



EVALUATING THE 4-H SCIENCE INITIATIVE:

Year 3 Findings and Recommendations

INTRODUCTION AND METHODOLOGY

In 2006, the National 4-H Science Initiative was introduced as a way to focus 4-H programming on teaching science, technology, engineering, and applied math content to the more than six million youth who participate in 4-H annually. The Science Initiative aims to increase science interest and literacy among youth, the number of youth pursuing post-secondary education in science, and the number of youth pursuing science careers. National 4-H Council, with the support of the Noyce Foundation has annually contracted with Policy Studies Associates to evaluate the implementation of the 4-H Science Initiative. This report includes findings from the third wave of the implementation study conducted in 2011-2012.

The goals of this study were to measure the implementation of science programming at the state and local levels, and to inform 4-H leaders at the national level of the initiative's progress. In addition, the study sought to determine what effects the national promotion of the Science Initiative and science professional development for state-level leaders may have had on county-level 4-H professionals and local 4-H programming.

The study was designed to answer the following questions: (1) To what extent are counties prioritizing the development and implementation of science programming? (2) What strategies are counties using to implement 4-H Science programming? (3) What support and resources from state offices and from the national 4-H office do counties use to implement 4-H science programming? And (4) What additional resources would help counties implement 4-H science programming more effectively? A total of 372 county-level 4-H youth development professionals in a nationally representative sample of counties, randomly selected by the evaluation team, completed the survey for a response rate of 52%.

SUMMARY OF FINDINGS

This report focuses on the local-level implementation strategies of 4-H science programming, and is based on a survey of a representative nationwide sample of 372 county-level 4-H professionals each representing a unique county. Implementation challenges were also unveiled and are illustrated in Table 1. A full report, highlighting complete findings from the Year 3 Implementation study, can be found by visiting www.4-h.org/about/youth-development-research/science-program-research/.

COUNTY IMPLEMENTATION STRATEGIES

PROGRAM CONTENT

- 93% of counties had programs that address newer, non-traditional content as well as programs that address traditional content.
- 79% of counties had used curricula developed by 4-H at the national level or by their LGU (65%) in their science programs.

EXPERIENTIAL AND INQUIRY BASED LEARNING

- While 73% of counties incorporated experiential learning into their programs, only 54% incorporated inquiry-based learning.

STAFF AND VOLUNTEER RECRUITMENT

- 79% of counties looked to 4-H networks, such as parents, as a source to find staff and volunteers; 65% of counties also utilized former 4-H participants as science content experts.
- 48% of counties recruited science expert staff from local science-related businesses, such as a veterinary practice.

YOUTH RECRUITMENT

- 84% of counties recruited youth into science programs by informing current 4-H participants about science opportunities; 78% connected with schools. Fewer used social media (56%), despite its ubiquity among youth.

PROFESSIONAL DEVELOPMENT

- 73% of county 4-H professionals reported participating in training related to youth development in the past year, while 39% reported participating in training in how to teach science concepts to youth.

PARTNERSHIPS AND RESOURCE SUPPORT

- Only 20% of county 4-H professionals said that an inability to find partners to support science programming was a major challenge.
- 56% of counties reported consulting with staff at their state office in order to support science programming in their county.

EVALUATION

- 83% of counties said that they used evaluation data to guide programming decisions and 76% to fulfill reporting requirements not related to grants.

