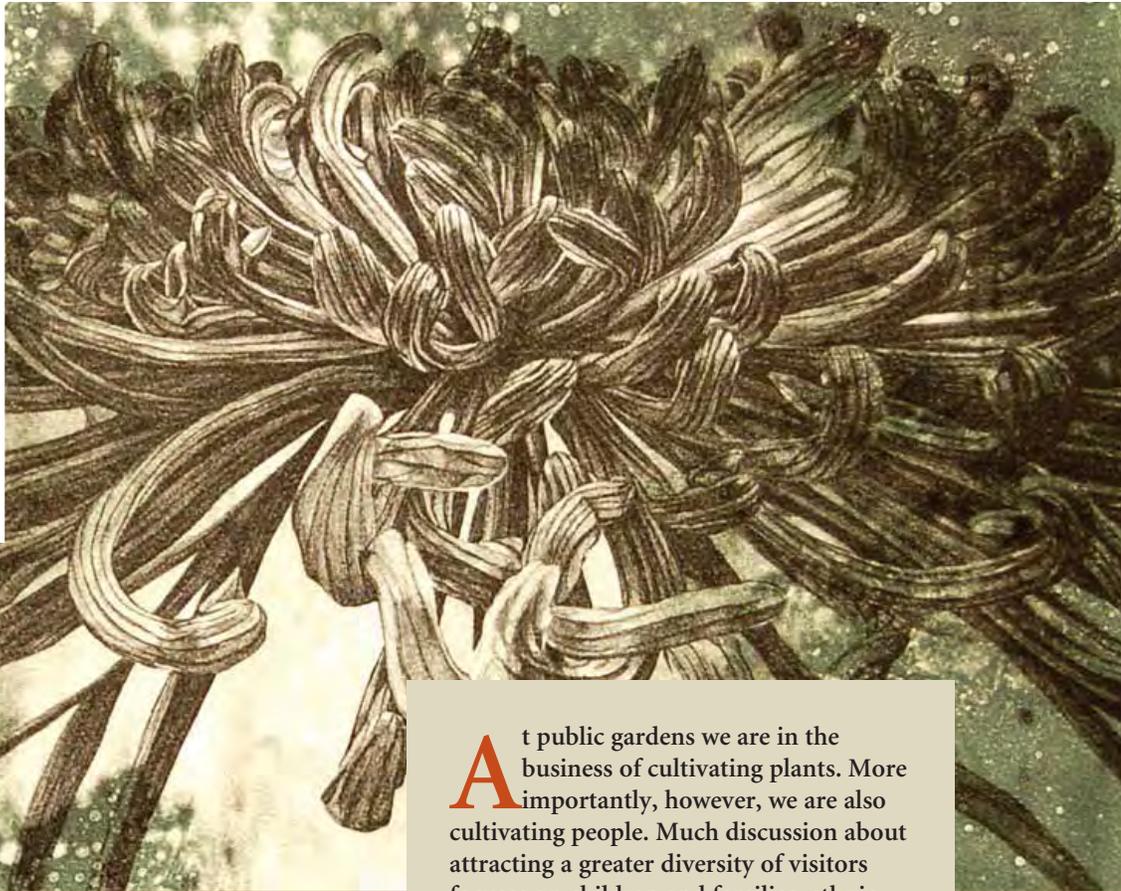




CULTIVATING THE Academic Audience

MADELAINE ZADIK



Lullaby (after The Cure) was created by studio art student Syretha Brooks. The 2008 graduate now works at Wave Hill. PHOTO BY PAMELA DODS

The Botanic Garden of Smith College is demonstrating how public gardens can appeal to more than just botany and horticulture students.

Above: A kindergartner working with an early childhood education student studies leaves in the Lyman Conservatory.

Inset: Art students in an offset lithography class study chrysanthemum anatomy.

PHOTO BY PAMELA DODS

PHOTO BY SUSAN ETHEREDGE

At public gardens we are in the business of cultivating plants. More importantly, however, we are also cultivating people. Much discussion about attracting a greater diversity of visitors focuses on children and families, ethnic communities, and a younger demographic. The academic audience is often overlooked, and it is easy to see why. In college, students are on a specialization track. As their study increases in depth, it becomes much more limited in breadth. Consequently, we assume that only botany and horticulture students—a small segment of the college population—are a suitable target audience.

I wish to argue just the opposite. No matter what their career path—engineering, medicine, history, or art—college students need a well-rounded understanding of plants and the environment if they are to make informed decisions and choices as professionals and citizens.

Learning about plants can also enrich their lives. Oftentimes our most meaningful experiences are not those we had planned or expected. I am trying to capitalize on this phenomenon in reaching out to an audience that doesn't necessarily think it has a good reason to come here—college students studying engineering, dance, early childhood education, or architecture, for example—and creating learning environments where they interact with our plant collections in unexpected ways. Perhaps we can catch them off guard, and they might just be able to move beyond their preconceived notions.

