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Fostering healthy diets in children through vibrant school gardens

Abstract

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Keywords

Community-based food systems, Farm to institution, Food health and climate change

Disciplines

Human and Clinical Nutrition | International and Community Nutrition



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(NCAT)
Des Moines, IA

Budget:

\$15,435 for year one

Q How can you establish an effective school garden program in the largest school district in Iowa?

A Based on the Des Moines experience, these recommendations are offered to other school districts and FoodCorps service sites: 1) Start small and concentrate efforts. 2) Find advocates within the school. Select schools by identifying teachers or other staff who are willing to take leadership to connect nutritional education with garden-based activities that connect classroom curriculum to the garden. 3) Develop a regular schedule for activities that promote fresh food and gardening so that gardening and nutrition education becomes a regular part of the school schedule, which encourages teachers and local partners to plan, participate and take ownership. 4) Link school leaders to farm-to-school resources that make it easy for them to plan and conduct lessons around garden-based education.



MARKETING

Background

The project sought to embed school gardens in the everyday life of six Des Moines, Iowa, schools so they may serve as an effective teaching tool now and in the future. While they are simple to start, school gardens require consistent programming and school-wide support to succeed over the long term. Through weekly garden-based cooking lessons, monthly nutrition lessons, school-wide planting and harvest days and outreach to neighborhood partners, the National Center for Appropriate Technology (NCAT)'s FoodCorps (FC) AmeriCorps service members worked to make school gardens a vital part of the school community.

Project objectives were to:

1. Create "demonstration" gardens that model successful school garden programming.
2. Build an inter-school peer learning network.

Approach and methods

NCAT coordinates FoodCorps statewide in Iowa, and it assigned two FoodCorps service members to work with a set of diverse schools in the Des Moines Public School district (DMPS). FoodCorps is a national program that places AmeriCorps members with schools to build gardens, teach nutrition education, and help school food service source ingredients from local farmers. Members also provide resources and "people power" to build school gardens, teach students in them and work with teachers to align curriculum goals with garden-based lessons.



These students at Hillis Elementary School in Des Moines harvest basil in the school garden, which they will soon use to help create tasty pizzas. NCAT's FoodCorps service members have worked with the school and local volunteers to set the stage for education and fun as elementary-school students learn about gardening, preparing and eating healthy food.

- Through this project, NCAT's Des Moines FC members taught:
- 1) monthly Pick-a-Better-Snack tasting and nutrition lessons at Smouse, Hillis, Moulton, Carver and Windsor schools;
 - (2) weekly garden-based cooking lessons at Goodrell, Moulton, Hillis and Carver;
 - (3) weekly ECO-hour preschool and elementary lessons at Hillis and
 - (4) seasonal all-school cooking events at Cowles school.

The FC members also worked with schools and parents to plan and plant the gardens, adding new structural elements such as arching trellises, sunflower "rooms," perennial berry plants, picnic tables, and tool sheds to increase the functionality, attractiveness, and child appeal of the gardens. In the summer, they engaged community volunteers to help maintain the gardens, and in the fall, held school-wide harvest days, and conducted numerous cooking classes and events using garden produce.

Results and discussion

These project outcomes were achieved:

- Increased numbers of teachers/staff were aware of the garden and heard how a garden can be used as a teaching tool to meet Iowa Core standards.
- Increased number of teachers/staff used the garden as a teaching tool. At the beginning of 2013, there were 17 teachers in the six target schools using the school gardens as a teaching tool. This number grew to 50 teachers and staff who engaged their students in at least one school garden activity that year.
- Increased staff/teacher appreciation of the relevance of the school garden as a teaching tool. Every teacher who responded to an NCAT survey agreed that the school garden can help them teach specific core curriculum learning standards. Every teacher surveyed stated that they could teach science lessons in the garden, and the majority also stated that they could teach reading and math.
- Increased staff/teacher consumption of fruits and vegetables. Nearly all teachers who completed an NCAT survey reported their own fruit and vegetable consumption had increased as a result of working with their students in the school garden.
- Improved student attitudes about eating fresh produce after participating in at least four lessons/activities in the garden. For a sample group of Des Moines students who received more than 10 hours of nutrition education from FC members, student attitudes toward trying new fruits and vegetables improved, on average, by 12 percent.
- Staff/parents/community members participating in school garden network have initiated new interactions with one another.

