

PLANNING, IMPLEMENTING, AND EVALUATING YOUTH PROGRAMMING WITH JEFFERSON COUNTY 4-H PROGRAMS

Ky Anderson

Diana Solenberger: 4-H Youth Development – Outreach & Enrichment Agent

Josey Pukrop: 4-H Youth Development - Livestock Agent

Ruben Flores: Colorado State University Extension - 4-H Specialist

PROJECT INTRODUCTION

As a land grant university, Colorado State University engages in community outreach through the extension system with the goal of improving lives for people throughout the country. Jefferson County is one such part of this extension program. The 4-H and ENOR programs focus on combining community outreach with youth development, often focusing on aspects of science and leadership within the mentoring of underserved populations. My project worked with these departments to help promote scientific learning to children in lower socioeconomic conditions over the summer.

GOALS

Goals of the 4-H Program:

- 📌 Improve academic performance
- 📌 Increase social skills
- 📌 Strengthen family bonds
- 📌 Provide consistent, caring, and trustworthy mentors to help make a noted behavioral change in the lives of mentees

Goals of the Internship:

- 📌 Developing and evaluating STEM programming
- 📌 Working with the mentees and families at the mentoring sites
- 📌 Planning implementing and evaluating weekly STEM based activities that can taught at mentoring program meetings and outreach programs at local low-income housing sites
- 📌 Coordinate a STEM based summer camp with events and activities for 4-H members and YFP mentees at the Jefferson County Fair
- 📌 Develop an evaluation tool using 4-H Common Measures to assess the success of the weekly outreach program activities and STEM day camp

HOW DOES THIS APPLY TO MY EDUCATION

As a student in the neuroscience program, the implementation of programs that support the intellectual and emotional development of children that are disadvantaged by lower socioeconomic status and/or a learning impairment such as ADHD or autism is of the utmost importance to me. I want to work with this same demographic of children once I have my PhD and am conducting my own research.

WHAT I DID

From the start of the summer, I designed and implemented STEM activities at six locations that are a part of the Metro West Housing Solutions low-income housing projects in Denver. These activities were all based in school-age science concepts of chemistry and physics to promote education in an engaging manner. One such example was the evolution of the kids' use of AlkaSeltzer rockets. At first, the children simply combined AlkaSeltzer tablets with water in film canisters, experimenting with different ratios between the two compounds to generate the most lift and launch their film canister rockets the highest (Figure 2). The next week, the children applied this knowledge to create paint bombs, making sure their rockets, now with paint inside them, would generate splatters of the size they wanted without extra height and force that could pose a risk to other children in the area or the properties at which these activities took place. The results of this can be seen in Figure 1, alongside other examples of projects from throughout the summer such as slime and jar terrariums.

At the Jeffco 4-H fair at the end of the summer, I combined the knowledge gleaned from the weeks spent with Metro West to make a painted banner for the opening ceremonies, using the paint rockets that had been used by the children of Metro West for canvas painting in the weeks prior. Additionally, I administered a survey to the children of Jeffco's 4-H to determine the impact of the program.

Figure 1. (images)



WHAT I LEARNED

The 4-H program is a vital part of the extracurriculars for children in Jefferson County's Title I schools. 79.3% of the students that completed the survey at the fair and 88% of the children surveyed from the housing projects reported that they had a new appreciation for scientific learning following their participation in 4-H or programs sponsored by 4-H. Additionally, 4-H kids reported unanimously that they felt heard by mentors in the program and that they had control over their participation and could shape their learning to their interests. 37.9% saying that they felt they had been given the tools needed that they could pursue their interests beyond 4-H based solely on the tools and skills they'd acquired while in the program.

From this data and my own experiences working with the 4-H children, I have learned the impact of programs in youth development can have, especially on those who are in underserved populations. By providing access to resources for these children, they are able to develop emotionally and intellectually on the same level as their more privileged peers.

Figure 2. (video QR)

The QR code leads to a short clip of the AlkaSeltzer rockets that led to the rocket painting used for



NEXT STEPS

The Colorado State University SPUR campus sets out to provide education resources to the general public, in a similar way to the way that 4-H helps the children of the community. I would love to continue my work with 4-H and the extension program to help develop more resources at the campus to promote the ideals of scientific exploration alongside the three themes of the SPUR campus (health, water, and plant life). I would love to take some of my proposed projects from over the summer that never gained traction and rework them to best benefit the community in Denver and the greater Colorado area.