

Promising Practices In 4-H Science



4-H Science

2012

Collaborative Partnerships: Amplifying 4-H Science Programming

Steven M. Worker
smworker@ucdavis.edu
California State 4-H Office

Richard Mahacek
rlmahacek@ucdavis.edu
Cooperative Extension Merced County

Andrea Ambrose
apambrose@ucdavis.edu
California 4-H Foundation

Partnership:

A mutual arrangement where organizations agree to cooperate to advance their mission.

We can strengthen and amplify our ability to affect change by working with internal and external organizations towards a common vision. By joining efforts, the strengths of multiple organizations can increase the potential to effect lasting change in the community while building and strengthening the capacity in the participating organizations. The positive benefits from creating collaborative partnerships are many and increase the likelihood of organizations achieving their individual mission. However, there are a number of potential challenges that call for working through issues of risk, trust, and commitment, along with more pragmatic counterparts such as coordination and communication, time, energy, devotion, and resources (both human and financial) on the part of all participating organizations.

Collaborative partnerships share a number of basic characteristics ([London, 1995](#)).

- Several organizations have a vested interest in the problems.
- There may be a disparity of power and/or resources for dealing with the problems among the organizations.
- Organizations may have different levels of experience, strengths, and access to information.
- There may be adversarial relationships among the organizations, caused by differing perspectives on the problems, expertise, and access to resources.
- By joining efforts, organizations may be able to achieve more comprehensive and lasting solutions to the problems.



Types of Partnerships

A wide variety of partnerships exist depending on the mission to be achieved and the resources needed to achieve those goals. There is typically an intertwining of one or several types of partnerships over time. The most common types of partnerships include:

- *Funding* - where there is a shared goal that is achieved by sharing funding from one or more sources. This can also involve taking advantage of the connections and resources of other organizations.
- *Programmatic* - share programming or curriculum development.
- *Resources* - human, expertise, connections, or facilities.
- *Marketing* - media partnerships, corporate partnerships based on visibility.

Another dimension of collaborative partnerships is the continuum from informal to formal. Informal collaborations may be one-time, infrequent, or a loosely defined merging of efforts where there is not a need to iron out details of a partnership. For example, this might be a one-day event where science companies and organizations agree to showcase their educational programs at a 4-H event.



More formal partnerships, on the other hand, tend to last over a longer period of time and may even be defined by a memorandum of understanding (MOU) or other formal document outlining the expectations and anticipated contributions of the participating organizations. As one moves from the informal to the formal partnership, issues of mission, risk, trust, commitment, communication, and finances must be outlined, discussed, and agreed upon by all participating organizations. It is often easier to reach consensus when partnerships are developed between smaller organizations or between only two organizations. Larger community alliances consisting of multiple organizations and complex arrangements may take longer to build.

A number of considerations are necessary to establish a successful collaborative partnership ([London, 1995](#); [PRISM MSP, 2007](#)):

- Type of relationship, formal or informal, and addressing power issues.
- Agreement on mission and goals.
- Determination on the type of leadership and coordination needed including decision-making processes.
- Communication protocols are developed and refined as needed.
- Issues around available time, money, and staff support.

Even though partners rarely play an equal role, there can definitely be mutual benefit.

“Everyone brings something to the table – what’s in it for us and what can we offer?”

“What do they have that we don’t and how can we use it to leverage our work?”

Shared Vision: A Scientific Literate Youth

A wide variety of youth serving organizations, businesses, industry associations, and schools are all working to help improve the scientific literacy of America's young people. Dozens of federal initiatives have been promoted to address the STEM pipeline issue, and groups such as the American Association for the Advancement of Science have established long-term initiatives to promote greater scientific literacy.

Where does 4-H programming fit into this picture?

What are the unique factors 4-H science programs bring to these efforts?

One approach is surveying where 4-H can provide the greatest educational service to young people. With this in mind, it is essential that 4-H and other youth-serving agencies cooperate and work in harmony with each other. 4-H staff and volunteers should help promote cooperative efforts among youth agencies, in order to minimize duplication of services and help amplify 4-H science programming available to youth in a given community. Youth serving organizations, coalitions, alliances, schools, and others draw from a limited pool of resources. All are looking to corporate and foundation donors to support their work so it is essential to combine efforts rather than duplicate them in order to “get a piece of the funding pie.”

Finding the Right Connections

Identifying potential partners can be a challenging task. But starting locally helps ease the burden. Starting may be as easy as approaching the middle school teacher who has an interest in science or engineering; or the 4-H volunteer who works for the county planning department and knows someone working with GIS; or a neighbor who is really into remote controlled airplanes; or the local historical society who wants old photos for a museum. These can all be partners and collaborators in 4-H science, engineering, and technology programs.

While national and the state offices try to make connections to state and national organizations, the local 4-H staff and volunteers make real connections for actual programs. For example, National 4-H Council made an agreement with the National Association of Rocketry (NAR). NAR is encouraging their members to connect with 4-H on rocketry and aerospace projects and have offered resource materials. However, to make this partnership work in 4-H programs, it will take the local connection. If you have a need for rocketry project leaders, finding out where local NAR members live in your area can be a step to recruiting a new volunteer, or if a NAR member contacts your office, how will you be ready to get them involved in a club or special interest group? This is a good example of a way to expand the partnership beyond the programmatic level. When these connections are made, you are also connecting with these individuals as professionals; they may be able to bring other resources to the table – funds from their businesses/their own funds, additional volunteers, or professional expertise.



