

The value of an education master plan for the Utah Botanical Center

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An education master plan has been very helpful as the Utah Botanical Center (UBC) has changed and refined its mission. The roots of the UBC date back to 1905 when Utah State University (USU) established a horticulture research farm in Farmington on 27 acres of land. Farmington is 60 miles south of the main USU campus in Logan and 20 miles north of Salt Lake City. The Farmington location was selected to study fruits, vegetables, and ornamental plants that would not grow well in the shorter growing season of the high mountain valley where Logan is located. In 1954, the UBC mission changed as formal botanical display gardens were developed as an outgrowth of the research on ornamental plants. The display gardens covered seven acres and included mature trees, annual flower variety trials, a rose garden, daylilies, iris, and a solar greenhouse. The first master gardener program in Utah was started at the Farmington gardens in 1980. In 1998, the state highway department purchased the gardens in order to construct a highway interchange.

The UBC mission was updated in 1998 as the botanical gardens were moved to a location adjacent to the existing USU research farm in Kaysville, about three miles north of the Farmington site. The new site covers 100 acres, including four ponds which cover 23 acres, 42 acres of public open space around the ponds, and 35 acres of farmland where the formal botanical center is to be built. Through a variety of planning sessions and public surveys, a new UBC mission emerged which focused on sustainable urban landscapes, resource conservation, and water quality. Initial development of the Kaysville site from 1998 to 2001 focused on cleaning up debris from the site, realigning the frontage road, rehabilitating the ponds, and building a greenhouse and office space.

In 2002, the UBC initiated an educational program planning process that was led by an interdisciplinary team of eleven educators from USU Extension, the Utah Botanical Center, the Utah State Office of Education, and the Davis School District. Jeremy Call, a USU graduate student in Landscape Architecture, was the coordinator of the team. The team's goals were to: 1) select the type and sequence of new and existing educational programs; and 2) assist in resolving issues such as staffing, funding, and site improvements. Over a period of twelve months, the team conducted two surveys, six group process meetings, and 33 interviews with a variety of stakeholders to develop a list of priority programs. The project coordinator visited 17 other botanical gardens and nature centers to solicit their input and observe successful programs.

This input was prioritized by considering the UBC and USU mission, potential funding sources, projected audience needs, cooperation or competition from similar programs, and the expertise and limitations of staff. The wide range of needs and preferences were grouped into general themes and then ranked by the team members. The team summarized their findings into immediate-term and long-term prioritized programs for different audiences such as K-12 students,

general public, university students, and horticulture industry professionals. The education plan brought many diverse elements together and helped sequence the construction of facilities and gardens with the development of additional educational programs and staff.

The final 250-page education master plan was condensed into a 15-page executive summary. The summary was a valuable tool to communicate results of the educational planning process to decision makers and funding sources. Parts of the summary are available at the UBC web site: www.utahbotanicalcenter.org.

The education plan was completed in 2003; and at this same time, two new educational facilities were also completed. The Utah House (UH) is a 2,500 square foot sustainable building demonstration house and learning center. The furnished house demonstrates practical ways to save energy, water, and money in housing and landscaping. The Garden View Pavilion was funded by Davis County and provides a large, covered area for teaching and field trips. The education plan lists 61 possible programs that could be implemented from 2003 to 2008. To date, about one-third of the suggested programs have been implemented. This paper describes some of the major programs that have been implemented and what has been learned.

Staff and visitors

The UBC education staff was expanded by hiring a coordinator for the Utah House, an education coordinator for the UBC, and an Extension Horticulturist. Funding for these positions came from federal grants, state and county funding, and internal budget reallocations. Many programs have been implemented with this additional education staff, expanded volunteer training, and re-direction of existing resources. More staff and additional programs have led to an increase in visitation. In 2002, there were only about 150 students who visited the UBC. In 2003-2004, the Utah House and UBC had over 7,000 visitors, including 1000 K-12 students. In 2005, the UBC had over 10,000 visitors including 2800 K-12 students.

K-12 students

A series of field trips to the UBC were developed to fulfill the requirements of the Utah State Office of Education K-12 core curriculum in horticulture, wetlands, wildlife, energy, and water conservation. These camps were very popular and registrations filled up quickly. Teacher evaluations showed high levels of satisfaction with the field trips, particularly their correlation with the state core curriculum.

In 2006, five different summer camps were offered including Nature Art, Water Adventures, and Slimy Adventures (bugs, bats, and critters). In 2005, a series of Boy Scout merit badge workshops was started on Gardening, Landscape Architecture, Environmental Science, and Bird Study. A total of 70 scouts earned 92 merit badges. Boy Scouts working on their Eagle Badge service project have helped improve UBC facilities by building bird houses, removing pond weeds, and planting trees and shrubs. Since 2001, a total of 30 Eagle Scout service projects have been completed.