The College Demographic

According to campusclients.com, college students are a relatively affluent group of more than eighteen million people aged eighteen to twenty-four. They are active and exploring the world as well as their own identities. Many are living on their own for the first time and are figuring out who they are now that they are away from their parents. They are developing their own tastes, interests, and extracurricular activities. They are our future—future members, parents, leaders, and decision-makers. What

better audience for public gardens to be cultivating? The question is how. First we need to get their attention and bring them through the front door. Then we need to spark their interest and get them hooked.

Engaging this group requires creativity. It must be done in a way that is meaningful to them. Some gardens have partnered with colleges and universities in offering courses and degree programs in botany, horticulture, or environmental science, and others are using college horticulture students as interns. However, these students are already interested in the field. What I am suggesting is a different approach: that we direct our energies towards students whose focus is elsewhere. Most college and university gardens, even if they are working with some students, lament that they are not doing a better job of drawing in the larger college audience. It is clear that most non-academic public gardens are not actively involving the broader college population with their programming or targeting them as a potential audience. I believe there is great opportunity here both for non-academic gardens as well as those situated within an academic institution.

At the Botanic Garden of Smith College, I have turned my focus on cultivating this audience in a way that is totally different from anything we have done before. Being at a garden that is part of a small liberal arts college, I am in a perfect position for this, but what I have learned can be useful at other types of gardens as well. Until a few years ago, aside from a few biology professors utilizing the garden in their teaching, we were not connecting in a substantial way with this audience right at our doorstep. Visiting alumnae would tell me that as students they had never set foot inside our facility! Our wonderful plant collections, conservatory, and gardens were being missed by far too many.

Curricular Enhancement Program

The program I have been developing attempts to reach beyond botany and horticulture. We are encouraging faculty

in any discipline to use our plants and gardens as pedagogical tools. Our Botanic Garden Curricular Enhancement Program is modeled on a similar program at the Smith College Museum of Art. Our goal is to encourage teaching that helps students connect with the botanic garden environment and explore the complex relationships between natural, constructed, and cultural worlds.

We hired a consultant, a former Smith employee who already knew many faculty members from her work at the museum, to help faculty develop new or revised courses (or portions of courses) utilizing the Botanic Garden. Any professor interested in the program has to meet with the consultant before submitting a proposal. The resources we offer include our conservatory and campus collections (although we will acquire plants not already in our collection to serve the particular purposes of a course); staff expertise, to help develop ideas into concrete plans, provide lectures for classes, and help with research; the herbarium; and a wealth of historical information in the Smith College archives.

So far we have worked with faculty in dance, Chinese literature, education and child study, English literature, engineering, Spanish and Portuguese, art, architecture, and chemistry. Additionally, biology classes that previously had not connected with the Botanic Garden are now involved, including students in a microbial diversity microscopy lab who used our conservatory environments to collect, identify, and study microorganisms found in soils, on leaf surfaces, and in the liquid inside pitcher plants.

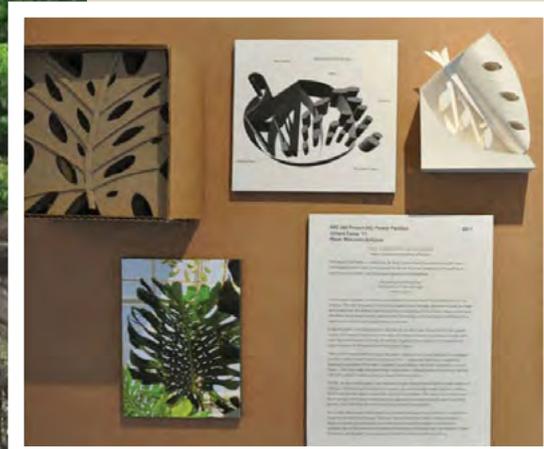
We began in 2007 with two art professors, one in art history and one in studio art. Our Fall Chrysanthemum Show in the Lyman Conservatory provided the perfect focus for the offset lithography class. Students had little science background, but our staff helped them learn all about mums—they studied mum floral anatomy, dissected flowers, and even tried their hand at hybridizing. The class culminated in a show of their lithographs, inspired and informed by their mum investigations.



To measure flow through the xylem of the olive tree in the Lyman Conservatory, ecohydrology students set up a sap flux sensor.

PHOTO BY MADELAINE ZADIK

“So far we have worked with faculty in dance, Chinese literature, education, English literature, engineering, Spanish and Portuguese, art, architecture, and chemistry as well as biology.”



Architecture students did spatial analyses of plants as a prelude to designing a pavilion. This study of *Monstera deliciosa* was part of an exhibit of their work.

PHOTO BY JUDITH ROBERGE

Art history students explored the role that plants played in Pompeian life. They planted Pompeian flower boxes while researching the culinary, medicinal, and ornamental uses of these plants. They learned how archaeological palynology (pollen study) has helped to identify the plants growing in that ancient city. An exhibit, *Pompeian Gardens: Illustrations from A Pompeian Herbal* with drawings by Wilhelmina Jashemski, was displayed in the art department gallery.