Conclusions

Focusing on the idea of demonstration gardens led the researchers to partner intensively with schools where FC members could make the biggest difference. In Des Moines, FC members shifted their focus to spend time in Moulton, Hillis, Carver and Goodrell. Smouse and Cowles had systems in place to use the gardens well without as much help needed, although they still received help with special events, and one of



On planting day at Hillis Elementary School in Des Moines, NCAT's FoodCorps service member (large hand) works closely with an elementary student (small hand) to tuck tiny seeds of spinach into newly prepared soil. Such simple acts are creating a revolution in attitude towards vegetables: Students who plant spinach in the spring, look forward to eating at harvest.

the FC members teaches monthly Pick-a-Better-Snack lessons at Smouse and Windsor.

Intensive service at fewer schools with the heaviest emphasis at Moulton and Hillis has yielded positive outcomes. As familiar faces in classrooms, hallways, the cafeteria and the school yard, FC members built trust among teachers and students, allowing them more classroom time to interact with students.

For example, students of all ages run up to the FC members when they're out in the garden during recess, asking if they can help with the task at hand – whether it is pulling weeds or hauling rotten tomatoes to the compost. At lunchtime, a FC member often sits with Hillis teachers in the cafeteria discussing ideas for future garden/nutrition education activities. Teachers who have gotten to know the FC members now invite them into the classroom to give lessons on particular topics. A FC member prepares garden snacks with kids alongside the kitchen staff at Hillis while they are prepping for lunch. This gives the kitchen staff a chance to become familiar with the garden produce and its preparation for potential future use in the cafeteria. These informal and frequent interactions around the garden and its harvest within the everyday setting of the school day are precisely what organizers hoped to achieve through this project.

Based on the Des Moines experience, these recommendations are offered to other FoodCorps service sites:

1. Concentrate efforts in a few (around three) particular schools per staff member rather than spreading their time too thinly across too many schools;
2. Select partner schools by identifying a small team of teachers/staff who are willing and able to help the FC member connect with the rest of the staff to offer garden-based activities for classrooms and/or afterschool groups;
3. Develop a regular schedule for garden-based activities in each school in a way that allows teachers and local partners to participate as well, thereby inspiring and equipping them to lead school garden lessons on their own.
4. Link school leaders to farm-to-school resources that make it easy for them to plan and conduct lessons around garden-based education.

Impact of results

NCAT's FC members in Des Moines conducted more than 736 educational activities, reaching at least 2,230 students. They harvested more than 400 pounds of produce from school gardens, serving about half in classrooms and school cafeterias and donating the rest to students' and teachers' families and to local food pantries. Seven Iowa farmers were introduced to schools through classroom presentations to students and through sourcing their fresh produce for tastings in classrooms and at the DMPS 2013 Summer Feeding Program lunch events. FC members also engaged 87 community volunteers, who cumulatively provided more than 400 hours of service in school garden-related activities. Two schools that were part of the project each were honored in 2013 as a "Healthier U.S. School." In both award ceremonies, the FC members were acknowledged as contributors to creating a healthier school environment.

Education and outreach

Local media in Des Moines covered the project. There was a *Des Moines Register* blog post on a community-wide vegetable plant and produce give-away at Moulton, and a WHO-TV story on FoodCorps school gardens in Des Moines. Project results will be shared on the NCAT website, a new Iowa Farm to School website created by a FoodCorps Fellow, and Iowa FoodCorps Facebook and Pinterest pages.

Seeking community awareness and new volunteers for the school gardens, FC members gave presentations to community groups, including the Men's Garden Club of America, Ankeny and Des Moines Kiwanis, Central Iowa Dietetics Association, DMPS Central Campus Horticulture Program, Des Moines AmeriCorps, and Faith Lutheran Church. This outreach has helped recruit several new volunteers for the 2014 spring garden season and resulted in at least one financial contribution from a private business. In summer 2013, FC members hosted a booth at the Des Moines downtown farmers market on two Saturdays, where they handed out seed packets and shared information about the benefits of school gardens. Members also collaborated with Urban Ambassadors on a Des Moines school garden tour.

NCAT's FoodCorps Team also has created a Des Moines School Garden Network Googlegroups listserve as a way to follow up and stay connected with volunteers and interested members of the public. This communications hub is growing and becoming the "go to" place for area volunteers and school staff to share garden-related information about resources, workdays, events and Q&A sessions on topics such as seed-saving and where to locate compost.

Leveraged funds

Additional resources for NCAT's FoodCorps and school gardens education and outreach leveraged during the grant period included:

- NCAT-ATTRA, FoodCorps host site expenses and labor, \$17,983
- Singing for Change, for two Des Moines FoodCorps service members, \$10,000
- Iowa Department of Public Health, technical visits to Pick-a-Better-Snack Coordinators and FoodCorps training support, \$4,950
- Next Step Adventure/Edible Garden, tour for garden equipment for Des Moines school gardens, \$440
- Whole Kids, for 2013 teacher training and other activities of DSM School Garden Network, \$1,091

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