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Understanding the Barriers for School Garden Success: Expert Consensus to Guide Extension Programming[1]

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Introduction

Research has found that youth involvement in school gardens leads to numerous benefits, such as improved academic student achievement, development, health, environmental attitudes, and knowledge of food systems (Berenguer, 2007; Dirks & Orvis, 2005; Graham, Feenstra, Evans, & Zidenberg-Cherr, 2004; Morris, Briggs, & Zidenberg-Cherr, 2000; Rahm, 2002; Skelly & Zajicek, 1998; Waliczek & Zajicek, 1999; Williams & Dixon, 2013). For these reasons, school gardens are increasingly popular nationally and internationally as learning spaces. However, research also documents the barriers that teachers and support organizations must overcome for garden sustainability, including a lack of tangible and intangible resources, changes and demands within the education system, and concerns for student health and safety in the garden (Barker, Slingsby, & Tilling, 2002; Comishin, Dyment, Potter & Russell, 2010; Clay, 1999; Dillon & Dickie, 2011; Dillon, Morris, O'Donnell, Reid, Rickinson, & Scott, 2005; Dyment, 2005; Edward-Jones, Waite & Passy, 2016; Graham & Zidenberg-Cherr, 2005; Hazzard, Moreno, Beall, & Zidenberg-Cherr, 2011; Kelly & Cutting, 2011; Lugg, 2004; Ogilvie, 2012; Ozer, 2007; Rickinson, Dillon, Teamey, Morris, Choi, Sanders & Benefield, 2004; Rickinson, Hunt, Rogers, Dillon, 2012; Waite, 2011).

Significance/Need

Often, school garden leaders look to outside organizations for assistance in addressing these barriers. Extension faculty and staff are commonly contacted by teachers, administrators, and school support staff to provide education, resources, and even volunteers. Tailoring responses to each individual garden site is necessary, but can also be time-consuming for agents. To develop a streamlined process for faculty and staff to incorporate the self-identified needs of school gardeners into new and/or existing programming, the authors conducted a statewide study of stakeholder school garden barriers in Florida.

The Delphi Process

The Delphi method is an iterative research process designed to collect data from numerous stakeholders to elicit consensus around a topic or question. This process was used with a statewide expert panel of participants from state agencies, non-profits, institutions of higher learning, and various school systems across the state. Participants (n=74) responded to three successive surveys designed to assess participant consensus on barriers, challenges, and obstacles for starting and sustaining school gardens. In round 1, the survey prompted participants to list all the barriers, challenges, and obstacles that came to mind. These data were then analyzed by the researchers and grouped into categories of barriers. In round 2, participants were

asked to rate their agreement using a Likert scale on how important it is to address each category. Two-thirds of participants had to strongly agree or agree that the category was important to reach group consensus. Only those items that had a two-thirds majority were included in round 3. The same process was used to gather data for round 3. The results of round 3 are presented below and represent the final categories that two-thirds or more of participants agreed were important to address to ensure the successful development and sustainability of a school garden program.

Findings and Implementation

Results from round 3 identified a lack of time among teachers to manage the garden program (93.2%), lack of continuity of maintenance activities (84.7%), challenges associated with volunteer management and retention (81.4%), lack of continuity in leadership (78%), issues of implementing an innovative program into an already existing system built upon traditional classroom instruction (76.3%), lack of initial sustained participation among parents, students, volunteers and teachers (74.6%), and the complexity of school systems (69.5%) as the most important barriers, challenges, or obstacles to address to ensure program development and sustainability. While some of these challenges, such as the complexity of school systems, are outside the scope of the influence of Extension faculty staff, Extension can support programming that targets local challenges. A list of recommendations for programming to address each barrier, challenge, or obstacle is listed below in Table 1. These recommendations have proven successful in various contexts and provide a means to overcoming these pervasive impediments to school garden success.

Extension faculty and staff can use these findings to tailor programming to some of the most common barriers to program success. The following are examples of activities that faculty and staff can incorporate into new and/or existing programs for school gardens to address common barriers, such as structuring learning events to include multiple people from one garden, encourage skills like community engagement and volunteer management, and the use of timely, targeted communications. These activity recommendations are grounded in the authors' experience in working with school gardens. Furthermore, the authors tailored the recommendations to fit the structure of Extension programming.

Summary

While school gardens continue to provide significant beneficial impacts for participants, they continue to face pervasive barriers that may compromise their long-term utilization and success. Extension is positioned to provide meaningful support to help these gardens overcome the barriers they face, but it is impossible for all of barriers to be addressed. The barriers outlined in this paper provide Extension with the key barriers that need to be overcome and allows organizational synergy and support if these remain the focus of Extension programs.

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Table 1. Addressing challenges through Extension programming.

Barrier, Challenge, or Obstacle	Extension Activity to Address Challenge
Lack of time among teachers to manage garden program	• Tailor programming to encourage garden teams to work together to manage the garden.
Lack of continuity of maintenance activities	• Provide garden teams with education and assistance in creating maintenance plans and schedules. • Communicate timely, targeted tasks during the growing season (for example, communication on what to plant when, preparing for frost protection, and prepping the garden for the winter and summer breaks).
Challenges associated with volunteer management and retention	• Offer teacher trainings that target volunteer recruitment and management strategies.
Issues of implementing an innovative program into an already existing system built upon traditional classroom instruction	• Support teachers in identifying and utilizing garden-based learning curriculum that meets standards.
Lack of initial sustained participation among parents, students, volunteers, and teachers	• Incorporate community engagement best practices into trainings and workshops. • Train Master Gardeners and Master Food and Nutrition volunteers to work specifically in school gardens.
Complexity of school systems	• Outreach to school district administrators to highlight the benefits, successes, and also barriers to school gardens with an emphasis on how school districts can support efforts.