PRIMING THE PIPELINE: A PROMISING PRACTICES CASE STUDY

The Promising Practices Case Study was a national study designed to examine lessons learned in implementing 4-H Science programs: how 4-H professionals have tackled problems of recruitment, staffing, programming, partnerships, and sustainability. Promising practices in these programs are not necessarily sure-fire solutions for other settings, but they may spark useful reflection and action by 4-H Science staff and volunteers.

PRIMING THE PIPELINE

INTRODUCTION

Selected through a structured process of nominations and vetting, 8 out of 70 programs were selected to be studied for this report and reflect a variety of program delivery modes, content areas, geographic regions, and youth served. As a result of the case study, eight areas of promising practices were established. Data for this study were collected through a series of interviews and structured observations. Many additional examples and explanations from the national case study are available in the full report found at www.4-H.org/about/youth-development-research/science-program-research/.

CASE STUDY SITES

- Adventure in Science (AIS) - Maryland
- Bucks County Vet Science Clinics - Pennsylvania
- GEAR-Tech-21, A'ROR'N Bots - Nebraska
- 4-H Great Lakes & Natural Resources Camp - Michigan
- Langston Community 4-H SET Team - Oklahoma
- Pretty Eagle Sustainable Communities Project - Montana
- Rutgers 4-H Summer Science Program - New Jersey
- Texas 4-H Technology Team - Texas

YOUTH OUTREACH AND RECRUITMENT

- Invite participants to contribute to the recruiting process
- Design the application and acceptance process to build the desired participant group profile
- Design strategies to recruit underrepresented youth

STAFF AND SCIENCE VOLUNTEERS

- Recruit scientists through networks and perpetually tend to the relationships in those networks
- Maximize the expertise of youth development staff and volunteers and clarify their roles alongside scientists
- Cast a wide net when recruiting science experts, then tap the specific expertise needed

PROFESSIONAL DEVELOPMENT

- Provide guidance to science experts on lesson planning, delivery, and youth development
- Provide guidance to educators and youth development experts on science curricula and technology

SCIENCE CURRICULA AND PEDAGOGY

- Take advantage of the opportunity to maximize youth-centered delivery
- Develop student skills and knowledge through experiential learning and real-world applications of science
- Incorporate inquiry in activities

Incorporate inquiry in activities. *Robotics and other engineering design challenges, such as those in the GEAR-Tech-21 curriculum, offer an opportunity for youth to apply their own hypotheses and tests as part of the design process. Youth must predict, evaluate, and substantiate design trials, and often they are asked to do so in a team.*

YOUTH DEVELOPMENT AND ATTITUDES TOWARD SCIENCE

- Enable youth to make meaningful choices about what they learn and how they learn it
- Develop program activities that expose youth to diverse science fields and careers
- Build opportunities for youth to serve in leadership roles

Build opportunities for youth to serve in leadership roles. *Former campers often return to the 4-H Great Lakes & Natural Resources Camp as camp counselors who serve as mentors for current participants. When asked what it is about the Langston 4-H SET Club that keeps them coming back, participants noted that their role in teaching younger youth was a draw.*

PARTNER ORGANIZATIONS AND RESOURCE SUPPORT

- Draw human resources and science expertise from organizational partnerships
- Look for low-cost ways for organizations to partner and make substantive contributions

PROGRAM EVALUATION

- Design evaluations to provide data that are useful for securing additional funds, partners, visibility, and for guiding continuous program improvement

PROGRAM SUSTAINABILITY AND SCALE-UP

- Improve sustainability and replication by codifying and institutionalizing key program features, such as procedures, content, training, and partner relationships
- Plan for sustainability and replication through program and evaluation design

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