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

Potential Connections

Possible connections exist everywhere! Think about approaching these types of organizations for volunteers, financial resources, or publicity for 4-H Science programs. This approach involves thinking beyond the NAR example above to creating organizational partnerships that can bring financial and marketing benefit.

Science centers, zoos, museums, planetariums and aquariums.

Museums and Science Centers have been particularly aggressive in creating partnerships that involve academics, youth organizations, corporate partners and their peer organizations. Funding and the pooling of resources is often the driving force but there is always the core interest in shared mission, visibility, expanded audience, and reach. These groups have created coalitions, for example, [How to Smile](#) and the [National After School Science Directory](#) are resources that provide a good way to identify other organizations in their community that are involved in similar programs.



Afterschool programs, and coalitions/alliances supporting afterschool/out of school time initiatives

The [National AfterSchool Association](#), the [Afterschool Alliance](#), and the [Coalition for Science After School](#) are groups supporting afterschool programming that provide resources in many communities. Other examples include [21st Century afterschool](#) funded programs or state-funded programs (e.g., [California After School Education & Safety Program](#)).

Other connections

- Youth serving organizations at the local, regional and state level
- School districts (public and private)
- Science, engineering, and technology companies
- Associations
- Universities
- Community service groups



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

Examples of Promising Practices in 4-H Science Partnerships

The National 4-H Science Initiative's stated goal is to forge formal and informal partnerships among 4-H and professional associations, foundations, federal agencies, industry, and business and other youth organizations to increase the quality and availability of 4-H Science programs to youth (4-H National Headquarters, 2007).

Innovative Science Training and Curriculum for Afterschool and Youth Providers

Educational Development Center, multiple program delivery partners (many of them 4-H)

<http://npass2.edc.org/about-npass2>

The National Partnership for Afterschool Science (NPASS2) project was designed to bring fun science and engineering practices to youth in afterschool and out of school time programs. The Educational Development Center was responsible for developing the curriculum, Design It! Explore It!, along with providing funding secured from the National Science Foundation. Twenty-four program delivery partners joined the project with access to youth in afterschool programming. In addition to reaching youth, the project sought to provide professional development to educators and develop a community of practice where staff participated in monthly trainings.

Energizing Tennessee 4-H

Tennessee 4-H & Tennessee Department of Economic and Community Development, Office of Energy Policy

Both groups shared similar goals of promoting energy conscious society and stimulating youth interests in science. The project utilized education kits created by the National Energy Education Development (NEED) purchased using funds from the Office of Energy. The project allowed both groups to achieve something they could not have done without each other. The Office of Energy Policy was able to reach young people across the state with educational programming. Tennessee 4-H was able to strengthen programming in 4-H science using new curriculum. Daniel Sarver, Extension 4-H Specialist, dsarver@tennessee.edu.



The Alaska 4-H Natural Resource & Youth Development Program

University of Alaska, Yukon River Drainage Fishermen's Association, Alaska Department of Fish & Game, U.S. Fish and Wildlife Service, 70 local communities and 31 school districts, and many others organizations

http://www.uaf.edu/ces/nrcd/ruraldevelopment/projects/rural_youth/

In the early 1990's, fishermen along the Yukon River were concerned with decreasing salmon harvests. Multiple groups came together to form a collaboration to develop a fisheries education program for youth in the impacted villages. The salmon issue provided a relevant focal point for math and science education. By recognizing the importance of educating village youth about their salmon resources, the Yukon River Drainage Fishermen's Association provided the initial moment for the 4-H program to begin an educational program. Fishermen actively participated in educational programming in their communities. The Alaska Department of Fish & Game provided guidance and resources. The U.S. Fish and Wildlife Service helped fund development of educational activities. 4-H provided the access and infrastructure to reach youth across Alaska.

4-H Robotics: Engineering for Today and Tomorrow

University of Nebraska, University of California, University of Idaho, Global Challenge Award, 4-H National Headquarters, National 4-H Council

<http://www.4-h.org/resource-library/curriculum/4-h-robotics/>

In 2009, as part of the National 4-H Science Initiative, 4-H National Headquarters provided funding for the development of a national 4-H robotics curriculum. A multistate collaboration was formed between these organizations to develop the curriculum. Over the span of a year and a half, each organization developed their specific track with feedback from the others. This method of curriculum development built on the strengths of each partner and allowed for the creation of a multi-track curriculum. This also led to a partnership with Lockheed Martin which funded curriculum delivery at the local level.

References

London, S. (1995). *Collaboration and Community*. Retrieved from <http://www.scottlondon.com/reports/collaboration.pdf>

4-H National Headquarters. (2007). *4-H science, engineering and technology: A strategic framework for progress*.

Washington, DC: United States Department of Agriculture.

PRISM MSP. (2007). *PRISM Partnership Rubric*. Retrieved from <http://prism.mspnet.org/index.cfm/14307>

Graphic Design and Layout: Marc Larsen-Hallock, UC Davis, State 4-H Office



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