TABLE 1 CHALLENGES TO IMPLEMENTATION

PERCENT OF COUNTY 4-H PROFESSIONALS

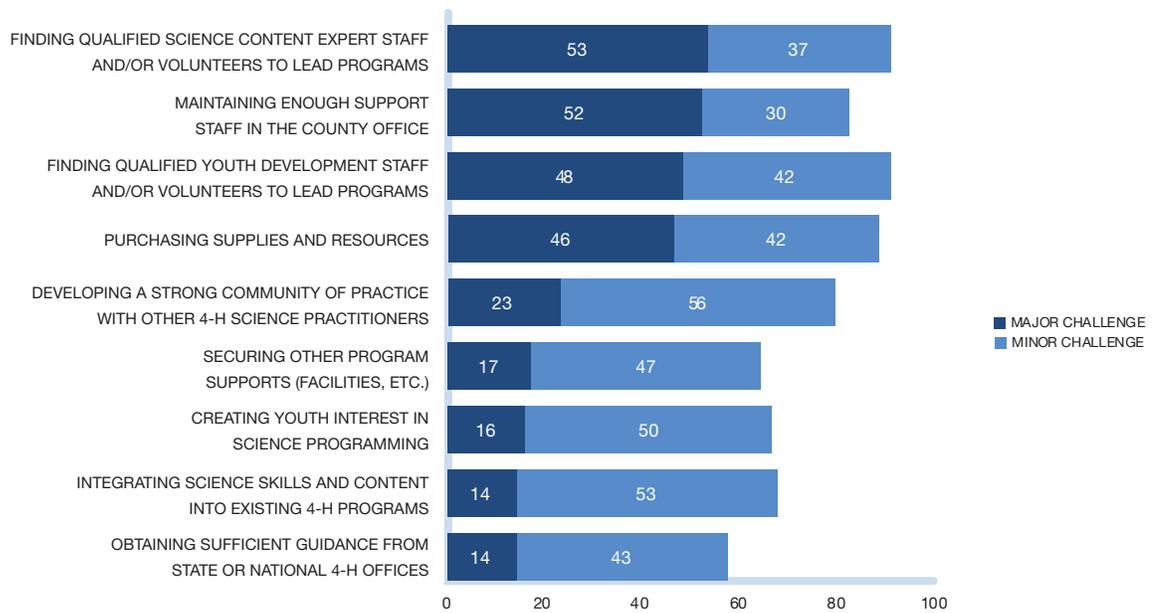


Exhibit reads: Fifty-three percent of county 4-H professionals said that finding qualified science content expert staff and/or volunteers is a “major challenge”; 37 percent of 4-H professionals said this is a “minor challenge”.

OPPORTUNITIES FOR EXPANDING AND IMPROVING 4-H SCIENCE IN COUNTIES

Despite barriers 4-H professionals experience, it’s believed that 4-H can build upon what has already been accomplished. Examples of leading-edge practices can inspire and support improvement of 4-H Science programming. Useful examples can be found in the work that many counties are doing in each of several areas: intentional science learning incorporated into traditional programming, inquiry-based science, outreach that uses social media or youth ambassadors or that targets underrepresented youth, staff training, recruitment of partners from science-rich settings, and practical program evaluation.

The 37% of counties where science was said to be a high priority were setting the pace for 4-H Science

implementation. The following practices were reported in at least two-thirds of counties that placed a high priority on science, and were reported at a rate significantly higher than in other counties; highlights from these programs include:

- 74% of programs incorporate inquiry-based science learning
- 73% of curricula connect to issues directly affecting the county or region
- 67% of programming address the Essential Elements of Positive Youth Development
- 68% of programs recruit science experts from local science-related businesses to serve as staff or volunteers
- Youth recruitment and support were designed to target underrepresented groups



CONCLUSION

As a result of the Year 3 Implementation Study, insights were gained which will guide National 4-H Leadership and LGUs to a stronger and more replicable model for implementing 4-H Science programming. Findings from this wave of the Implementation Study will continue to inform resource allocation and the development of future tools and materials.



ENROLLMENT SURVEY

Annually, a survey capturing the current status of 4-H Science Ready programming and youth enrollment nationwide is conducted. In Year 3, enrollment surveys were completed by 52 of the 63 Land Grant Universities (LGU) with completed 4-H Science Plans of Action, for a response rate of 83%. The enrollment survey was also administered for a fourth year. In Year 4, enrollment surveys were completed by 50 of the 65 LGUs able to participate, for a response rate of 77%.

Findings representing the Year 3 and 4 programming year included:¹

- In Year 3, a total of 1,230 Science Ready programs² were reported from 28 of the 52 LGUs, compared to 1,482 Science Ready programs in Year 4 where 28 of the 50 LGUs were able to report.
- In Year 3, a total of 1,335,640 youth enrolled in Science Ready programs were reported from 31 of the 52 LGUs. According to the 18 LGUs able to report, for 180,274 youth this was their first year in 4-H. In Year 4, there were 1,218,208 youth enrolled in 4-H Science Ready programs across 40 LGUs. For the 22 LGUs able to report, 217,031 youth were enrolled for the first time in Year 4.
- Of the 25 LGUs able to provide information on the delivery methods employed by their Science Ready programs in Year 3, special interest clubs (20%) and residence camps (17%) were most commonly used. However, in Year 4, the most commonly used delivery modes across 29 LGUs were 4-H Clubs (29%) and Special Interest Clubs (22%).

¹ Not every LGU participating was able to answer every question

² A "Science Ready" 4-H experience is a program that is framed in Science concepts, based on Science standards and intentionally targets the development of science abilities and the outcome articulated by the 4-H Science Logic Model. Additionally, it integrates the Essential Elements and engages participants in experiential and inquiry based learning.



YEAR 3 IMPLEMENTATION AND ENROLLMENT REPORTS RELEASED - WINTER 2012
YEAR 4 ENROLLMENT REPORT RELEASED - WINTER 2013

To Learn More Visit 4-H.org then click About/Research/Science

National 4-H Council works to advance the 4-H Youth Development movement, building a world in which youth and adults learn, grow, and work together as catalysts for positive change. National 4-H Council partners with the Cooperative Extension System of Land-Grant Universities and Colleges, 4-H National Headquarters at USDA, communities, and other organizations to provide technical support and training, develop curricula, create model programs, and promote positive youth development to fulfill its mission. National 4-H Council also manages National 4-H Youth Conference Center, a full-service conference facility, and National 4-H Supply Service, the authorized agent for items bearing the 4-H Name and Emblem. National 4-H Council is a non-profit 501(c)(3) organization. National 4-H Council is committed to a policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, sex, religion, religious creed, ancestry or national origin, age, veteran status, sexual orientation, marital status, disability, physical or mental disability. Mention or display of trademark, proprietary product, or firm in text or figures does not constitute an endorsement by National 4-H Council and does not imply approval to the exclusion of suitable products or firms. The 4-H Name and Emblem are protected by 18 USC 707. Produced by National 4-H Council Marketing and Communications Team.