspired by the power of a tiny sunflower seed growing to ten feet tall or observing pollination first hand while watching a bumblebee moving from one flower to another? When children have space to learn and experiment in nature through growing vegetables and fruits, studying the soil through composting, or exploring their own native meadow, they develop a connection to the cycle of life.

Today, many urban and suburban children have few opportunities to experience nature daily; they may have little interest in or even an aversion to nature. In addition, video games and other forms of media compete for their attention. We owe it to our children now and in future generations to instill a love of nature! A garden can provide the first gentle step in getting children excited about learning in the great outdoors. Schools and community groups can broaden the garden experience to a more all-encompassing effort through educational activities and natural spaces for discovery. At the same time, gardens can help address the significant problems of childhood nutrition and obesity.

As a child I learned to love nature early, waking up on brisk, spring mornings and running through open fields in search of insects, collecting rocks, and stopping to check my plants to see how much they had grown from the day before. Bonding with nature left a lasting impression on my life that drove me to want to get outside and get dirty often. As an adult, I have volunteered and worked in horticulture-related fields. Observing my own children's imagination outdoors, I wanted to share my knowledge with others by showing people how to appreciate and learn about our environment.

In the last several years, my passion for gardening led me to help guide local schools, such as Conestoga Elementary and George Washington Elementary, to develop and implement their own community school garden. The desire to see these children and, yes, even adults get excited over harvesting their very own tomato or watching their own flowers open for the very first time became irresistible! Observing passionate leadership from parents, teachers, and the community gave me hope: people know that being in nature through gardening is important to learning. This realization prompted me to support their efforts in any way possible.

A garden is many things: an opportunity to connect children and adults with nature through meaningful, environmental education-related activities; a way to significantly improve health and diet while learning how to grow and provide nutritious food for

themselves; a way to improve water, air, and land quality; and a respite from the daily grind of life. The information in this manual will help parents, teachers, and community leaders create their own garden, with directions that range from establishing an initial budget and project timeline to developing lesson plans and activities that are linked to the curriculum. A garden is not about an individual process but about a holistic approach to sustaining all life. Having access to a garden can teach people to value a healthy ecosystem that provides innumerable services from local to global.

At the heart of every budding gardener is the reward of knowing there is always something new to learn! Develop an intimate connection to our world and we will save the world. Future generations will thank us for building hands-on learning opportunities within our schools and communities. Giving everyone access to learning how to care for our world while making healthier, lasting choices will be our outcome.