Next, we worked with an engineering professor teaching ecohydrology and an English class studying the King James Bible. The latter concentrated on plants in Biblical times and their value for food, fragrance, and medicine, and how they contributed to symbolic meanings and religious traditions found in scripture. The ecohydrology class learned measurement and modeling of hydrologic processes and their interplay with ecosystems, in part by studying how plants adapt to varying

A portion of the dance created by students was inspired by the movements of *Mimosa pudica*.

PHOTO BY NANCY RICH

environmental water levels. Using a sap flux sensor on the olive tree in our conservatory, students downloaded and analyzed data on plant water uptake. In preparation for this class, a graduate student, as part of a research project, developed and installed the sensing equipment.

Lessons Learned

The response was extremely positive. Many students admitted they probably never would have stepped foot in our facility were it not for these classes. Now they are regulars. However, there was a lot for us to learn that first year. In particular, we learned that we need to make sure the botanical activities are well integrated into the course syllabus. It is important that students understand the context so it really makes sense and doesn't just seem like an "add on." We also realized that working with faculty in other disciplines requires greater time investment on our part—finding the right plants and materials for them to use, helping them develop relevant assignments and activities, and correcting their misconceptions. Some especially need help figuring out how to connect things in a coherent way.

The most successful classes were those where the professor was heavily invested in the whole process. The faculty are really the first target audience to be cultivated. They set the tone for how the students interact with the garden. The biggest hurdle is getting faculty to see the possibilities, and in a discipline outside of our realm we don't always know what those might be. Sometimes we have to step outside of the familiar and be open to new ways of doing things.

Attracting faculty at first was not easy. It is definitely more work for them, and they are not necessarily looking to revamp their classes. The personal approach seems to work best. Our consultant targets faculty who she thinks might be receptive and explores the possibilities with them. For younger faculty focused on research and getting tenure, being able to put our Curricular Enhancement Grant on their CV is a plus. Tenured faculty are often more set in their ways but may also feel

freer to experiment. We saw the need for an incentive and have secured funding to offer a stipend (the amount depends on how much of the course is based at the Garden) and some supplemental funds for bringing in speakers or purchasing additional supplies or equipment. Each faculty member must submit a formal proposal, and if it is accepted, they must provide a syllabus before receiving any funding. For repeat classes (which we encourage), they do not get another stipend but can get more supplemental funds.

A dance professor had her advanced choreography class develop a site-specific dance for one of our outdoor gardens. What turned this into a very different experience was her idea that the dance be based on natural plant movements. With the Botanic Garden's help, students delved into the science of plant movements, and we found all kinds of videos—time-lapse, slow motion, and real time—that provided inspiration, as did the *Mimosa pudica* we gave each student. Their final dance was performed several times for the public.

A professor of early childhood education paired her students with kindergartners for a semester-long investigation of leaves. Using the Lyman Conservatory as a laboratory, the students gained first-hand knowledge of inquiry-based teaching and learning contexts for young children. This class was successful because there was buy-in from all parties. It required the kindergarten teachers to work closely with the college students and their professor. It worked so well it has been repeated once already.

Undergraduates studying *The Culture of the Lyric in Traditional China: Plants and Poetry* focused on the historical development of images and symbolism of the chrysanthemum, lotus, and bamboo in Chinese literature. They also engaged with our Chrysanthemum Show, selecting poems to display in the show and presenting them in a public reading.

One particularly unique approach was an architecture class, where students did a spatial analysis of a flower, made a model, and used the vocabulary they learned from the floral architecture in designing a



Students perform a site-specific dance they choreographed based on plant movements.

PHOTO BY NANCY RICH

pavilion. This class culminated in an exhibit in our gallery that has wowed absolutely everyone.

Reaching across disciplines through our Curricular Enhancement Program has helped us bridge the gap between the Botanic Garden and the traditional halls of study. Whenever classes involve exhibits or performances there is a multiplier effect, and even more students, faculty, administrators, and the general public engage with the Botanic Garden in new ways. Word of mouth among professors is resulting in more unsolicited inquiries, and we are building a constituency among faculty. The college administration now sees the Botanic Garden as a useful academic resource and has observed how we are creating an environment that fosters creativity in pedagogy.

Working with college faculty has had one unexpected outcome. It has compelled all of us at the Botanic Garden to stretch, occasionally forcing us out of our comfort zones but reinvigorating us at the same time. As we expand students' view of the botanical world, we too are seeing plants in a new light.

Madelaine Zadik is the manager of education and outreach at the Botanic Garden of Smith College, where she is responsible for the Curricular Enhancement Program. She can be contacted at mzadik@email.smith.edu. Information about the program and the class exhibits are online at: www.smith.edu/garden/Academics/curricularenhancement.html.

