

Connecting with the community: Three levels of community-museum interaction

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Introduction

The educational programs provided by museums are grounded in the belief that museums are educational organizations for and of the people, and as such, are responsible for promoting on a large scale, citizens' knowledge of community and society. Because of the variety of contexts and circumstances in the schools and communities of our constituencies, informal education institutions cannot take a narrow approach to educational programming. Rather, we must provide programming that is accessible to different audiences and practical on an institutional level. This paper describes the approach that the Center for Teaching and Learning at the Chicago Botanic Garden has taken to promoting environmental awareness through education programming for secondary students (ages 12-18) in the Chicago metropolitan area.

As a living museum, the Garden has as its primary goal to provide citizens with education about and an appreciation for the natural environment. More specifically, for the youth audience the garden seeks to develop students' scientific literacy (AAAS 1990, National Research Council 1995), educate youth about the importance of the environment and their role in preserving it (Biodiversity Project 2002, Athman and Monroe 2002), and increase students' waning interest in the plant sciences. Because informal education institutions have the ability and responsibility serve a diverse audience we must reach and engage under-represented constituencies at multiple levels of scope and intensity. It is especially important to reach adolescent youth, who will provide the grounding for society in the future.

There are countless ways to effectively support student learning, but the choice of methods must be guided by institutional goals and the structure of the learning context. By examining three contrasting approaches to secondary environmental education that leverage public, community, and museum resources respectively, I propose one model of informal education programming that allows for a range of educational experiences for youth both within and outside museum walls.

Supporting breadth *and* depth programming

There are multiple variables to consider when choosing how to limit or expand educational programming, including material support, learning context, and target audience. First, one needs to consider the kind of material support and staffing resources available. The learning context is made up of the location, teaching resources, and type of teaching space available. The program structure must be adapted to the environment in which students will be learning. For example, students who have access to the museum collections will have a very different experience than those who participate in a museum-sponsored program that takes place at their school. Finally, the diversity *within* an audience needs to be taken into account. "Adolescent youth" as a group can be divided up into multiple sub-groups by socioeconomic status, ethnicity, or other criteria, with different programming needs. The range of programs should offer variety of channels through which youth can interact.

However, gardens need not be entirely constrained by their own limits, but can look to other organizations with similar goals for support. Community organizations and local schools can provide space and resources for a limited number of students, while at the regional level, school districts, park districts, and library systems can provide a way of effectively reaching larger numbers of students. The model presented here is grounded in this scaled partnering (figure 1). Three case studies provide a context for understanding and examples of how the model might be realized.

Case studies

The bottom of the triangle represents the broad base of the Garden's programming and one that leverages regional resources to reach large numbers of students. One example of this type of program is the Fairchild Challenge. This program, developed by the Fairchild Tropical Botanic Garden in Miami, Florida, U.S.A., is a school district-based program for students in U.S. grades 9-12 (ages 15-19). The Fairchild Challenge takes an interdisciplinary approach to environmental science by sponsoring competitions around projects in architecture, economics, education, literature, the fine arts, and sciences that promote students' awareness of environmental issues. The underlying goal of the program is to increase student's interest in science and scientific pursuits through the use of skill sets or academic strengths that are more familiar to them.

The structure of the Fairchild Challenge provides broad coverage by engaging entire schools and classes. Throughout the academic year, Chicago-area schools may participate in as many or as few of the challenges as they would like. To encourage schools participation the Challenge have been designed in collaboration with teachers so that they can be easily incorporated into existing curriculum or used independently for extensions to pre-existing lesson plans. The Garden's education staff, volunteers and facilities are available to help students research, refine and complete challenge options, but the main focus and work takes place at the student or group level within the school. Students' Challenge submissions are first screened by teachers at their participating schools. After the school screening is completed, winning entries from each school are submitted to the Chicago Botanic Garden. The Garden collects the winning entries and gathers a panel of subject experts from the community for final judging. The Garden acts as an intermediary for students and community experts and to engage everyone in increasing their environmental awareness.

This kind of collaborative large-scale programming is a cost effective way of increasing Garden visibility and introducing a new audience to its goals in positive supporting way. In this case, the Garden plays a primarily organizational role as it interacts with students at the institutional level through existing channels. The goal, represented by the blue arrow on the diagram, is to introduce students to environmental issues and engage some of them in more intensive programming the Garden offers.

This smaller group moves up the triangle to the middle level of programming (class size 20-30 students), for students who are truly interested in environmental science. Partnering with local organizations, such as community centers, youth organizations or churches, to deliver these programs provides two benefits. First and most importantly, it allows the Garden to bring their expertise directly to the community. Second, it also provides access to additional resources at the partnering organization that can enhance students' experiences.

Primero la Ciencia is a community-based summer program located in a densely Hispanic neighborhood of Chicago. It emerged as a response to an observed lack of participation by Latino

students in one of the Chicago Botanic Garden's existing on-site programs, Science First. The intent is to nurture students' natural scientific curiosity, to prepare students to take advantage of the Garden's other education programs, such as College First (discussed below), and to encourage students to pursue science in education or as a career goal. Two years of experience with Science First indicated that, while African- American students were well represented, the program failed to draw any participation from Latino students, though their presence in Chicago public schools is significant. Among other things the other barriers to interest in science education, unfamiliarity with the Garden and parental concerns over sending their children so far away from home each day acted as additional barriers to their participation.