A popular activity at the Utah House has been family night activities. These activities are advertised to the surrounding neighbors by a highway signboard and doorstep flyers. Family nights include short, fun craft activities for youth and tours of the house. The most popular family night was "Pumpkinpalooza" which attracted 400 people for pumpkin carving and a visit from an owl from the Ogden Nature Center. An on-line survey of people who had visited the

Utah House showed a significant increase in visitor's knowledge about these specific topics: Energy Efficiency (98%), Water Conservation (98%), Sustainability (93%), and Healthy Indoor Environments (87%).

In 2005, a 4-H youth fishing camp was started at the UBC ponds. The camp program is held once a week for six weeks and includes a lesson manual, a short lesson about fishing each week, and then practicing the lesson with an adult leader out on the ponds. This program continued in 2006 and a total of 65 youth have participated. An evaluation of fishing camp showed a 72% increase in knowledge about fishing. One insightful comment from the evaluation was: "What a great program for kids. It gets them outside in the fresh air and away from playing video games."

General public

In 2003, a unique new program was tried where greenhouse and nursery owners and UBC staff taught a series of classes on landscape design and winterizing your landscape. The goal was to involve local green industry professionals in teaching classes. The classes were very informative and well attended, but the concept was put on hold due to concerns from the Landscape Nursery Association.

The one-acre water-wise landscape around the Utah House has been an important component of many programs. The landscape has attracted attention because it is along a busy street, it has filled in and looks complete, and the landscape is colorful year round. In response to many requests, a brochure was prepared listing the plants in the landscape. The plants are grouped into Very Low, Low, Moderate, And High Water use zones. A list of local landscape designers who specialize in water-wise design is being prepared as a companion publication. A series of Saturday morning gardening classes was conducted every other Saturday through the spring and summer of 2005 and 2006. The classes are taught by master gardener volunteers and topics included fruit tree pruning, vegetable gardening, perennials, container gardening, and water-wise landscaping.

In 2005, UBC staff and master gardeners had a unique opportunity to help design and plant a garden for the TV show "Extreme Makeover Home Edition." The UBC donated daylily and iris plants. Master gardeners designed and planted a natural area along a stream in the backyard. Other master gardeners directed the planting of the vegetable garden and raspberries. Over 40 master gardeners helped with this project.

A week long Spring Celebration Program was held at the UBC in 2006 with classes on vegetables, parking strip design, and container gardening. A special guest lecture by Peter Lassig, a renowned local landscape designer, attracted 70 people. A water-wise plant sale had proceeds of nearly \$2,000 to help with future garden development. In all, over 500 people participated in the program. Not every program has been a success. This year, a program of evening garden walks at the Utah House landscape was offered for several weeks, but had to be cancelled due to a lack of response.

University students

With completion of the greenhouse facility in 2001, offerings of off-campus USU credit horticulture classes were increased. A total of 18 different classes have been taught on a rotation

basis. Some of the most popular classes include: Sustainable Landscapes, Annual and Perennial Plants, Native Plants, Pest Management, and Introduction to Landscape Architecture.

The last two years, the UBC has participated in a state-wide intern program for college students sponsored by the Utah Agricultural Experiment Station (UAES). The goal of the program is to provide on-farm work experience, especially for students from urban areas. The students assist with research and demonstration projects at various research farms operated by UAES across the state.

Horticulture industry professionals

Programs in this area are the least developed at this time. A major research project at the UBC is on pot-in-pot tree nursery production. This project will provide up to date information on best production practices to plant nursery growers when the research data is compiled next year. A replicated trial of 10 fall-bearing and 17 spring-bearing raspberry varieties was established in 2006. In a couple of years, this trial will provide important information to raspberry growers and plant nurseries.

Facilities

Staff and facilities are key components in conducting educational programs. Some important improvements in facilities over the last few years are: signs for self-guided tours of the Utah House, a new shade house for nursery production, and planting of the Legacy Teaching Garden by the greenhouse. This garden will be an important tool for teaching public gardening classes and university credit classes.

Future projects

Some projects planned for completion in the next couple of years include a street tree demonstration arboretum, fire wise landscaping demonstration, small pasture demonstration plots, and a replicated trial of native shrubs and perennials for landscape use. Also planned are a farmers market at the UBC pavilion, a wetland discovery lab, and a master naturalist education program.

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Presenter Biography

Shawn Olsen is the Davis County Director for Utah State University Extension and served as a member of the Utah Botanical Center education master plan team.