The practice of training 4-H teens to deliver educational content to younger members is a common practice in the 4-H Youth Development Program (Lee and Murdock, 2001). This strategy has shown to provide teens with ownership over the direction of program activities which lead to a higher investment in the outcome of their work (Larson et. al., 2005). Additionally, evidence suggests that utilizing teens as teachers in science programs is an effective method for educating younger youth, as children identify teenagers as role models, interesting, and valued. Children tend to grow accustomed to having adults as their teachers, so teenagers can be a novelty and have advantages as ‘outside presenters’ (Ponzio & Peterson, 1997). Likewise, teen leaders also receive positive benefits themselves through their participation in working with children (Smith, M.H., et. al. 2004) in that teens are more likely to engage in science themselves as opposed to taking a didactic approach to teaching younger children (Ponzio & Peterson, 1997).

Implementing teens as teachers in 4-H science involves 10 core elements to ensure success:

1. Dedicated Adults who Support Teens
2. Active Teen Recruitment
3. Strong Curriculum
4. Initial Training
5. Ongoing Training and Support
6. Attention to Details
7. Recognition and Reward
8. Team Building
9. Setting Teens Up for Success
10. Feedback and Evaluation

(Lee, & Murdock, 2001; available at: http://www.ca4h.org/files/141579.pdf)

The Role of Youth-Adult Partnerships in 4-H Science

Utilizing teenagers-as-teachers relies on a foundation of authentic youth-adult partnerships. Youth-adult partnerships describe relationships between young people and adults where there is mutuality in teaching, learning, and action (Zeldin, McDaniel, Topitzes & Lorens, 2001). However, bringing youth and adults together without the necessary training, support and opportunities can hinder true youth-adult partnerships. In addition, often adult volunteers benefit from guidance and support in building youth-adult partnerships from 4-H staff. Therefore, systematic and intentional planning of youth-adult partnerships to ensure that conditions related to staff confidence, strategic use of staff time, the need for staff to balance structure and relationships, staff planning for transitions, and leadership from supervisors to support youth-adult partnerships are essential (Zeldin et al., 2007).
Elements of Youth-Adult Partnerships

Youth-adult partnerships include several elements that are essential for successful partnerships, and support the cooperative environment for learning science:

1. Build relationships and cooperative environments:
   - Learn about each other before you start your science project. This builds trust and understanding.

2. Understand Differences:
   - Learn from one another what each of you needs and expects from the other(s). Everyone can contribute to the project.
   - Understand that each person brings gifts/talents/resources to the partnership.

3. Know your goals, and focus on the ones you have in common:
   - Youth need to be involved with decisions that affect them, and adults need to understand why this is important.

4. Find a balance of power and find importance in working together:
   - Try to maintain an equal number of youth and adults.
   - Ensure that youth are decision-makers, not just participants.

5. Reveal skills and attitudes that will cultivate a successful partnership:
   - Youth are capable of significant decision-making.

6. Show genuine concern for issues addressed in the project:
   - The issues should be real and relevant to youth.

7. Recognize and bring attention to accomplishments:
   - Acknowledge every persons’ contribution as a part of the team (Dasher et al., 2007)

Promising Practices of using Teens as Teachers in 4-H Science

The Ohio State University

Adventure Central summer Job Experience and Training (JET)

The JET work-based learning program engages teens in parks-related careers to increase skills and deliver a service to the public. Each summer 20-25 teens are placed in a variety of roles and mentored by an adult supervisor over the eight-week program. Roles include:

- Teen day camp counselors serving as program facilitators for younger youth to deliver a science and nature curriculum.
- Teen counselors utilized for an Adventure Central overnight camp experience, where teens participate in three to four planning and training sessions throughout the year and then implement the three-day, two-night camp with staff support
- Older youth critiquing and supporting younger youth as they prepare for their science fair oral presentations.
- Teens participating in this event have the benefit of previous coaching through the program and are excited to share their knowledge. Younger youth appreciate the older teens’ interest and feedback (Arnett, 2011).

4-H science education programs help increase youth scientific literacy in nonformal educational settings to improve attitudes, content knowledge, and science process skills.
University of California  
**“Step-Up” Incremental Training Model**  
This model uses teen curriculum facilitators to implement inquiry-based science activities and involves a sequence of three training workshops that alternate with curriculum implementations. Key elements in the model’s design include: workshop organization; introductory session; multiple increments; effective modeling and practice; “safe” environment for reflection and review. The teens trained during the development of this model were effective in implementing curriculum activities with young children suggesting that this educational method would be transferable to other teen-led Extension programs (Smith & Enfield, 2002).

University of California  
**On the Wild Side**  
The 4-H On the Wild Side collaborative project unites 4-H with schools and afterschool programs to enhance environmental education and expose children to the natural world. Teens—in partnership with adult volunteers—plan and deliver overnight camping experiences to children from low-income communities. Regular evaluations of the program, conducted annually from 2000-2009 support significant knowledge gain among participants, growth in leadership skills for teen presenters, and a sense of community contribution. Findings support research suggesting that experiential learning, teens as teachers and youth adult partnerships create strong programs that show positive outcomes for youth from marginalized communities (Bird & Subramaniam, 2011).

Utah State University  
**TRY STEM: Teens Reaching Youth in Science, Technology, Engineering and Math**  
The TRY STEM program is designed to provide teens in grades 8-12 with formal leadership and teaching opportunities. 4-H teens deliver STEM experiences during out-of-school time to younger audiences and the community at large. A 4-H TRY team consists of two to four teens, working in partnership with an adult coach. TRY teams, both members and coaches; complete a variety of local, regional, and statewide trainings to prepare them to successfully facilitate the project for younger youth. A TRY training is divided into two parts: (a) TRY Core Training – participants learn how to work with and teach younger youth, while working as a team with fellow members, and (b) Curriculum Training – participants complete in-depth training in a specific curriculum or project area. Kits to support the curriculum are available for check-out. As part of receiving the STEM training, teens complete a contract stating that they will teach at least 15 youth for a minimum of six hours of STEM content (to the same group of youth). Teens have provided STEM experiences during afterschool programs, 4-H Achievement Nights, Family Science Nights, and special events (Francis, 2011).

4-H science education programs help increase youth scientific literacy in nonformal educational settings to improve attitudes, content knowledge, and science process skills.
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Youth-Adult Partnership Websites

Advocates for Youth
http://www.advocatesforyouth.org/workingwithyouth/910?task=view

Building Partnerships for Youth by the National 4-H Council and University of Arizona
http://cals-cf.calsnet.arizona.edu/fcs/bpy/index.cfm

Community Partnerships with Youth, INC.
http://www.renewal.typepad.com/philanthropy/

Forum for Youth Investment
http://forumfyi.org/

Innovation Center
http://www.theinnovationcenter.org/what-we-do/youth-adult-partnership

Search Institute
http://www.search-institute.org/content/power-youth-and-adult-partnerships

Youth Leadership Institute
http://www.yli.org/

Additional Resources

http://www.ca4h.org/files/2423.pdf

http://www.ca4h.org/files/2424.pdf

Selected References


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