The result was a partnership between the Garden and a well-established community center, Gads Hill Center, in the predominantly-Latino neighborhood of Pilsen. As a multi-service family resource organization that has a mission to provide comprehensive programs for children, youth, adults, and families that promote personal growth, strengthen the family unit, and develop a strong sense of community, it provided an appropriate home base for the program. Locating the program within the community helped ameliorate concerns parents had regarding sending their children 30 miles north of the city to the Garden each day. The partnership with Gads Hill Center also gave the program credibility in the community that the Garden lacked, as most program participants and their families are already active in Gads Hill programs. Through this partnership, the Garden allowed a new audience to become comfortable with the museum and as a result, has seen a significant increase in Latino representation in the Garden's on-site programming. While this approach has a higher cost per student than the broad-based programming, each student has the benefit of individual attention and more direct interaction with Garden resources and staff.

Finally, at the tip of the triangle are intensive, immersion experiences. While these programs are by necessity limited in the number of students they serve because they are dependent on organization resources, there is a very high individual payoff. The immersion experience allows students to experience actual scientific research and specific career training, which are intended to inspire them to continue their education in the sciences in college and graduate school.

The third program under consideration, College First, is an on-site full-year mentorship program for Chicago Public School students who will be the first in their family to attend college. Each year twenty students (ages 15-18) visit the garden for eight weeks to engage in group activities and one-on-one internships with Garden staff. Goals for College First are to (1) foster students' interest in science through summer apprenticeships that enliven content through active project work and field experience (2) prepare students for academic life beyond high school; and (3) increase students' awareness of college options and career opportunities in scientific and environmental fields. These goals are pursued through a balance of work opportunities in a professional environment, educational projects guided by mentors, and year-round college preparation activities.

Students spend half their time investigating science with an instructor and the other half working with a Garden professional in a particular area. During instructional time, various scientific disciplines are covered, including botany, ecology, environmental science, and aquatic science. Students engage in hands-on activities, such as journal writing, scientific observations, collecting measurements and field data, and computer-based research. College First students develop a final research project, using their work experiences to independently research a subject and present it to parents and Garden staff at the close of the eight-week summer session. The rest of the time is dedicated to the students' work commitment, for which they are paid a stipend. The work experience is also one of the most salient for the students during which students learn both science content and how to work with others.

The College First experience is rounded out with weekly field trips to laboratory sites and other opportunities to see science practiced in the field over the summer. During the school year, monthly visits to area colleges and universities take place. For these students who are the first in their families to consider college, support throughout the college application process is consistently cited as one of the most important of the program. This intensive, individualized programming can be provided for only a few of the many deserving students because of the level of human and material resources required, but the success of the program is clear in students' choices and career paths. One hundred percent of the graduates from the past 3 years of the College First program have attended college.

Summary

There are three main conclusions drawn here. First, museums must offer a range of programming that targets both a single audience but accounts for diversity within the group. This is particularly important for adolescent youth who are in the process of discovering their interests. By offering programming that allows participation at a number of different levels of involvement and intensity, it opens the possibility for students to both find new interests and explore them in depth. Second, that though museums are often non-profit or publicly supported, they do not need to be limited by their resources. Partnering with different types of community organizations, from the local church to an entire school district, offers a way of extending the reach of educational programming beyond the limitations of location and resource to reach multiple audiences at many levels. Finally, that this approach creates a continuum of learning opportunities: students can begin a relationship with the Garden in the seventh grade and continue through graduation and beyond.

Figure

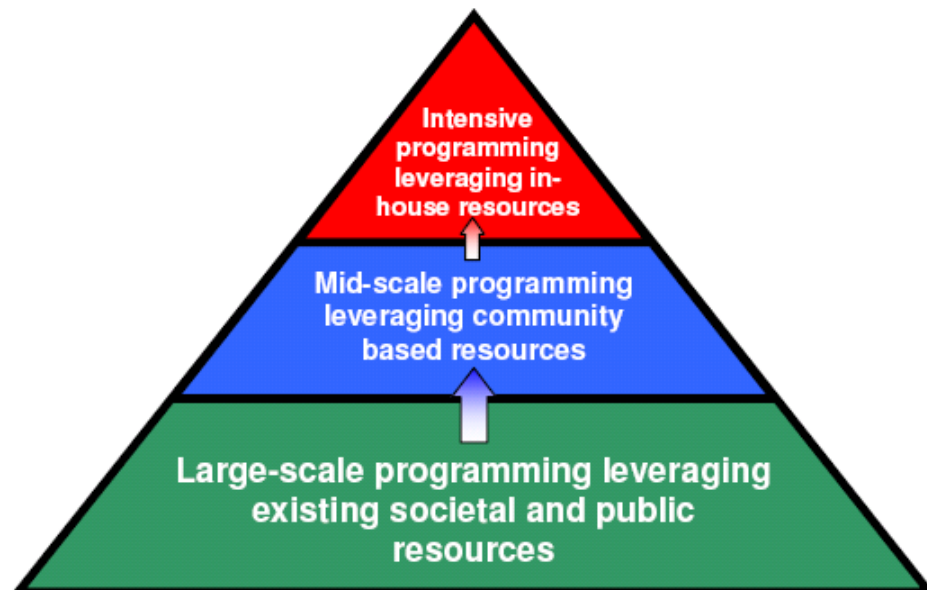


Figure 1 – 3 Phase Program Model

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